217/782-2113

"REVISED"
TITLE V - CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT
and
TITLE I PERMIT[1]

PERMITTEE

Abbott Laboratories
Attn.: Daniel J. Wozniak
1401 Sheridan Road
North Chicago, Illinois 60048-4000

Application No.: 96010011 I.D. No.: 097125AAA
Applicant's Designation: Date Received: January 5, 1996
Operation of: Pharmaceutical Manufacturing Plant
Date Issued: June 27, 2000 Expiration Date[2]: June 27, 2005
Source Location: 1401 Sheridan Road, North Chicago, Lake County
Responsible Official: Joseph E. Simon, Manager, Lake County Environmental, Health & Safety Compliance

This permit is hereby granted to the above-designated Permittee to operate a Pharmaceutical Manufacturing Plant, pursuant to the above referenced permit application. This permit is subject to the conditions contained herein.

Revision Date Received: April 20, 2004
Revision Date Issued: TO BE DETERMINED
Purpose of Revision: Minor Modification

This minor modification updates the provisions of the Emissions Reduction Market System (ERMS) in Section 6. Specifically, the allotment in Condition 6.8 is reduced from 401 ATUs to 356 ATUs due to the separation of allotments between Abbott Laboratories and Hospira, Inc. (Illinois EPA I.D. No. 097125ABV). Abbott and Hospira are considered a single source with separate permits for purposes of the CAAPP. In addition, Condition 6.10 regarding federal enforceability of the ERMS is removed and Condition 6.11 is renumbered to Condition 6.10. Other revision requests submitted by Abbott, including removal of Hospira's emission units, are not considered in this minor modification, and will be considered in a future permitting action.

This document only contains those portions of the entire CAAPP permit that have been revised as a result of this permitting action. If a conflict exists between this document and previous versions of the CAAPP permit, this document supercedes those terms and conditions of the permit for which the conflict exists. The previous permit issued September 17, 2001 is incorporated herein by reference.

Please attach a copy of this amendment and the following revised pages to the front of the most recently issued entire permit.

If you have any questions concerning this permit, please contact Jonathan Sperry at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:JS:psj

cc: Illinois EPA, FOS, Region 1
USEPA

[1] This permit may contain terms and conditions which address the applicability, and compliance if determined applicable, of Title I of the Clean Air Act and regulations promulgated thereunder, including 40 CFR 52.21 - federal Prevention of Significant Deterioration (PSD) and 35 IAC Part 203 - Major Stationary Sources Construction and Modification. Any such terms and conditions are identified within the permit.

[2] Except as provided in condition 8.7 of this permit.

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1.0 SOURCE IDENTIFICATION

1.1 Source

Abbott Laboratories
1401 Sheridan Road
North Chicago, Illinois 60048-4000
847/937-0849

I.D. No.: 097125AAA
Standard Industrial Classification: 2833, Medicinals & Botanicals

1.2 Owner/Parent Company

Abbott Laboratories
1401 Sheridan Road
North Chicago, Illinois 60048-4000

1.3 Operator

Abbott Laboratories
1401 Sheridan Road
North Chicago, Illinois 60048-4000

Daniel J. Wozniak, Air Manager, Lake County Environmental, Health & Safety
847/937-0849

1.4 General Source Description

Abbott Laboratories (Abbott) is located at 1401 Sheridan Road in North Chicago. Abbott is a worldwide health care corporation whose operations are managed according to product or service. The source conducts manufacturing of bulk pharmaceutical active ingredients by fermentation and chemical synthesis by the Chemical and Agricultural Products Division. Liquid products and ointments are produced by the source's Pharmaceutical Products Division. The source's Hospital Products Division manufactures large and small volume intravenous solutions. In addition, manufacturing support services, which include boilers and wastewater treatment, are provided by the source's Corporate Engineering Division.

2.0 LIST OF ABBREVIATIONS/ACRONYMS USED IN THIS PERMIT

ACMA	Alternative Compliance Market Account
Act	Environmental Protection Act [415 ILCS 5/1 et seq.]
AP-42	Compilation of Air Pollution Emission Factors, Volume 1, Stationary Point and Other Sources (and Supplements A through F), USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27717
ASTM	American Society for Testing and Materials
ATU	Allotment Trading Unit
BAT	Best Available Technology
bbl	barrel
Btu	British thermal unit
CAA	Clean Air Act [42 U.S.C. Section 7401 et seq.]
CAAPP	Clean Air Act Permit Program
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CGMP	Current Good Manufacturing Practice
CO	Carbon Monoxide
dscf	dry square cubic feet
dscm	dry square cubic meters
ERMS	Emission Reduction Market System
°F	degrees Fahrenheit
FIRE	Factor Information Retrieval System, Version 5.0, Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants (EPA-454/R-95-012), USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27717
g	gram
gal	gallon
gr	grains
H_2O	Water
H_2S	Hydrogen Sulfide
H_2SO_4	Sulfuric Acid
HAP	Hazardous Air Pollutants
hr	hour
IAC	Illinois Administrative Code
I.D. No.	Identification Number of Source, assigned by Illinois EPA
ILCS	Illinois Compiled Statutes
Illinois EPA	Illinois Environmental Protection Agency
J	Joule
°K	degrees Kelvin
kg	kilogram
kPa	kilopascal
kW	kilowatt
l	liter
LAER	Lowest Achievable Emission Rate
lb	pound
LDAR	Leak Detection and Repair
m^3	cubic meter

MACT	Maximum Achievable Control Technology
Mft^3	Million cubic feet
Mg	Metric Tonnes or Megagrams
mmBtu	Million Btus
mmHg	millimeters of Mercury
mo	month
MW	Megawatts
NESHAP	National Emission Standards for Hazardous Air Pollutants
ng	nanogram
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standards
OM	Organic Material
OSIL	On-Site Implementation Log
P2	Pollution Prevention
pH	Measure of hydronium ion concentration
PM	Particulate Matter
PM_{10}	Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 microns as measured by applicable test or monitoring methods
POD	Point of Determination
PMPU	Pharmaceutical Manufacturing Process Unit
ppm	parts per million
ppmv	parts per million by volume
ppmw	parts per million by weight
PSD	Prevention of Significant Deterioration
psi	pounds per square inch
psia	pounds per square inch absolute
psig	pounds per square inch gauge
QA/QC	Quality Assurance and Quality Control
RCRA	Resource Conservation and Recovery Act
SCC	Source Classification Code
scf	standard cubic feet
scfm	standard cubic feet per minute
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
T	Ton
T1	Title I – identifies Title I conditions that have been carried over from an existing permit
T1N	Title I New – identifies Title I conditions that are being established in this permit
T1R	Title I Revised – identifies Title I conditions that have been carried over from an existing permit and subsequently revised in this permit
TANKS	USEPA Emission Estimating Program for Storage Tanks
tpy	tons per year
TOC	Total Organic Compounds
TOXCHEM+	Enviromega Ltd. Company's (Campellville, Ontario) Toxic Chemical Modeling Program for Water Pollution Control Plants (Treatment and Collection)
USEPA	United States Environmental Protection Agency
VOL	Volatile Organic Liquid

VOM	Volatile Organic Material
VPL	Volatile Petroleum Liquid
Wt	Weight
yr	year

3.0 INSIGNIFICANT ACTIVITIES

3.1 Identification of Insignificant Activities

The following activities at the source constitute insignificant activities as specified in 35 IAC 201.210:

3.1.1 Activities determined by the Illinois EPA to be insignificant activities, pursuant to 35 IAC 201.210(a)(1) and 201.211, as follows:

Pharmaceutical Products Division Operations Weigh Booths
Pharmaceutical Products Division Liquid Products Pilot Plant Portable Operations
Pharmaceutical Products Division Liquid Products Pilot Plant Reactors
Pharmaceutical Products Division Liquid Products Pilot Plant Processing Rooms
Pharmaceutical Products Division Liquid Products Pilot Plant Filling Operations
Pharmaceutical Products Division Liquid Products Pilot Plant Weighing Operations
Pharmaceutical Products Division Liquid Products Pilot Plant Wash Area
Pharmaceutical Products Division Liquid Products Pilot Plant Chemical Storage Area
Pharmaceutical Products Division M2 Line 7 Flammable Liquid Products Fill Room
Pharmaceutical Products Division PARD Tablet Coater #2
Chemical and Agricultural Products Division Building C-15 Drum Pump-Out Room
Chemical and Agricultural Products Division Building C-15 Washing Room
Chemical and Agricultural Products Division Building C-15 Leaking Drum Storage Room
Chemical and Agricultural Products Division Building C-15 Mixing Room
Chemical and Agricultural Products Division Building M-4 Acetic Acid Drumming Operations
Chemical and Agricultural Products Division Building R-2B Hydrochloric Acid Tanks
Chemical and Agricultural Products Division Building R-3 Hydrochloric Acid Tank
Chemical and Agricultural Products Division Buildings F-1 and F-2 Continuous Sterilizers
Chemical and Agricultural Products Division Buildings F-1 and F-2 100 Series Fermentation Tanks
Chemical and Agricultural Products Division Buildings F-1 and F-2 200 Series Fermentation Tanks
Chemical and Agricultural Products Division Buildings F-1 and F-2 300 Series Fermentation Tanks

Chemical and Agricultural Products Division Buildings F-1 and F-2 400 Series Fermentation Tanks
Chemical and Agricultural Products Division Buildings F-1 and F-2 500 Series Fermentation Tanks (Excluding Seed Tanks 501, 503, 571, and 572 and any such unit constructed pursuant to permit 97120079)
Chemical and Agricultural Products Division Buildings F-1 and F-2 600 Series Fermentation Tanks
Chemical and Agricultural Products Division Buildings F-1 and F-2 1,000 Series Fermentation Tanks
Chemical Manufacturing Support Area No. S-7 Sodium Hydroxide Storage Tanks
Chemical Manufacturing Support Area No. S-7 Hydrochloric Acid Storage Tanks
Chemical Manufacturing Area Dry Powder Chargers
Chemical Manufacturing Support Area No. S-7 Acetone Tank (T-1967)

3.1.2 Activities that are insignificant activities based upon maximum emissions, pursuant to 35 IAC 201.210(a)(2) or (a)(3), as follows:

Chemical and Agricultural Products Division Mechanical Vapor Recompression Units
Chemical and Agricultural Products Division Raw Material Weigh Room
Chemical and Agricultural Products Division Buildings F-1 and F-2 Support Tanks (Sulfuric Acid and Harvest Tanks)
Chemical and Agricultural Products Division Building R-6 Ery Salts Tank
Chemical and Agricultural Products Division Building R-2B Fraction Tanks
Chemical and Agricultural Products Division Building R-2B Process Acetone Recovery System
Chemical and Agricultural Products Division Building R-2B Vacuum Tray Dryer with Vent Condenser
Chemical and Agricultural Products Division Building R-2B 8,000 Liter Dowex Columns
Chemical and Agricultural Products Division Building R-2B Pharmacia Gradiant System
Chemical and Agricultural Products Division Building R-2B RO Units with Permeate Tanks
Chemical and Agricultural Products Division Building R-2B Column Overflow Tanks
Chemical and Agricultural Products Division Building R-2B Distilled Water Tanks
Chemical and Agricultural Products Division Building R-2B Spent Beer Tanks
Chemical and Agricultural Products Division Building R-2B Vitris Feed Tanks
Chemical and Agricultural Products Division Building R-2B Phosphoric Acid Tanks

Chemical and Agricultural Products Division Building
R-3 Acetone Distillation Unit with Process and Vent Condensers
Chemical and Agricultural Products Division Building
R-3 Process Acetone Recovery System Tanks
Chemical and Agricultural Products Division Building
R-3 Pharmaceutical and Pharmaceutical-Like Process Tank (Tank #30)
Chemical and Agricultural Products Division Building
R-3 Spectinomycin Odor Control System
Chemical and Agricultural Products Division Building
R-3 Sulfuric Acid Tanks
Chemical and Agricultural Products Division Building
R-3 Nitric Acid Tank
Chemical and Agricultural Products Division Building
R-3 Gibb. Separator
Chemical and Agricultural Products Division Building
R-3 Westfalia Clarifiers
Chemical and Agricultural Products Division Building
R-3 Podbilniak Extractors
Chemical and Agricultural Products Division Building
R-3 Ery Filter Presses and associated Process Condensers
Chemical and Agricultural Products Division Building
R-3 Caustic Service Tanks (1,215 Gallons or less)
Chemical and Agricultural Products Division Building
R-3 Mother Liquor Hold Tanks (6,000 Gallons or less)
Chemical and Agricultural Products Division Building
R-3 Nitric Acid Service Tanks (6,000 Gallons or less)
Chemical and Agricultural Products Division Building
R-3 Ethylene Glycol Tanks (2,000 Gallons or less)
Chemical and Agricultural Products Division Building
R-6 Nitric Acid and Phosphorice Acid Process Tanks
Chemical and Agricultural Products Division Building
R-6 Filter Presses
Chemical and Agricultural Products Division Building
R-10 Portable Tank Wagons
Chemical and Agricultural Products Division Building
R-10 Sulfuric Acid Process Tank
Chemical and Agricultural Products Division Building
S-27 Acetone Recovery System
Chemical and Agricultural Products Division Building
S-27 Acetone Tanks (Excluding Tanks 102A, 102B, and 114)
Chemical and Agricultural Products Division Building
S-30 Acetone Solvent Storage Tanks
Chemical and Agricultural Products Division Building
S-30 Sulfuric Acid, Nitric Acid, and Ammonium Hydroxide Storage Tanks

Chemical and Agricultural Products Division Building S-35 Acetic Acid Tote Loading Station
Pharmaceutical Products Division Mixing Tanks
Pharmaceutical Products Division Distilled Water Tanks
Pharmaceutical Products Division Ethanol Weigh Tank
Pharmaceutical Products Division Daymill - Milling Cremes and Ointments
Pharmaceutical Products Division Steam Water Bath
Pharmaceutical Products Division Autoclave
Pharmaceutical Products Division Shredder
Hospital Products Division Part-Fill Hot Melt Glue Pots
Hospital Products Division Irrigation Hot Melt Glue Pots
Hospital Products Division Maintenance Shop Grinders and Work Bench
Hospital Products Division Line 75 Filling Room
Hospital Products Division Lyophilization Vacuum Pumps
Hospital Products Division 3rd Floor Solution Mixing Rooms
Hospital Products Division Sterility Isolator
Hospital Products Division Net Weigh Filler
Hospital Products Division Calibration Pots
Hospital Products Division Thermocouple Assembly
Hospital Products Division Maintenance Shop Welder
Hospital Products Division SVP Finishing Hot Melt Glue Pots
Hospital Products Division Liposyn Finishing Hot Melt Glue Pot
Hospital Products Division Maintenance Shop Parts Cleaner
Hospital Products Division Nutritional Line Vacuum Pump
Corporate Engineering Division Brine Tanks
Chemical Manufacturing Support Area No. S-30 Tank TA-9706

3.1.3 Activities that are insignificant activities based upon their type or character, pursuant to 35 IAC 201.210(a)(4) through (18), as follows:

Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn

refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

Equipment used for the melting or application of less than 50,000 lb/yr of wax to which no organic solvent has been added [35 IAC 201.210(a)(7)].

Equipment used for filling drums, pails, or other packaging containers, excluding aerosol cans, with soaps, detergents, surfactants, lubricating oils, waxes, vegetable oils, greases, animal fats, glycerin, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions [35 IAC 201.210(a)(8)].

Storage tanks of organic liquids with a capacity of less than 10,000 gallons and an annual throughput of less than 100,000 gallons per year, provided the storage tank is not used for the storage of gasoline or any material listed as a HAP pursuant to Section 112(b) of the CAA [35 IAC 201.210(a)(10)].

Storage tanks of any size containing virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

Die casting machines where a metal or plastic is formed under pressure in a die [35 IAC 201.210(a)(12)].

Coating operations (excluding powder, architectural and industrial maintenance coating) with aggregate VOM usage that never exceeds 15 lbs/day from all coating lines at the source, including VOM from coating, dilutents, and cleaning materials [35 IAC 201.210(a)(13)].

Printing operations with aggregate organic solvent usage that never exceeds 750 gallons per year from all printing lines at the source, including organic solvent from inks, dilutents, fountain solutions, and cleaning materials [35 IAC 201.210(a)(14)].

Gas turbines and stationary reciprocating internal combustion engines of less than 112 kW (150 horsepower) power output [35 IAC 201.210(a)(15)].

Gas turbines and stationary reciprocating internal combustion engines of between 112 kW and 1,118 kW (150 and 1,500 horsepower) power output that are emergency or standby units [35 IAC 201.210(a)(16)].

Storage tanks of any size containing exclusively soaps, detergents, surfactants, glycerin, waxes, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

Loading and unloading systems for railcars, tank trucks, or watercraft that handle only the following liquid materials, provided an organic solvent has not been mixed with such materials: soaps, detergents, surfactants, lubricating oils, waxes, glycerin, vegetable oils, greases, animal fats, sweetener, corn syrup, aqueous salt solutions, or aqueous caustic solutions [35 IAC 201.210(a)(18)].

3.1.4 Activities that are considered insignificant activities pursuant to 35 IAC 201.210(b).

3.2 Compliance with Applicable Requirements

Insignificant activities are subject to applicable requirements notwithstanding status as insignificant activities. In particular, in addition to regulations of general applicability, such as 35 IAC 212.301 and 212.123 (Condition 5.2.2), the Permittee shall comply with the following requirements, as applicable:

3.2.1 For each cold cleaning degreaser, the Permittee shall comply with the applicable equipment and operating requirements of 35 IAC 215.182, 218.182, or 219.182.

3.2.2 For each particulate matter process emission unit, the Permittee shall comply with the applicable particulate matter emission limit of 35 IAC 212.321 or 212.322. For example, the particulate matter emissions from a process emission unit shall not exceed 0.55 pounds per hour if the emission unit's process weight rate is 100 pounds per hour or less, pursuant to 35 IAC 266.110.

3.2.3 For each organic material emission unit that uses organic material, e.g., a mixer or printing line, the Permittee shall comply with the applicable VOM emission limit of 35 IAC 215.301, 218.301, or 219.301, which requires that organic material emissions not exceed 8.0 pounds per hour or do not qualify as photochemically reactive material as defined in 35 IAC 211.4690.

3.3 Addition of Insignificant Activities

3.3.1 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type that is identified in Condition 3.1,

until the renewal application for this permit is submitted, pursuant to 35 IAC 201.212(a).

3.3.2 The Permittee must notify the Illinois EPA of any proposed addition of a new insignificant activity of a type addressed by 35 IAC 201.210(a)and 201.211 other than those identified in Condition 3.1, pursuant to Section 39.5(12)(b) of the Act.

3.3.3 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type identified in 35 IAC 201.210(b).

4.0 SIGNIFICANT EMISSION UNITS AT THIS SOURCE

Emission Unit	Description	Date Constructed	Emission Control Equipment
224-PC	Process Condenser 224-PC (PC-224, Building C-6)	May 23, 1999	Scrubbers 100-SC and 200-SC; Vent Condenser 224-VC; and Demister DM101-ME
227-PC	Process Condenser 227-PC (Asset #LC-******, PC-227, Building C-6)	December 1, 1998	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 214-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 214-SJ; Vent Condenser 227-VC; and Demister DM101-ME
861-PC	Process Condenser 861-PC (Asset #LC-******, PC-861, Building C-10)	July 1, 1998	None
A-0095	Centrifuge 829C (PC-829, Building C-10)	January 1, 1945	None
A-0105	Centrifuge 265C (PC-265, Building C-7)	January 1, 1946	Scrubbers 100-SC and 300-SC; and Demister DM101-ME
A-0134	Centrifuge 255C (PC-255, Building C-6)	January 1, 1951	Scrubbers 100-SC and 200-SC; and Demister DM101-ME
A-0135	Centrifuge 834C (PC-834, Building C-10)	September 1, 1990	Scrubber 834-SC and Vent Condenser 834-VC
A-0167	Centrifuge 226C (PC-226, Building C-6)	June 1, 1982	Scrubbers 100-SC and 212-SC; and Demister DM101-ME
A0169	Centrifuge (Tolhurst Centrifuge, Spectam, PC-740, Building R-3)	Unknown	Scrubber SC-3
A-0178	Centrifuge 268C (PC-268, Building C-7)	June 1, 1992	Scrubbers 100-SC and 300-SC; and Demister DM101-ME
A-0179	Centrifuge 814C (PC-814, Building C-10)	January 1, 1957	Steam Jet 812-SJ
A-0180	Centrifuge 810C (PC-810, Building C-10)	January 1, 1957	None
A0257	Centrifuge (Pusher Centrifuge (spectam), PC-740, Building R-3)	Unknown	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
A-0258	Centrifuge (PC-5, Building R-7/C-11E)	January 1, 1996	None
A0305	Centrifuge (Tolhurst Centrifuge 1, CE-1, PC-672, Building R-6)	Prior to 1965	None
A-0338	Centrifuge 805C (PC-805, Building C-10)	January 1, 1966	None
A0340	Centrifuge (Tolhurst Centrifuge (gibb), PC-754, Building R-3)	1970	None
A0347	Centrifuge (Tolhurst Centrifuge 2, CE-2, PC-632, Building R-6)	Prior to 1983	None
A0355	Centrifuge (ATM Centrifuge 3, CE-3, PC-677, Building R-6)	Prior to 1967	None
A0569	Centrifuge (Tolhurst Centrifuge 4, CE-4, PC-634, Building R-6)	1980	None
A-0672	Centrifuge 855C (PC-855, Building C-10)	December 1, 1984	None
A-0695	Centrifuge 205C (PC-205, Building C-6)	January 1, 1985	Scrubbers 100-SC and 212-SC; and Demister DM101-ME
A0698	Centrifuge (Western States Centrifuge 5, CE-5, PC-635, Building R-6)	1988	Scrubber SC-2 (Asset #J9337)
A0699	Centrifuge (Western States Centrifuge 6, CE-6, PC-635, Building R-6)	1988	None
A-0897	Centrifuge (PC-3, Building R-7/C-11E)	May 1, 1987	None
A-1000	Centrifuge 284C (PC-284, Building C-7)	January 1, 1992	None
A1020	Centrifuge (Heinkel Centrifuge (Spectam), PC-740, Building R-3)	1986	Scrubber SC-2 (Asset #U2187)
A-1021	Centrifuge R7BC11 (PC-R7B, Building R-7B)	November 1, 1987	None
A1039	Centrifuge (CE-102, Building R-10)	April 30, 1991	None
A-1068	Tolhurst Centrifuge (Centrifuge D-102, Building R-2B)	1990	None
A-1193	Centrifuge 838C (PC-838, Building C-10)	January 1, 1989	Cyclone 838C-CYC
A1222	Centrifuge (CE-103, Building R-10)	April 30, 1991	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
A1226	Basket Centrifuge (CE-107, Building R-10)	April 30, 1991	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
A-1262	Centrifuge R7BC1 (PC-R7B, Building R-7B)	January 1, 1994	None
A-1269	Centrifuge (PC-2, Building R-7/C-11E)	July 6, 1998	None
A-1303	Centrifuge 935C (PC-935, Building C-17)	November 1, 1992	Cyclone 935C-CYC and Scrubber 988-SC
A-1311	Centrifuge (PC-1, Building R-7/C-11E)	April 1, 1994	None
B9	Energy Recovery International Model MFA.4.71 Natural Gas Fired Waste Heat Boiler (Boiler No. 9, 75.6 mmBtu/hr)	July, 1995	Low NO_x Burner
B-0520	Process Condenser 261-PC (PC-261, Building C-7)	January 1, 1951	Scrubbers 100-SC and 300-SC; Vent Condenser 261-VC; After Condenser 267-AC; Steam Jets 267-SJ1 and 267-SJ2; and Demister DM101-ME
B0529	Process Condenser (TA-117 Process Condenser, HX-122, Building R-10)	April 30, 1991	None
B-0758	Process Condenser 826-PC (PC-826, Building C-10)	January 1, 1957	After Condenser 828-AC and Steam Jet 828-SJ
B-0765	Process Condenser 812-PC (PC-812, Building C-10)	January 1, 1957	Steam Jet 812-SJ
B-0766	Process Condenser 811-PC (PC-811, Building C-10)	December 1, 1998	Steam Jet 812-SJ
B-0768	Process Condenser 827-PC (PC-827, Building C-10)	January 1, 1957	After Condenser 828-AC and Steam Jet 828-SJ
B1033	Process Condenser (Condenser 1R, PC-630, Building R-6)	1965	None
B-1444	Process Condenser 860-PC (PC-860, Building C-10)	November 1, 1978	After Condenser 860-AC; and Steam Jets 860-SJ1 and 860-SJ2
B1505	Process Condenser (HE-9, PC-634, Building R-6)	1980	None
B1509	Process Condenser (HE-3R, PC-675, Building R-6)	1980	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
B1510	Process Condenser (to Tk 39R, HE-38, PC-632, Building R-6)	1980	None
B-1578	Process Condenser (PC-1, Building R-7/C-11E)	January 1, 1994	Inter Condenser B-2335; Liquid Ring Pumps KK-7217 and NN-6958; Steam Jets KK-7208, FJ-6111, and KK-7209; and Scrubber U-2857
B-1580	Process Condenser 803-PC (PC-803, Building C-10)	January 1, 1994	After Condenser 803-AC2; Dry Vacuum Pump 803-HP; Vent Condenser 803-VC; and Surge Tank 803SU
B-1584	Process Condenser 883-PC (PC-883, Building C-19)	January 1, 1994	Inter Condenser 888-IC; Liquid Ring Pump 888-LRP; and Steam Jets 887-SJ, 888-SJ1, and 888-SJ2
B-1592	Process Condenser 204-PC (PC-204, Building C-6)	January 1, 1993	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; Vent Condenser 204-VC; and Demister DM101-ME
B1775	Process Condenser (Condenser #1, HX-104, PC-754, Building R-3)	1985	Gibb Still Scavenger Condenser LC002853
B1777	Process Condenser (Condenser #2, HX-105, PC-754, Building R-3)	1985	Gibb Still Scavenger Condenser LC002853
B-1792	Process Condenser (PC-5, Building R-7/C-11E)	April 1, 1985	None
B-1796	Process Condenser (PC-1, Building R-7/C-11E)	January 1, 1985	Inter Condenser B-2335; Liquid Ring Pumps KK-7217 and NN-6958; Steam Jets KK-7208, FJ-6111, and KK-7209); and Scrubber U-2857
B1797	Process Condenser (HE-47, PC-715, Building R-6)	1956	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
B-1814	Process Condenser 804-PC (PC-804, Building C-10)	March 1, 1986	After Condensers 803-AC1 and 803-AC2; Dry Vacuum Pump 803-HP; Steam Jet 803-SJ; Vent Condenser 804-VC; and Surge Tank 804SU
B-1862	Process Condenser 842-PC (PC-842, Building C-10)	March 1, 1987	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
B1901	Process Condenser (Process Condenser R6C, HE-46, PC-705, Building R-6)	1980	None
B-1912	Process Condenser R7A-PC3 (PC-R7A, Building R-7A)	January 1, 1982	None
B-1914	Process Condenser R7A-PC2 (PC-R7A, Building R-7A)	January 1, 1993	None
B1915	Process Condenser (TK40 Condenser, PC-754, Building R-3)	Unknown	None
B1916	Process Condenser (TK#41 Condenser, PC-754, Building R-3)	Unknown	None
B1917	Process Condenser (TK#39 Condenser, PC-754, Building R-3)	Unknown	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
B-1937	Process Condenser (PC-5, Building R-7/C-11E)	December 1, 1984	Inter Condensers B-2336 and B-1928; Liquid Ring Pumps KK-7207 and KK-1785; Steam Jets KK-7210, KK-2793, KK-7211, and KK-2792; and Scrubber U-2857
B-1938	Process Condenser (PC-5, Building R-7/C-11E)	December 1, 1984	Inter Condensers B-2336 and B-1928; Liquid Ring Pumps KK-7207 and KK-1785; Steam Jets KK-7210, KK-2793, KK-7211, and KK-2792; and Scrubber U-2857
B-1946	Process Condenser 854-PC (PC-854, Building C-10)	April 1, 1985	After Condenser 852-AC; Steam Jets 852-SJ, 853-SJ1, 853-SJ2, and 853-SJ3; Inter Condensers 853-IC1 and 853-IC2; and Scrubber 853-SC
B-2009	Process Condenser R7B-PC1 (PC-R7B, Building R-7B)	November 1, 1987	None
B-2147	Process Condenser 228-PC (PC-228, Building C-6)	January 1, 1989	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 208-SJ, 209-SJ1, and 209-SJ2; and Demister DM101-ME
B-2179	Process Condenser 229-PC (PC-229, Building C-6)	January 1, 1989	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 229-SJ; and Demister DM101-ME

Emission Unit	Description	Date Constructed	Emission Control Equipment
B-2190	Process Condenser 416-PC (PC-416, Building C-2)	August 1, 1990	Scrubber 408-SC; After Condenser 414-AC; Liquid Ring Pump 414-LRP; Steam Jets 414-SJ1 and 414-SJ2; and Vent Condenser 416-VC
B-2207	Process Condenser (PC-153, Building R-8/R-12)	March 1, 1991	None
B-2257	Process Condenser 282-PC (PC-282, Building C-7)	March 1, 1991	After Condenser 282-AC; Steam Jet 282-SJ; Surge Tank 282SU; and Vent Condenser 282-VC
B-2258	Process Condenser 281-PC (PC-281, Building C-7)	January 1, 1992	Scrubbers 100-SC, 102-SC, and 300-SC; After Condenser 280-AC; Steam Jet 280-SJ; Vent Condenser 281-VC; and Demister DM101-ME
B-2259	Process Condenser 280-PC (PC-280, Building C-7)	January 1, 1992	Scrubbers 100-SC, 102-SC, and 300-SC; After Condenser 280-AC; Steam Jet 280-SJ; Vent Condenser 280-VC; and Demister DM101-ME
B-2324	Process Condenser (PC-901, Building R-9)	November 1, 1992	None
B-2325	Process Condenser (PC-902, Building R-9)	January 1, 1992	None
B-2326	Process Condenser (PC-905, Building R-9)	January 1, 1992	None
B-2327	Process Condenser (PC-903, Building R-9)	January 1, 1992	None
B-2328	Process Condenser (PC-904, Building R-9)	November 1, 1992	Scrubber U-2218; PC-904 After Condenser; PC-904 Inter Condenser; Liquid Ring Pump LC909300; Steam Jets LC062116, LC062115, and LC062117; and Vent Condensers B-2318 and B-2317
B2385	Process Condenser (TA-129 Process Condenser, HX-104, Building R-10)	April 2, 1993	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B

Emission Unit	Description	Date Constructed	Emission Control Equipment
B2386	Process Condenser (DY-101/102 Process Condenser, HX-139, Building C-10)	April 30, 1991	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
B-2389	Process Condenser (PC-4, Building R-7/C-11E)	January 1, 1992	Inter Condenser B-2334; Liquid Ring Pumps KK-7213 and KK-4153; Steam Jets KK-7205, KK-4152, and KK-7206; and Scrubber U-2857
B-2411	Process Condenser 920-PC (PC-920, Building C-17)	March 1, 1994	After Condenser 920-AC; Liquid Ring Pump 920-LRP; Steam Jet 920-SJ; Vent Condenser 920-VC; and Scrubber 988-SC
B-2414	Process Condenser 884-PC (PC-884, Building C-19)	January 1, 1992	Inter Condenser 888-IC; Liquid Ring Pump 888-LRP; and Steam Jets 887-SJ, 888-SJ1, and 888-SJ2
B-2419	100 Gallon Process Condenser (Process Condenser 841-PC, PC-841)	September 1, 1997	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
B-2442	Process Condenser 915-PC (PC-915, Building C-17)	March 1, 1994	After Condenser 905-AC; Liquid Ring Pump 905-LRP Steam Jets 905-SJ1 and 905-SJ2; Vent Condenser 915-VC; and Scrubber 988-SC
B-2449	Process Condenser (PC-902, Building R-9)	January 1, 1992	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
B-2450	Process Condenser (PC-904, Building R-9)	January 1, 1993	Scrubbers U-2218 and LC-902222; PC-904 After Condenser; PC-904 Inter Condenser; Liquid Ring Pump LC909300; Steam Jets LC062116, LC062115, and LC062117; and Vent Condensers B-2318 and B-2317
B-2451	Process Condenser (PC-903, Building R-9)	January 1, 1993	None
B-2452	64 Gallon Process Condenser (PC-905, Building R-9)	January 1, 1993	None
B-2453	Process Condenser (PC-901, Building R-9)	November 1, 1992	None
B-2457	Process Condenser 283-PC (PC-283, Building C-7, Building C-7)	January 1, 1992	Scrubbers 100-SC, 102-SC, and 300-SC; Inter Condenser 283-IC; Liquid Ring Pump 283-LRP; Steam Jets 283-SJ1, and 283-SJ2; Vent Condenser 283-VC; and Demister DM101-ME
B-2482	Process Condenser 207-PC (PC-207, Building C-6)	January 1, 1993	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 214-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 214-SJ; Vent Condenser 207-VC; and Demister DM101-ME

Emission Unit	Description	Date Constructed	Emission Control Equipment
B-2485	Process Condenser 840-PC (PC-840, Building C-10)	January 1, 1994	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Vent Condenser 840-VC; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
B-2490	Process Condenser 802-PC (PC-802, Building C-10)	September 13, 1994	Scrubbers 802-SC and 839-SC; Steam Jets 802-SJ1 and VS604-SJ; Inter Condenser VS604-IC; Liquid Ring Pump VS604-LRP; and Surge Tank VS604-SU
B-2491	Process Condenser 806-PC (PC-806, Building C-10)	January 1, 1994	Scrubbers 802-SC and 839-SC; Steam Jets 802-SJ1 and VS604-SJ; Inter Condenser VS604-IC; and Liquid Ring Pump VS604-LRP
B-2492	Process Condenser 853-PC (PC-853, Building C-10)	January 1, 1994	After Condenser 852-AC; Steam Jets 852-SJ, 853-SJ1, 853-SJ2, and 853-SJ3; Inter Condensers 853-IC1 and 853-IC2; and Scrubber 853-SC

Emission Unit	Description	Date Constructed	Emission Control Equipment
B-2493	Process Condenser 837-PC (PC-837, Building C-10)	January 1, 1994	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
B-2494	Process Condenser 852-PC (PC-852, Building C-10)	January 1, 1994	After Condenser 852-AC; Steam Jets 852-SJ, 853-SJ1, 853-SJ2, and 853-SJ3; Inter Condensers 853-IC1 and 853-IC2; and Scrubber 853-SC;
B-2511	Process Condenser 210-PC (PC-210, Building C-6)	January 1, 1994	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; Vent Condenser 210-VC; and Demister DM101-ME
B-2512	Process Condenser 215-PC (PC-215, Building C-6)	January 1, 1994	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; Vent Condenser 215-VC; and Demister DM101-ME

Emission Unit	Description	Date Constructed	Emission Control Equipment
B-2519	Process Condenser (PC-2, Building R-7/C-11E)	January 1, 1994	Inter Condenser B-2337; Liquid Ring Pumps KK-7214, KK-6485, and KK-6080; Steam Jets KK-7215 and KK-7216; and Scrubber U-2857
B-2520	Process Condenser (PC-2, Building R-7/C-11E)	January 1, 1994	Inter Condenser B-2337; Liquid Ring Pumps KK-7214 and KK-6485; Steam Jets KK-7215 and KK-7216; and Scrubber U-2857
B-2521	Process Condenser (PC-2, Building R-7/C-11E)	January 1, 1994	Inter Condenser B-2337; Liquid Ring Pump KK-7214 and KK-6485; Steam Jets KK-7215 and KK-7216; and Scrubber U-2857
B-2529	Process Condenser 262-PC (Building C-7)	September 25, 1997	Scrubbers 100-SC and 300-SC; Vent Condenser 262-VC; After Condenser 267-AC; Steam Jets 267-SJ1 and 267-SJ2; and Demister DM101-ME
B-2530	Process Condenser 264-PC (PC-264, Building C-7)	April 18, 1997	Scrubbers 100-SC and 300-SC; Vent Condenser 264-VC; After Condenser 267-AC; Steam Jets 267-SJ1 and 267-SJ2; and Demister DM101-ME
B-2598	Process Condenser 258-PC (PC-258, Building C-6)	January 1, 1994	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 253-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, 253-SJ, and 256-SJ; Vent Condenser 258-VC; and Demister DM101-ME

Emission Unit	Description	Date Constructed	Emission Control Equipment
B-2914	Process Condenser 846-PC (PC-846, Building C-10)	January 1, 1995	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
B-2924	Process Condenser 900-PC (PC-900, Building C-17)	January 1, 1995	After Condenser 900-AC; Liquid Ring Pump 900-LRP; Steam Jets 900-SJ1 and 900-SJ2; Vent Condenser 900-VC; and Scrubber 988-SC
B-2925	Process Condenser 905-PC (PC-905, Building C-17)	January 1, 1995	After Condenser 900-AC; Liquid Ring Pump 900-LRP; Steam Jets 900-SJ1 and 900-SJ2; Vent Condenser 905-VC; and Scrubber 988-SC
B-2926	Process Condenser 910-PC (PC-910, Building C-17)	January 1, 1995	After Condenser 910-AC; Liquid Ring Pump 910-LRP; Steam Jets 910-SJ1 and 910-SJ2; Vent Condenser 910-VC; and Scrubber 988-SC
B-2998	Process Condenser (PC-4, Building R-7/C-11E)	January 1, 1996	Inter Condenser B-2334; Liquid Ring Pumps KK-7213 and KK-4153; Steam Jets KK-7205, KK-4152, and KK-7206; and Scrubber U-2857
CE-188	Centrifuge (CE-188, Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B

Emission Unit	Description	Date Constructed	Emission Control Equipment
CE-193	Centrifuge (CE-193, Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
D-0307 857D1	560 Gallon Dryer (Dryer 857D1, PC-857, Building C-10)	January 1, 1958	None
D-0307 857D2	560 Gallon Dryer (Dryer 857D2, PC-857, Building C-10)	April 1, 1985	None
D-0307 857D3	560 Gallon Dryer (Dryer 857D3, PC-857, Building C-10)	April 1, 1985	None
D-0307 857D4	560 Gallon Dryer (Dryer 857D4, PC-857, Building C-10)	April 1, 1985	None
D-0307 857D5	560 Gallon Dryer (Dryer 857D5, PC-857, Building C-10)	April 1, 1985	None
D-0307 857D6	560 Gallon Dryer (Dryer 857D6, PC-857, Building C-10)	April 1, 1985	None
D0431	Vacuum Tumble Dryer (PK #2, PC-700, Building R-5)	1967	Liquid Ring Vacuum Pump KK2739
D0450	Vacuum Tumble Dryer (PK #1, PC-700, Building R-5)	1967	Liquid Ring Vacuum Pump KK2741
D-0707	560 Gallon Dryer (Dryer 878D, PC-878, Building C-10)	October 1, 1975	After Condenser 878D-AC; Cyclone 878D-CYC; Inter Condensers 878D-IC1 and 878D-IC2; and Steam Jets 878D-SJ1, 878D-SJ2, and 878D-SJ3
D0909	Fluid Bed Dryer (FBD #1, PC-634, Building R-6)	1980	FBD-1 Baghouse; Scrubber SC-1; and S-32 Carbon Bed
D-1031	73 Gallon V-Blender Dryer (PC-8, Building R-7/C-11E)	February 1, 1981	Inter Condenser U-2998; Liquid Ring Pump U-2998; Steam Jet U-2998; and Scrubber U-2857
D1140	Tray Dryer (Hull Tray Dryer TD#1, PC-712, Building R-5)	1986	Liquid Ring Vacuum Pump KK2744
D1141	Tray Dryer (Hull Tray Dryer TD#2, PC-712, Building R-5)	1986	Liquid Ring Vacuum Pumps KK2470 and K1777

Emission Unit	Description	Date Constructed	Emission Control Equipment
D-1150	560 Gallon Dryer (Dryer 272D1, PC-272, Building C-3)	January 1, 1989	After Condenser 272D1-AC; Dry Vacuum Pump 227D1-HP; Vent Condenser 272D1-VC; Liquid Ring Pump 272D2-LRP; and Vent Condenser 272D2-VC
D-1175	16.7 Gallon Vacuum Tray Dryer (PC-9, Building R-7/C-11E)	May 1, 1987	Inter Condenser U-2997; Liquid Ring Pump U-2997; Steam Jet U-2997; and Scrubber U-2857
D-1201	16.7 Gallon Vacuum Tray Dryer (PC-7, Building R-7/C-11E)	January 1, 1994	Liquid Ring Pumps NG-0177 and KK-6433
D-1203	16.7 Gallon Vacuum Tray Dryer (PC-10, Building R-7/C-11E)	January 1, 1992	Inter Condenser FK-2780; Liquid Ring Pump FK-2780; Steam Jet FK-2780; and Scrubber U-2857
D-1275	560 Gallon Dryer (Dryer 856D1, PC-856, Building C-10)	May 1, 1988	After Condenser 856D1-AC and Dry Vacuum Pump 856HP1
D-1279	560 Gallon Dryer (Dryer 272D2, PC-272, Building C-3)	March 1, 1988	Liquid Ring Vacuum Pump 272D2-LRP and Vent Condenser 272D2-VC
D1290	Fluid Bed Dryer (FBD #2, PC-710, Building R-5)	1988	Scrubber FJ7813
D-1403	Patterson-Kelly Blender (PK Blender, Building R-2B)	1991	None
D-1433	560 Gallon Dryer (Dryer 880D, PC-880, Building C-10)	July 1, 1991	After Condensers 880D-AC; Dust Collector 880D-DC; Inter Condenser 880D-IC; Liquid Ring Pump 880D-LRP; and Steam Jets 880D-SJ1 and 880D-SJ2
D-1471	560 Gallon Dryer (Dryer R7AD, PC-R7A, Building R-7A)	January 1, 1982	Liquid Ring Pump R7A-LRP5
D1485	Tray Dryer (DY-102, Building R-10)	April 30, 1991	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B

Emission Unit	Description	Date Constructed	Emission Control Equipment
D-1489	133 Gallon Dryer (PC-922, Building R-9)	November 1, 1992	Scrubber U-2218; Liquid Ring Pump KK-7110; and Vent Condenser B-2393
D-1490	73 Gallon Dryer (PC-921, Building R-9)	November 1, 1992	Scrubber U-2218; Cyclone LC-918849; Liquid Ring Pump KK-7124; PC-921 Steam Jet; and Vent Condenser B-2394
D-1660	560 Gallon Dryer (Dryer 881D, PC-881, Building C-10)	July 1, 1992	After Condenser 881D-AC; Cyclone 881D-CYC; Dry Vacuum Pump 881D-HP; and Vent Condenser 881-VC
D-1666	266 Gallon Dryer (PC-923, Building R-9)	November 1, 1992	Scrubber U-2218; PC-923 Inter Condenser; Steam Jet LC062123; and Vent Condenser B-2495
D-1667	133 Gallon Dryer (PC-924, Building R-9)	December 1, 1986	Scrubber U-2218; PC-924 Inter Condenser; Steam Jet LC062122; and Vent Condenser B-2496
D-1668	16.7 Gallon Vacuum Tray Dryer (PC-6, Building R-7/C-11E)	October 1, 1994	Inter Condenser FK-5123; Liquid Ring Pump FK-5123; Steam Jet FK-5123; and Scrubber U-2857
D1801	Fluid Bed Dryer (FBD #3, PC-711, Building R-5)	1992	Scrubber FJ7813
D-1802	560 Gallon Dryer (Dryer 815D, PC-815, Building C-10)	February 11, 1997	After Condenser 815D-AC; Cyclone 815D-CYC; Dust Collector 815D-DC; and Dry Vacuum Pump 815D-HP
DY-610	Tray Dryer (DY-610, Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
E-0358	Process Condenser 925-PC (PC-925, Building C-17)	March 1, 1994	After Condenser 910-AC; Liquid Ring Pump 910-LRP; Steam Jets 910-SJ1 and 910-SJ2; Vent Condenser 925-VC; and Scrubber 988-SC

Emission Unit	Description	Date Constructed	Emission Control Equipment
EV-103	50 Liter Evaporator with Integral Condenser and Receiver (EV-103, Building R-10)	April 30, 1991	None
EV-185	Evaporator EV-185 (Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
EV-192	Evaporator EV-192 (Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
FJ0460	Glass Resin Column (CL-121, Building R-10)	January 12, 1994	None
FJ-1902	31,000 Liter Media Mix Tank (CS#4 Tank 43, Building F-2)	1975	Rotoclone
FJ-1903	31,000 Liter Media Mix Tank (CS#4, Tank 42, Building F-2)	1975	Rotoclone
FJ-2097	250 Gallon Evaporator (Evaporator R7BE2, PC-R7B, Building R-7B)	November 1, 1987	Inter Condenser R7B-AC1; Liquid Ring Pump R7B-LRP1; and Steam Jet R7B-SJ1
FJ-3436	800 Liter Separation Tank (Separation Tank #1, Building R-2B)	1993	None
FJ-3437	800 Liter Separation Tank (Separation Tank #2, Building R-2B)	1999	None
FJ-3440	Evaporator R7AE3 (PC-R7A, Building R-7A)	January 1, 1982	Inter Condenser R7A-AC1; Filters R7A-F2 and R7A-F3; Liquid Ring Pumps R7A-LRP1 and R7A-LRP3; and Steam Jet R7A-SJ1
FJ4528	Extractor Centrifuge (CE-106, Building R-10)	April 30, 1991	None
FJ4777	Still Decanter (Ery Still Decanter, PC-704, Building R-3)	1965	None
FJ-5138	1,000 lb Solids Hopper (Hopper, Building F-2)	1989	None
FJ-5140	7,000 Liter Media Mix Tank (CS#6, Tank 100, Building F-2)	1989	None
FJ-5141	7,000 Liter Media Mix Tank (CS#6, Tank 200, Building F-2)	1989	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
FJ-5549 M3B	Rotary Evaporator (Building M3B)	1987	None
FJ-5549 R-7B	Evaporator R7BE1 (PC-R7B, Building R-7B)	November 1, 1987	None
FJ-8031	Evaporator 229E (PC-229, Building C-6)	January 1, 1989	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 229-SJ; and Demister DM101-ME
FJ8236	Stainless Steel Resin Column (CL-122, Building R-10)	January 12, 1994	None
FJ9157	Ribbon Blender (FBD #3 Blender, PC-711, Building R-5)	1992	Dust Collector U2256
FK0215	Extractor Centrifuge (CE-101, Building R-10)	April 30, 1991	None
FK0234	Thin Film Evaporator with Integral Condenser (EV-101, Building R-10)	April 30, 1991	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
FK-1834	100 Gallon Receiver (Receiver 251R, PC-251, Building C-6)	January 1, 1992	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 253-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 253-SJ; Vent Condenser 251-VC; and Demister DM101-ME

Emission Unit	Description	Date Constructed	Emission Control Equipment
FK-1835	100 Gallon Receiver (Receiver 224R1, PC-224, Building C-6)	January 1, 1993	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 224-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 224-SJ; Vent Condenser 224-VC; and Demister DM101-ME
FK-1836	100 Gallon Receiver (Receiver 204R, PC-204, Building C-6)	January 1, 1992	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; Vent Condenser 204-VC; and Demister DM101-ME
FK-2136	1,500 Liter Column (XAD Column, Building R-2B)	1993	None
FK-5148	Distillation System (Valproic Distillation System, PC-951, Building R-9)	November 1, 1992	Scrubber U-2218; Inter Condenser KK-9829; Liquid Ring Pump KK-9829; and Steam Jet LC-062118
FK5153	300 L Guard Column (CL-151, Building R-10)	June 24, 1994	None
FK5226	Process Condenser (TA-103A Process Condenser, HX-103A, Building R-10)	April 30, 1991	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
FK-5687	Evaporator R7AE1 (PC-R7A, Building R-7A)	January 1, 1982	Filter R7A-F2; Inter Condenser R7A-IC1; Liquid Ring Pump R7A-LRP4 and Steam Jet R7A-SJ3
FK5719	Carbon Doser Kinetic Air 2DB11 (Building R-3)	1995	Dust Collector CDKA
FL-199	Filter Press (FL-199, Building R-10)	Unknown	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
G-0333	Liquid Products Manufacturing Selenium Sulfide Slurry Milling (Sweco Mill G-0333, Building M-2)	1973	Dust Collector DC 12 (U-1758)
G0389	Vacuum Tumble Dryer (R6C Gemco, PC-705, Building R-6)	1980	R6C Dry Vacuum Pump System and S-32 Carbon Bed
G0390	Ribbon Blender (FBD-1 Blender, PC-634, Building R-6)	Unknown	R6C Room 117 Dust Collector
G-0453	Blender 877B (PC-877, Building C-10)	September 1, 1980	Dust Collector 877B-DC
G-0456	Flaker 860DF (PC-860, Building C-10)	September 1, 1982	None
G0462	Blender Dryer (DY-101, Building R-10)	April 30, 1991	Vacuum Pump and Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
G0547	Ribbon Blender (FBD #2 Blender, PC-710, Building R-5)	1988	Dust Collector U2065
G-0551	560 Gallon Dryer (Dryer 879D, PC-879, Building C-10)	July 1, 1990	After Condenser 879D-AC; Cyclone 879D-CYC; Dry Vacuum Pump 879D-HP; and Vent Condenser 879D-VC
GT1	Solar Turbines Model 50-T5700 Centaur Natural Gas Fired Gas Turbine (Gas Turbine No. 1, 42.1 mmBtu/hr)	May 13, 2000	Water Injection
H5658	Stripping Column (Gibb Column #1, PC-754, Building R-3)	1970	Gibb Still Scavenger Condenser LC002853
H5659	Stripping Column (Gibb Column #2, PC-754, Building R-3)	1970	Gibb Still Scavenger Condenser LC002853
HX-103	Process Condenser (Process Condenser for TA-124, HX-103, Building R-10)	April 30, 1991	None
HX-186	Process Condenser HX-186 (Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B

Emission Unit	Description	Date Constructed	Emission Control Equipment
HX-190	Process Condenser HX-190 (Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
HX-605	Process Condenser (HX-605, Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
HX-610	Process Condenser (HX-610, Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
HX-614	Process Condenser (HX-614, Building R-10)	March 9, 1999	None
II-0344	1,000 Liter Column (Amicon Column, Building R-2B)	1993	None
II-1163	Virtis Freeze Dryer (Dryer #2 (lypohilizer), Building R-2B)	1995	None
II3429	2,000 L Main Column (CL-150, Building R-10)	June 24, 1994	None
J-0447	Hopper 877H (PC-877, Building C-10)	November 1, 1957	None
KAVR	Kinetic Air Vacuum Receiver (Area S-16)	1998	Baghouse/Filter
KK-5966	Process Condenser 845-PC (PC-845, Building C-10)	September 1, 1989	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; Vent Condenser 845-VC; and Liquid Ring Pumps VS601-LRP and VS603-LRP

Emission Unit	Description	Date Constructed	Emission Control Equipment
LC-009201	50 Gallon Receiver (PC-951, Building R-9)	January 1, 1994	None
LC-013148	Process Condenser (PC-951, Building R-9)	March 1, 1999	None
LC013648	400 L Process Receiver (TA-109, Building R-10)	April 30, 1991	None
LC-049322	500 Gallon Shot Tank (Tank 820ST, PC-820, Building C-10)	April 1, 1996	Scrubber 839-SC; After Condenser VS605-AC; Liquid Ring Pump VS605-LRP; Steam Jets VS605-SJ1 and VS605-SJ2; and Surge Tank VS605SU
LC-049370	Process Condenser (PC-152, Building R-8/R-12)	August 1, 1996	None
LC-054707	225 Gallon Wash Tank (Tank 834WT, PC-834, Building C-10)	April 22, 1997	After Condenser 834-AC; Steam Jets 834-SJ1 and 834-SJ2; and Scrubber 834-SC
LC060058	Process Condenser (TA-118 Process Condenser, HX-123, Building R-10)	July 14, 1997	Liquid Ring Vacuum Pump VS-103 and Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
LC060451	35,000 Gallon Ferm. (Tank 912, Building F-1)	1998	Ozone System
LC060456	35,000 Gallon Ferm. (Tank 913, Building F-1)	1998	Ozone System
LC-900738	70 Gallon Process Condenser (Process Condenser 256-PC, PC-256, Building C-6)	December 31, 1997	Scrubbers 100-SC and 212-SC; Steam Jet 256-SJ; Vent Condenser 256-VC; and Demister DM101-ME
LC-900739	117 Gallon Process Condenser (Process Condenser 214-PC, PC-214, Building C-6)	February 1, 1998	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 214-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 214-SJ; Vent Condenser 214-VC; and Demister DM101-ME

Emission Unit	Description	Date Constructed	Emission Control Equipment
LC-900869	100 Gallon Receiver (Receiver 860R1, PC-860, Building C-10)	November 1, 1978	After Condenser 860-AC; and Steam Jets 860-SJ1 and 860-SJ2
LC-900870	500 Gallon Reactor (Reactor 861, PC-861, Building C-10)	June 1, 1998	None
LC-900881	300 Gallon Reactor (PC-3, Building R-7/C-11E)	January 1, 1998	Inter Condensers B-2322 and B-1850; Liquid Ring Pumps KK-7212 and KK-6080; Steam Jets KK-7203, KK-4638, and KK-7204; and Scrubber U-2857
LC-900882	200 Gallon Reactor (PC-3, Building R-7/C-11E)	January 1, 1998	Inter Condensers B-2322 and B-1850; Liquid Ring Pumps KK-7212 and KK-6080; Steam Jets KK-7203, KK-4638 and KK-7204; and Scrubber U-2857
LC-900883	Process Condenser (PC-3, Building R-7/C-11E)	January 1, 1998	Inter Condensers B-2322 and B-1850; Liquid Ring Pumps KK-7212 and KK-6080; Steam Jets KK-7203, KK-4638, and KK-7204; and Scrubber U-2857
LC-902544	Process Condenser 833-PC (PC-833, Building C-10)	January 1, 1995	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP

Emission Unit	Description	Date Constructed	Emission Control Equipment
LC-902565	123 Gallon Process Condenser (Process Condenser 219-PC, PC-219, Building C-6)	December 31, 1997	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; Vent Condenser 219-VC; and Demister DM101-ME
LC-902759	Process Condenser 263-PC (PC-263, Building C-7)	January 1, 1995	Scrubbers 100-SC and 300-SC; Vent Condenser 263-VC; After Condenser 267-AC; Steam Jets 267-SJ1 and 267-SJ2; and Demister DM101-ME
LC-902828	100 Gallon Process Condenser (Process Condenser 251-PC, PC-251, Building C-6)	December 1, 1998	Scrubbers 100-SC and 212-SC; Vent Condenser 251-VC; After Condenser 253-AC; Steam Jet 253-SJ; and Demister DM101-ME
LC-902987	50 Gallon Reactor (PC-5, Building R-7/C-11E)	January 1, 1996	Inter Condensers B-2336 and B-1928; Liquid Ring Pumps KK-7207 and KK-1785; Steam Jets KK-7210, KK-2793, KK-7211, and KK-2792; and Scrubber U-2857
LC-902988	50 Gallon Reactor (PC-5, Building R-7/C-11E)	January 1, 1996	Inter Condensers B-2336 and B-1928; Liquid Ring Pumps KK-7207 and KK-1785; Steam Jets KK-7210, KK-2793, KK-7211, and KK-2792; and Scrubber U-2857
LC-903276	Centrifuge 423C (PC-423, Building C-2)	December 27, 1995	Scrubber 408-SC

Emission Unit	Description	Date Constructed	Emission Control Equipment
LC-903535	750 Gallon Receiver (Receiver 841R, PC-841, Building C-10)	April 9, 1998	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
LC-903536	2,000 Receiver (Receiver 849R, PC-849, Building C-10)	October 1, 1981	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
LC-903563	Process Condenser 225-PC (PC-225, Building C-6)	May 23, 1999	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; Vent Condenser 225-VC; and Demister DM101-ME

Emission Unit	Description	Date Constructed	Emission Control Equipment
LC-903599	175 Gallon Feed Tank (PC-941, Building R-9)	January 1, 1996	Scrubber U-2218; Inter Condenser LC-903454; Liquid Ring Pump LC-903452; and Steam Jet LC-903455
LC-903600	100 Gallon Feed Tank (PC-941, Building R-9)	January 1, 1996	Scrubber U-2218; Inter Condenser LC-903454; Liquid Ring Pump LC-903452; and Steam Jet LC-903455
LC-903699	175 Gallon Feed Tank (PC-941, Building R-9)	January 1, 1996	Scrubber U-2218; Inter Condenser LC-903554; Liquid Ring Pump LC-903552; and Steam Jet LC-903555
LC-903700	100 Gallon Feed Tank (PC-941, Building R-9)	January 1, 1996	Scrubber U-2218; Inter Condenser LC-903554; Liquid Ring Pump LC-903552; and Steam Jet LC-903555
LC903705	Methylene Chloride Air Stripper (PC-636, Building S-32)	1996	S-32 Carbon Bed Adsorption System
LC-908002	Centrifuge R7BC10 (PC-R7B, Building R-7B)	April 3, 1997	None
LC908029	200 L Receiver (TA-122, Building R-10)	March 7, 1996	None
LC-908768	2,000 Gallon Reactor (Reactor 809, PC-809, Building C-10)	April 1, 1996	Scrubbers 809-SC and 839-SC; Vent Condenser 809-VC; After Condenser VS605-AC; Liquid Ring Pump VS605-LRP; Steam Jets VS605-SJ1 and VS605-SJ2; and Surge Tank VS605SU
LC-908769	1,500 Gallon Reactor (Reactor 818, PC-818, Building C-10)	April 1, 1996	Vent Condenser 818-VC; Scrubber 839-SC; After Condenser VS605-AC; Liquid Ring Pump VS605-LRP Steam Jets VS605-SJ1 and VS605-SJ2; and Surge Tank VS605SU
LC-908858	Process Condenser (PC-152, Building R-8/R-12)	August 1, 1996	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
LC-908868	Tank R7AT3 (PC-R7A, Building R-7A)	August 1, 1996	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
LC-909073	100 Gallon Reactor (PC-4, Building R-7/C-11E)	June 1, 1996	Inter Condenser B-2334; Liquid Ring Pumps KK-7213 and KK-4153; Steam Jets KK-7205, KK-4152, and KK-7206; and Scrubber U-2857
LC-909074	100 Gallon Reactor (PC-4, Building R-7/C-11E)	June 1, 1996	Inter Condenser B-2334; Liquid Ring Pumps KK-7213 and KK-4153; Steam Jets KK-7205, KK-4152, and KK-7206; and Scrubber U-2857
LC-909121	Centrifuge (PC-4, Building R-7/C-11E)	June 1, 1996	None
LC-909229	Centrifuge (PC-931, Building R-9)	March 1, 1997	Scrubber U-2218
LC909269	2,000 Liter Tank (Tank 70, Building R-2B)	1996	None
LC909270	3,000 Liter Tank (Tank 80, Building R-2B)	1996	None
LC-909276	Process Condenser (PC-4, Building R-7/C-11E)	June 1, 1996	Inter Condenser B-2334; Liquid Ring Pumps KK-7213 and KK-4153; Steam Jets KK-7205, KK-4152, and KK-7206; and Scrubber U-2857
LC-909284	Process Condenser 417-PC (PC-417, Building C-2)	October 1, 1996	Scrubber 408-SC; After Condenser 417-AC; Liquid Ring Pump 417-LRP; Steam Jets 417-SJ1 and 417-SJ2; and Vent Condenser 417-VC
LC-909285	Process Condenser 414-PC (PC-414, Building C-2)	October 1, 1996	Scrubber 408-SC; After Condenser 414-AC; Liquid Ring Pump 414-LRP; Steam Jets 414-SJ1 and 414-SJ2; and Vent Condenser 414-VC

Emission Unit	Description	Date Constructed	Emission Control Equipment
LC-909286	Process Condenser 413-PC (PC-413, Building C-2)	October 1, 1996	Scrubber 408-SC; After Condenser 413-AC; Liquid Ring Pump 413-LRP; Steam Jets 413-SJ1 and 413-SJ2; and Vent Condenser 413-VC
LC-909287	Process Condenser 418-PC (PC-418, Building C-2)	October 1, 1996	Scrubber 408-SC and Vent Condenser 418-VC
LC-909321	200 Gallon Shot Tank (Tank 819ST, PC-819, Building C-10)	April 1, 1996	Scrubber 839-SC; After Condenser VS605-AC; Liquid Ring Pump VS605-LRP; Steam Jets VS605-SJ1 and VS605-SJ2; and Surge Tank VS605SU
LC909435	Process Condenser (Ery Column #2 Condenser, PC-704, Building R-3)	Prior to 1965	Scavenger Condenser B2459
LC-909640	1,000 Gallon Reactor (Reactor 806, PC-806, Building C-10)	April 1, 1985	Scrubbers 802-SC and 839-SC; Steam Jets 802-SJ1 and VS604-SJ; Inter Condenser VS604-IC; and Liquid Ring Pump VS604-LRP
LC-909641	1,000 Gallon Receiver (Receiver 802R1, PC-802, Building C-10)	May 1, 1991	Scrubbers 802-SC and 839-SC; Steam Jets 802-SJ1 and VS604-SJ; Inter Condenser VS604-IC; Liquid Ring Pump VS604-LRP; and Surge Tank VS604-SU
LC909697	Ery St./Base M. Liquor Drop Tank (Tank 17, PC-634, Building R-6)	June, 1997	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
LC-909890	Process Condenser 828-PC (PC-828, Building C-10)	January 1, 1996	After Condensers 828-AC, 840-AC, 841-AC, 846-AC, 847-AC, and VS601-AC, VS603-AC; Steam Jets 828-SJ, 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Scrubber 839-SC; Inter Condensers 840-IC1 and 840-IC2; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
LC-909891 PC-253	100 Gallon Process Condenser (Process Condenser 253-PC, PC-253, Building C-6)	May 1, 1998	Scrubbers 100-SC and 212-SC; After Condenser 253-AC; Steam Jet 253-SJ; and Demister DM101-ME
LC-909891 PC-830	Process Condenser 830-PC (PC-830, Building C-10)	January 1, 1996	After Condensers 828-AC, 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Steam Jets 828-SJ, 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Scrubber 839-SC; Inter Condensers 840-IC1 and 840-IC2; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP

Emission Unit	Description	Date Constructed	Emission Control Equipment
LC-918019	Process Condenser 809-PC (PC-809, Building C-10)	April 1, 1996	Scrubbers 809-SC and 839-SC; Vent Condenser 809-VC; After Condenser VS605-AC; Liquid Ring Pump VS605-LRP; Steam Jets VS605-SJ1 and VS605-SJ2; and Surge Tank VS605SU
LC-918020	Process Condenser 818-PC (PC-818, Building C-10)	April 1, 1996	Vent Condenser 818-VC; Scrubber 839-SC; After Condenser VS605-AC; Liquid Ring Pump VS605-LRP Steam Jets VS605-SJ1 and VS605-SJ2; and Surge Tank VS605SU
LC-918024	117 Gallon Process Condenser (Process Condenser 208-PC, PC-208, Building C-6)	December 1, 1998	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 208-SJ, and 209-SJ1, 209-SJ2; Vent Condenser 208-VC; and Demister DM101-ME
LC918033	Centrifuge (Heinkel Centrifuge, Building R-2B)	1996	None
LC-918047	Process Condenser 808-PC (PC-808, Building C-10)	April 1, 1996	Vent Condenser 808-VC; Scrubber 839-SC; After Condenser VS605-AC; Liquid Ring Pump VS605-LRP; Steam Jets VS605-SJ1 and VS605-SJ2; and Surge Tank VS605SU
LC918140	Spent Beer Tank (Tank 47, PC-704, Building R-3)	1996	None
LC-918149	2,000 Gallon Mix Tank (Tank 930MT, PC-930, Building C-17)	September 1, 1995	Vent Condenser 930MT-VC and Scrubber 988-SC
LC-918208	Reactor R7BR4 (PC-R7B, Building R-7B)	January 1, 1996	None
LC918339	5,700 Liter Tank (DW Tank-TK400, Building R-2B)	1998	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
LC-918387	260 Gallon Dryer (PC-920, Building R-9)	February 1, 1997	Scrubber U-2218; Cyclone LC-918849; Liquid Ring Pump KK-7124; PC-921 Steam Jet; and Vent Condenser B-2394
LC-918412	75 Gallon Reactor (Reactor R7AR8, PC-R7A, Building R-7A)	December 15, 1997	None
LC-918469	2,000 Gallon Reactor (Reactor 808, PC-808, Building C-10)	April 1, 1996	Vent Condenser 808-VC; Scrubber 839-SC; After Condenser VS605-AC; Liquid Ring Pump VS605-LRP; Steam Jets VS605-SJ1 and VS605-SJ2; and Surge Tank VS605SU
LC-918470	500 Gallon Shot Tank (Tank 821ST, PC-821, Building C-10)	April 1, 1996	Scrubber 839-SC; After Condenser VS605-AC; Liquid Ring Pump VS605-LRP; Steam Jets VS605-SJ1 and VS605-SJ2; and Surge Tank VS605SU
LC918576	35,000 Gallon Ferm. (Tank 911, Building F-1)	1997	Ozone System
LC-918684	Reactor R7AR3 (PC-R7A, Building R-7A, Building R-7A)	January 1, 1997	None
LC-919100	Mix Tank (Tank R7BMT9, PC-R7B, Building R-7B)	January 1, 1997	None
LC-919325	500 Gallon Reactor (Reactor 256, PC-256, Building C-6)	October 1, 1996	Scrubbers 100-SC and 212-SC; Steam Jet 256-SJ; Vent Condenser 256-VC; and Demister DM101-ME
LC-923079	127 Gallon Process Condenser (Process Condenser 801-PC, Building C-10)	December 1, 1998	After Condenser 807A-AC; Steam Jets 807A-SJ and VS604-SJ; Surge Tanks 807SU and VS604-SU; Scrubber 839-SC; Inter Condenser VS604-IC; and Liquid Ring Pump VS604-LRP

Emission Unit	Description	Date Constructed	Emission Control Equipment
LC-926576	2,500 Gallon Reactor (Reactor 920, PC-920, Building C-17)	January 31, 1998	After Condenser 920-AC; Liquid Ring Pump 920-LRP; Steam Jet 920-SJ; Vent Condenser 920-VC; and Scrubber 988-SC
LC-926383	560 Gallon Dryer (Dryer 856D2, PC-856, Building C-10)	January 1, 1998	After Condenser 856D2-AC; Inter Condenser 856D2-IC; Liquid Ring Pump 856D2-LRP; and Steam Jet 856D2-SJ1
LC926709	Process Condenser (TA-300 Process Condenser, HX-300, Building R-10)	May 8, 1997	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
LC926781	400 L Process Tank (TA-303, Building R-10)	May 8, 1997	None
LC926782	600 L Process Tank (TA-302, Building R-10)	May 8, 1997	None
LC926783	2,000 L Crystallizer (TA-300, Building R-10)	May 8, 1997	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
LC926784	12,000 L Multipurpose Process Tank (Tank TA-120, Building R-10)	May 8, 1997	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
LC926785	240 L Reactor (TA-111, Building R-10)	May 8, 1997	None
LC926786	240 L Receiver (TA-301, Building R-10)	May 8, 1997	None
LC927729	Basket Centrifuge (CE-300, Building R-10)	May 8, 1997	None
LC937742	300 Gallon Reactor (PC-905, Building R-9)	October 1, 1998	Scrubber U-2218; PC-905 After Condenser; PC-905 Inter Condenser; Liquid Ring Pump KK-7075; Steam Jets LC062109, LC062111, and LC062110; and Vent Condensers B-2314 and B-2313

Emission Unit	Description	Date Constructed	Emission Control Equipment
LC-938082	Dryer (PC-941, Building R-9)	February 1, 1999	Scrubber U-2218; Inter Condenser LC-903554; Liquid Ring Pump LC-903552; and Steam Jet LC-903555
LC938102	Centrifuge (Centrifuge #7, CE-7, PC-713, Building R-5)	May, 1998	S32 Carbon Bed Adsorption System
LC938104	Fluid Bed Dryer (FBD #4, PC-713, Building R-5)	May, 1998	S32 Carbon Bed Adsorption System
LC938162	Ribbon Blender (FBD #4 Blender, PC-713, Building R-5)	May, 1998	FBD #4 Rib. Blender Cartridge Filters
LC-938217	500 Gallon Reactor (PC-3, Building R-7/C-11E)	January 1, 1998	Inter Condensers B-2322 and B-1850; Liquid Ring Pumps KK-7212 and KK-6080; Steam Jets KK-7203, KK-4638, and KK-7204; and Scrubber U-2857
LC938344	Reactor (Tank 2, PC-630, Building R-6)	January, 1998	None
LC942138	Crystallizer (Tank 50, PC-713, Building R-5)	May, 1998	S32 Carbon Bed Adsorption System
LC942139	Crystallizer (Tank 51, PC-713, Building R-5)	May, 1998	S32 Carbon Bed Adsorption System
LC942231	Receiver (Tank 54, PC-713, Building R-5)	May, 1998	S32 Carbon Bed Adsorption System
LC-942926	10,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank LC-942926, Area S-34)	August, 1999	Conservation Vent
LC-944449	500 Gallon Reactor (Reactor 204, PC-204, Building C-6)	January 1, 1998	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; Vent Condenser 204-VC; and Demister DM101-ME
LC944924	30 Gallon Cleaning Tank (Tank 62, Building R-5)	1998	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
LC-946440	149 Gallon Process Condenser (Process Condenser 227-PC, PC-227, Building C-6)	December 1, 1998	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 214-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 214-SJ; Vent Condenser 227-VC; and Demister DM101-ME
LC949206	40,000 L Process Tank (TA-503, Building R-10)	December 17, 1998	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
LC949211	15,000 Gallon Toluene Storage Tank (Tank TA-9910, Area S-30)	May, 1999	Conservation Vent
LC950570	Reverse Osmosis Unit (Rm 102 Reverse Osmosis Unit (upper), RO-144, Building R-10)	December 17, 1998	None
LC-951137	117 Gallon Process Condenser (Process Condenser 847-PC, PC-847, Building C-10)	December 1, 1998	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
LC956427	500 L Bump Tank (TA-220, Building R-10)	May 8, 1997	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B

Emission Unit	Description	Date Constructed	Emission Control Equipment
LC-956966	500 Gallon Reactor (PC-1, Building R-7.C-11E)	October, 1999	Inter Condenser B-2335; Liquid Ring Pumps KK-7217 and NN-6958; Steam Jets KK-7208, FJ-6111, and KK-7209; and Scrubber U-2857
M-4B LC	Chemical Weigh Booth - Liquids and Corrosives (Building M-4B)	Prior to October, 1972	Scrubber and Cyclone U-1530
M-4B P	Chemical Weigh Booth - Powders (Building M-4B)	Prior to October, 1972	Dust Collector U-1528
M-4B S	Chemical Weigh Booth - Solids (Building M-4B)	1991	Dust Collector U-2207
M-8	1,500 Gallon Unleaded Gasoline Storage Tank (M-8 Gasoline Tank)	Prior to January, 2000	Submerged Loading Pipe and Vapor Collection/Balance System
NA6504	100 Gallon Process Tank (Tank #37, PC-754, Building R-3)	1974	None
NA-7718	100 Gallon Reactor (PC-905, Building R-9)	November 1, 1992	Scrubber U-2218; PC-905 After Condenser; PC-905 Inter Condenser; Liquid Ring Pump KK-7075; Steam Jets LC062109, LC062111, and LC062110; and Vent Condensers B-2314 and B-2313
NA-7719	100 Gallon Reactor (PC-902, Building R-9)	November 1, 1992	Scrubber U-2218; PC-902 After Condenser; PC-902 Inter Condenser; Liquid Ring Pump KK-7078; Steam Jets LC062106, LC062108, and LC062107; and Vent Condensers B-2312 and B-2311
NA-7728	75 Gallon Reactor (PC-901, Building R-9)	November 1, 1992	Scrubber U-2218; PC-901 After Condenser; PC-901 Inter Condenser; Liquid Ring Pump KK-7067; Steam Jets LC062103, LC062104, and LC062105; and Vent Condensers B-2310 and B-2309

Emission Unit	Description	Date Constructed	Emission Control Equipment
NA-7728	200 Gallon Reactor (PC-903, Building R-9)	November 1, 1992	Scrubber U-2218; PC-901 After Condenser; PC-901 Inter Condenser; Liquid Ring Pump KK-7067; Steam Jets LC062103, LC062104, and LC062105; and Vent Condensers B-2310 and B-2309
NA-7733	100 Gallon Reactor (PC-904, Building R-9)	November 1, 1992	Scrubber U-2218; PC-904 After Condenser; PC-904 Inter Condenser; Liquid Ring Pump LC909300; Steam Jets LC062116, LC062115, and LC062117; and Vent Condensers B-2318 and B-2317
NA-7734	300 Gallon Reactor (PC-904, Building R-9)	November 1, 1992	Scrubber U-2218; PC-904 After Condenser; PC-904 Inter Condenser; Liquid Ring Pump LC909300; Steam Jets LC062116, LC062115, and LC062117; and Vent Condensers B-2318 and B-2317
NG0048	400 L Process Receiver (TA-110, Building R-10)	October 31, 1995	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
NG0281	200 L Bump Tank (TA-119B, Building R-10)	March 13, 1996	None
NG0446	500 L Bump Tank (TA-210, Building R-10)	January 3, 1995	Thermal Oxidizer TO-1
NN-0443	Process Condenser (Process Condenser 824-PC, Asset #NN-0443, Building C-11)	January 1, 1980	None
NN-3025	Reactor R7BR5 (PC-R7B, Building R-7B)	May 10, 1995	None
NN-9080	907 Gallon Liquid Products Manufacturing Sterile Products Mix Tank (Tank 707, Building M-2)	1971	Dry Filter 823-8

Emission Unit	Description	Date Constructed	Emission Control Equipment
NN-9081	907 Gallon Liquid Products Manufacturing Sterile Products Mix Tank (Tank 727, Building M-2)	1971	Dry Filter 823-8
NN-9271	100 Gallon Wash Tank (Tank 226WT, PC-226, Building C-6)	August 1, 1988	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; and Demister DM101-ME
PARD2	Pharmaceutical Products Division PARD Tablet Coater #2 (Building M-3B)	July 31, 2000	Filter
PC-952 D1	Dryer (Asset #LC-******, PC-952, Building R-9)	February 1, 1999	Scrubber U-2218; After Condenser FK-5218; PC-952 Filter; PC-952 Separator; Steam Jet LC062125; and Vent Condensers FK-5227 and LC-******
Q-0365	100 Gallon Receiver (Receiver 854R3, PC-854, Building C-10)	January 1, 1994	After Condenser 852-AC; Steam Jets 852-SJ, 853-SJ1, 853-SJ2, and 853-SJ3; Inter Condensers 853-IC1 and 853-IC2; and Scrubber 853-SC
Q-472	660 Gallon Liquid Products Manufacturing Flammable Liquids Raw Material Mixing Tank (Mix Tank 425, Building M-2)	1973	Dry Filter 823-6
Q-0598	2,000 Liter Tank (Tank 41, Building R-2B)	1946	None
Q-0676	12,000 Gallon VOM Storage Tank (Tank TA-741, Area S-7)	September, 1990	Conservation Vent
Q-0677	15,000 Gallon Sodium Hydroxide Storage Tank (Tank TA-740, Area S-7)	September, 1990	Conservation Vent
Q-0726	10,000 Gallon Reactor (Tank 718, PC-611, Building F-1)	1948	Ozone System

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q-0749	2,000 Liter Tank (Tank 42, Building R-2B)	1983	None
Q-837	37 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 13, Building M-2)	Unknown	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-0990	Drop Tank (Tank 847DT, PC-847, Building C-10)	January 1, 1950	None
Q-1028	10,000 Gallon Reactor (Tank 719, PC-611, Building F-1)	1951	Ozone System
Q-1048	110 Gallon Receiver (Receiver 825R, PC-825, Building C-11)	January 1, 1951	None
Q-1201	380 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 428, Building M-2)	1952	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1262	1,990 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 501, Building M-2)	1954	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1263	1,990 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 502, Building M-2)	1954	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1264	1,990 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 503, Building M-2)	1954	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1344	1,530 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 310, Building M-2)	1955	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1345	1,530 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 309, Building M-2)	1955	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1346	1,530 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 308, Building M-2)	1955	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1375	300 Gallon Reactor (Reactor 822, PC-822, Building C-11)	January 1, 1956	Steam Jet 824-SJ
Q-1379	6,500 Gallon VOM/HAP Mixed Waste Storage Tank (TA-541, Area S-5)	November, 1955	Conservation Vent
Q-1380	6,500 Gallon VOM/HAP Mixed Waste Storage Tank (TA-540, Area S-5)	November, 1955	Conservation Vent

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q1391	Acetone Vaporization Tank (Tank 47, PC-715, Building R-6)	1956	None
Q-1411	100 Gallon Solvent Tank (Tank 811T1, PC-811, Building C-10)	July 1, 1978	None
Q-1412	100 Gallon Receiver (Receiver 804R3, PC-804, Building C-10)	January 1, 1956	After Condenser 803-AC1 and Steam Jet 803-SJ
Q-1456	200 Gallon Receiver (Receiver 804R2, PC-804, Building C-10)	January 1, 1957	None
Q-1458	8,000 Gallon Ethanol (w/0.5% Toluene) Storage Tank (Tank TA-0700, Area S-7)	August, 1986	Conservation Vent
Q-1465	100 Gallon Receiver (Receiver 853R, PC-853, Building C-10)	November 1, 1957	After Condenser 852-AC and Steam Jet 852-SJ
Q-1474	1,000 Gallon Receiver (Receiver 803R1, PC-803, Building C-10)	January 1, 1957	After Condenser 803-AC1 and Steam Jet 803-SJ
Q-1489	4,000 Liter Tank (Tank 45, Building R-2B)	1957	None
Q-1491	1,000 Gallon Reactor (Reactor 812, PC-812, Building C-10)	January 1, 1957	Steam Jet 812-SJ
Q-1492	1,000 Gallon Reactor (Reactor 811, PC-811, Building C-10)	January 1, 1957	Steam Jet 812-SJ
Q-1493 PC-828	1,200 Gallon Receiver (Receiver 828R, PC-828, Building C-10)	November 1, 1957	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q1493 PC-830	1000 Gallon Receiver (Receiver 830R, PC-830, Building C-10)	January 1, 1972	None
Q-1496	300 Gallon Tank (Tank 840T, PC-840, Building C-10)	January 1, 1957	None
Q-1499	200 Gallon Receiver (Receiver 811R, PC-811, Building C-10)	January 1, 1957	None
Q-1552	500 Gallon Reactor (Reactor 824, PC-824, Building C-11)	January 1, 1959	Steam Jet 824-SJ
Q-1562	1,500 Gallon Reactor (Reactor 421, PC-421, Building C-2)	January 1, 1959	Scrubber 408-SC; After Condenser 421-AC; Steam Jet 421-SJ; and Vent Condenser 421-VC
Q1580	20,000 Gallon Reactor (Tank 803, PC-737, Building F-1)	1960	Ozone System
Q1581	20,000 Gallon Reactor (Tank 802, PC-737, Building F-1)	1960	Ozone System
Q1582	20,000 Gallon Reactor (Tank 801, PC-737, Building F-1)	1998	Ozone System
Q1665	1,710 Gallon Crystallizer (Tank 41, PC-754, Building R-3)	1962	Liquid Ring Vacuum Pump KK2491 (Asset #KK3811)
Q1670	30,000 Gallon Reactor (Tank 904, PC-737, Building F-1)	1963	Ozone System
Q-1672	580 Gallon Liquid Products Manufacturing Flammable Liquids Raw Material Mixing Tank (Mix Tank 407, Building M-2)	1973	Dry Filter 823-6
Q-1673	580 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 408, Building M-2)	1963	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1674	580 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 409, Building M-2)	1963	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1675	1,940 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 510, Building M-2)	1964	Dry Filters 823-1, 823-2, 823-3, and 823-4

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q-1676	1,940 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 512, Building M-2)	1964	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1677	1,940 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 511, Building M-2)	1964	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1678	1,930 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 513, Building M-2)	1964	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1679	1,940 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 509, Building M-2)	1964	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1680	1,940 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 504, Building M-2)	1954	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1681	1,940 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 506, Building M-2)	1964	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1682	1,940 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 507, Building M-2)	1964	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1683	1,940 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 508, Building M-2)	1964	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1684	1,940 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 505, Building M-2)	1964	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1685	1,930 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 515, Building M-2)	1963	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1686	1,930 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 516, Building M-2)	1963	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1687	1,930 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 514, Building M-2)	1963	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q1719	Receiver (Tank 1R, PC-630, Building R-6)	1965	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q1720	Receiver (Tank 7R, PC-672, Building R-6)	1965	S-32 Carbon Bed
Q1721	Multi-purpose Tank (Tank 44, PC-634, Building R-6)	1965	None
Q1723	Mix Tank (Tank 4, PC-630, Building R-6)	1965	Carbon Dust Collector U2208
Q1724	Crystallizer (Tank 8, PC-672, Building R-6)	1965	None
Q1725	Crystallizer (Tank 7, PC-672, Building R-6)	1965	None
Q1726	Reactor (Tank 1, PC-630, Building R-6)	1965	None
Q1739	Stripping Column (Ery Still Column #2, West, PC-704, Building R-3)	1965	Scavenger Condenser B2459
Q1740	Stripping Column (Ery Still Column #1, East, PC-704, Building R-3)	1965	Scavenger Condenser B2459
Q1761	1,710 Gallon Process Tank (Tank 42, PC-754, Building R-3)	1965	None
Q-1763	5,500 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-3411, Area S-34)	January, 1965	Conservation Vent
Q-1776	1,200 Gallon Receiver (Receiver 842R, PC-842, Building C-10)	January 1, 1966	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q-1777	200 Gallon Acetic Acid Tank (Tank 841T, PC-841, Building C-10)	December 1, 1966	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
Q-1782	35,000 Gallon Reactor (Tank 960, PC-709, Building F-2)	October, 1997	Ozone System
Q-1784	35,000 Gallon Reactor (Tank 962, PC-709, Building F-2)	October, 1997	Ozone System
Q-1785	35,000 Gallon Reactor (Tank 957, PC-709, Building F-2)	May, 1995	Ozone System
Q1786	Mix Tank (Tank 6, PC-634, Building R-6)	1966	None
Q1788	Centrifuge Wash Tank (Tank 43, PC-634, Building R-6)	1966	None
Q1789	Methylene Chloride Receiver (Tank 13R, PC-636, Building R-6)	1966	S32 Carbon Bed
Q1790	Wash Tank (Tank 24, PC-672, Building R-6)	1966	None
Q1791	Crystallizer (Tank 10, PC-634, Building R-6)	1981	None
Q1792	Crystallizer (Tank 9, PC-634, Building R-6)	1981	None
Q-1798	15,000 Gallon Methylene Chloride Storage Tank (Tank 30, PC-636, Building S-32)	1996	S-32 Carbon Bed Adsorption System
Q-1799	10,000 Gallon Methylene Chloride Storage Tank (Tank 29, PC-636, Building S-32)	1996	S-32 Carbon Bed Adsorption System

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q-1800	5,000 Gallon Methylene Chloride Storage Tank (Tank 31, PC-636, Building S-32)	1996	S-32 Carbon Bed Adsorption System
Q-1801	5,000 Gallon Methylene Chloride Storage Tank (Tank 32, PC-636, Building S-32)	1996	S-32 Carbon Bed Adsorption System
Q1803	Multi-Purpose Tank (Tank 22, PC-634, Building R-6)	1966	None
Q1804	ML Receiver Tank (Tank 26, PC-676, Building R-6)	1966	None
Q-1805	300 Gallon Receiver (Receiver 227R, PC-227, Building C-6)	January 1, 1966	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steams Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; and Demister DM101-ME
Q-1811	35,000 Gallon Reactor (Tank 959, PC-709, Building F-2)	October, 1997	Ozone System
Q-1812	35,000 Gallon Reactor (Tank 961, PC-709, Building F-2)	October, 1997	Ozone System
Q1817	Methylene Chloride Still (Tank 13, PC-636, Building R-6)	1966	None
Q1818	Multi-purpose Tank (Tank 12, PC-630, Building R-6)	1966	None
Q-1827	4,800 Gallon Amyl Acetate Storage Tank (Tank 48A, Building R-3/Area R-3TF)	July, 1966	None
Q-1845	35,000 Gallon Reactor (Tank 964, PC-709, Building F-2)	October, 1992	Ozone System
Q-1846	35,000 Gallon Reactor (Tank 965, PC-709, Building F-2)	October, 1997	Ozone System
Q-1847	35,000 Gallon Reactor (Tank 966, PC-709, Building F-2)	October, 1997	Ozone System

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q-1863	8,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-520, Area S-5)	April, 1967	Conservation Vent and Condenser
Q1899	Process Decanter (Gibb Still Decanter, PC-754, Building R-3)	Unknown	None
Q-1987	134 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 12, Building M-2)	Unknown	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-2021	3,690 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 519, Building M-2)	1971	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-2022	3,690 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 518, Building M-2)	1971	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-2040	3,690 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 517, Building M-2)	1971	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q2108	100 Gallon Process Tank (Tank 7, PC-740, Building R-3)	1973	None
Q-2137	6,500 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-511, Area S-5)	July, 1974	Conservation Vent
Q-2138	6,500 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-510, Area S-5)	July, 1974	Conservation Vent
Q-2140	5,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-3430, Area S-34)	January, 1966	Conservation Vent
Q-2141	5,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-532, Area S-5)	January, 1990	Conservation Vent
Q-2144	35,000 Gallon Reactor (Tank 967, PC-709, Building F-2)	October, 1997	Ozone System
Q-2145	35,000 Gallon Reactor (Tank 968, PC-709, Building F-2)	October, 1997	Ozone System
Q2159	520 Gallon Trace Amyl Alcohol Process Tank (Tank 20C, PC-754, Building R-3)	1974	None
Q2167	790 Gallon Surge Tank (Tank 21, PC-704, Building R-3)	1974	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q-2184	8,000 Gallon Isopropyl Acetate Storage Tank (Tank TA-0715, Area S-7)	May, 1993	Conservation Vent
Q-2185	8,000 Gallon Ethyl Acetate Storage Tank (Tank TA-0716, Area S-7)	May, 1993	Conservation Vent
Q-2205	5,000 Gallon Acetone Storage Tank (Tank 102A, Area S-27)	November, 1975	Conservation Vent
Q-2409	300 Gallon Receiver (Receiver 803R3, PC-803, Building C-10)	November 1, 1978	After Condenser 803-AC1 and Steam Jet 803-SJ
Q-2433	565 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 423, Building M-2)	1979	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q2538	Crystallizer (Tank 38, PC-632, Building R-6)	1980	S32 Carbon Bed
Q2539	Crystallizer (Tank 39, PC-632, Building R-6)	1980	S32 Carbon Bed
Q2543	Receiver (Tank 39R, PC-632, Building R-6)	1980	2 Dry Vacuum Pump Condensers and S32 Carbon Bed
Q2544	Acetone for Recovery Tank (Tank 3R, PC-675, Building R-6)	1980	None
Q2546	Methylene Chloride Wash Tank (Tank 42, PC-632, Building R-6)	1980	S32 Carbon Bed
Q-2581	2,442 Gallon Liquid Products Manufacturing Sterile Products Mix Tank (Tank 747, Building M-2)	1988	None
Q-2672	100 Gallon Drop Tank (Tank 224DT, PC-224, Building C-6)	January 1, 1979	None
Q2677	1,000 Gallon Mix Tank (Tank 13, PC-740, Building R-3)	1980	None
Q2689	1,500 Gallon Process Tank (Tank 25, PC-754, Building R-3)	1981	None
Q2690	1,500 Gallon Process Tank (Tank 26, PC-754, Building R-3)	1981	None
Q-2696	5,000 Gallon Methylene Chloride Storage Tank (Tank 33, PC-636, Building S-32)	1996	S-32 Carbon Bed Adsorption System

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q2697	Receiver (Receiver R6C, Tank 46, PC-705, Building R-6)	1982	Liquid Ring Vacuum Pump
Q-2698	5,000 Gallon Acetone Storage Tank (Tank 102B Area S-27)	September, 1982	Conservation Vent
Q2699	450 L Crystallizer (TA-117, Building R-10)	April 30, 1991	None
Q2701	Ery Salts Tank (Tank 45, PC-630, Building R-6)	1980	None
Q2705	Reactor (Tank 37, PC-634, Building R-6)	1980	None
Q2706	Ery Salts Tank (Tank 18, PC-630, Building R-6)	1980	None
Q2792	990 Gallon Process Tank (Tank 43, PC-754, Building R-3)	1985	None
Q-2807	Tank R7AT4 (PC-R7A, Building R-7A)	January 1, 1982	None
Q-2822	1,500 Gallon Reactor (Reactor 803, PC-803, Building C-10)	December 1, 1984	After Condenser 803-AC2; Dry Vacuum Pump 803-HP; Vent Condenser 803-VC; and Surge Tank 803SU
Q-2823	1,300 Gallon Reactor (Reactor 854, PC-854, Building C-10)	December 1, 1984	After Condenser 852-AC; Steam Jets 852-SJ, 853-SJ1, 853-SJ2, and 853-SJ3; Inter Condensers 853-IC1 and 853-IC2; and Scrubber 853-SC
Q2846	200 Liter Receiver (Tank 40R, PC-754, Building R-3)	1983	Liquid Ring Vacuum Pump KK4689
Q2847	200 Liter Receiver (Tank 41R, PC-754, Building R-3)	1983	Liquid Ring Vacuum Pump KK2491 (Asset #KK3811)
Q2855	290 Gallon Crystallizer (Tank 39, PC-754, Building R-3)	1982	Liquid Ring Vacuum Pump KK3118
Q2859	200 Liter Receiver (Tank 39R, PC-754, Building R-3)	1982	Liquid Ring Vacuum Pump KK3118
Q2860	1,820 Gallon Surge Tank (Tank 28, PC-704, Building R-3)	1983	None
Q2861	1,820 Gallon Surge Tank (Tank 27, PC-704, Building R-3)	1983	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q2862	Ethyl Acetate Storage Tank (Tank 45, PC-754, Building R-3/Area R-3TF)	1983	None
Q2863	1,820 Gallon Amyl Alcohol Storage Tank (Tank 46, PC-754, Building R-3/Area R-3TF)	1982	None
Q2864	1,820 Gallon Amyl Acetate Storage Tank (Tank 44, PC-754, Building R-3/Area R-3TF)	1983	None
Q-2866	4,000 Liter Tank (Tank 40, Building R-2B)	1970	None
Q-2869	150 Gallon Tank (Tank R7AT2, PC-R7A, Building R-7A)	January 1, 1982	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2870	150 Gallon Receiver (Receiver R7AR7, PC-R7A, Building R-7A)	January 1, 1980	None
Q-2871	150 Gallon Feed Tank (Tank R7AT7, PC-R7A, Building R-7A)	January 1, 1982	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2872	125 Gallon Feed Tank (Tank R7AFT4, PC-R7A, Building R-7A)	January 1, 1982	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2873	125 Gallon Feed Tank (Tank R7AFT3, PC-R7A, Building R-7A)	January 1, 1982	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q-2874	125 Gallon Feed Tank (Tank R7AFT5, PC-R7A, Building R-7A)	January 1, 1982	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2875	250 Gallon Feed Tank (Tank R7AFT1, PC-R7A, Building R-7A)	January 1, 1982	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2876	250 Gallon Feed Tank (Tank R7AFT2, PC-R7A, Building R-7A)	January 1, 1982	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2877	250 Gallon Feed Tank (Tank R7AFT6, PC-R7A, Building R-7A)	January 1, 1982	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2878	250 Gallon Letsch - SS Model RT-3 Tank (Tank R7AT1, PC-R7A, Building R-7A)	January 1, 1982	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2879	250 Gallon Receiver (Receiver R7AR6, PC-R7A, Building R-7A)	January 1, 1982	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q-2880	Fraction Tank (Tank R7APFT1, PC-R7A, Building R-7A)	January 1, 1982	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2881	Fraction Tank (Tank R7APFT3, PC-R7A, Building R-7A)	January 1, 1982	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2882	Fraction Tank (Tank R7APFT4, PC-R7A, Building R-7A)	January 1, 1982	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2883	Fraction Tank (Tank R7APFT6, PC-R7A, Building R-7A)	January 1, 1982	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2884	Fraction Tank (Tank R7APFT2, PC-R7A, Building R-7A)	January 1, 1982	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2885	Fraction Tank (Tank R7APFT5, PC-R7A, Building R-7A)	January 1, 1982	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2887	25 Gallon Reactor (PC-C11E, Building R-7/C-11E)	January 1, 1975	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q-2889	50 Gallon Finishing Tank (Tank R7AT5, PC-R7A, Building R-7A)	January 1, 1982	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2890	125 Gallon Mix Tank (Tank R7AMT1, PC-R7A, Building R-7A)	January 1, 1982	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2892	150 Gallon Receiver (Receiver R7AR5, PC-R7A, Building R-7A)	January 1, 1982	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2899	300 Gallon Wash Tank (Tank 810WT, PC-810, Building C-10)	November 1, 1984	None
Q2911	Acetone Receiver (Tank 48, PC-715, Building R-6)	1985	Process Heat Exchanger HE-48 and Vent Condenser HE-48
Q-2913	100 Gallon Reactor (PC-951, Building R-9)	March 1, 1996	Scrubber U-2218; Inter Condenser KK-9829; Liquid Ring Pump KK-9829; and Steam Jet LC-062118
Q-2914	100 Gallon Feed Tank (PC-3, Building R-7/C-11E)	January 1, 1985	Inter Condenser B-1850; Liquid Ring Pump KK-6080; and Steam Jet KK-4638
Q2928	Reactor (Tank 117, PC-635, Building R-6)	1985	None
Q-2929	1,000 Gallon Receiver (Receiver 804R1, PC-804, Building C-10)	March 1, 1986	After Condenser 803-AC1 and Steam Jet 803-SJ
Q-2934	35,000 Gallon Reactor (Tank 972, PC-709, Building F-2)	December, 1990	Ozone System
Q-2935	35,000 Gallon Reactor (Tank 972, PC-709, Building F-2)	December, 1990	Ozone System

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q2938	MLS Receiver Tank (CE-5 MLS Tank, Tank 5C, PC-635, Building R-6)	1985	None
Q2939	MLS Receiver Tank (CE-6 MLS Tank, Tank 6C, PC-635, Building R-6)	1985	None
Q-2945	100 Gallon Wash Tank (Tank 205WT, PC-205, Building C-6)	January 1, 1985	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; and Demister DM101-ME
Q-2947	35,000 Gallon Reactor (Tank 970, PC-709, Building F-2)	February, 1995	Ozone System
Q-2948	35,000 Gallon Reactor (Tank 969, PC-709, Building F-2)	December, 1990	Ozone System
Q-2952	500 Gallon Receiver (Receiver 803R2, PC-803, Building C-10)	December 1, 1986	After Condenser 803-AC1 and Steam Jet 803-SJ
Q2953	10,580 Gallon Water with Amyl Alcohol Feed Tank (Tank 20B, PC-754, Building R-3)	1986	None
Q-2954	1,500 Gallon Reactor (Reactor 261, PC-261, Building C-7)	March 1, 1988	Scrubbers 100-SC and 300-SC; Vent Condenser 261-VC; After Condenser 267-AC; Steam Jets 267-SJ1 and 267-SJ2; and Demister DM101-ME
Q-2955	1,500 Gallon Reactor (Reactor 225, PC-225, Building C-6)	July 1, 1987	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; Vent Condenser 225-VC; and Demister DM101-ME

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q-2992	1,000 Gallon Reactor (Reactor 227, PC-227, Building C-6)	January 1, 1986	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 214-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 214-SJ; Vent Condenser 227-VC; and Demister DM101-ME
Q3001	5,600 Liter Process Tank (Tank #99, PC-754, Building R-3)	1985	None
Q-3043	Liquid Products Manufacturing Flammable Liquids Raw Material Mixing Tank (Building M-2)	1973	Dry Filter 823-6
Q3052	1,000 Gallon Process Tank (Tank 11, PC-740, Building R-3)	1987	None
Q-3054	70 Gallon Mix Tank (Tank R7BMT1, PC-R7B, Building R-7B)	November 1, 1987	None
Q-3055	225 Gallon Reactor (Reactor R7BR1, PC-R7B, Building R-7B)	November 1, 1987	Inter Condenser R7B-AC1; Liquid Ring Pump R7B-LRP1; and Steam Jet R7B-SJ1
Q-3056	225 Gallon Reactor (Reactor R7BR3, PC-R7B, Building R-7B)	November 1, 1987	Inter Condenser R7B-AC1; Liquid Ring Pump R7B-LRP1; and Steam Jet R7B-SJ1
Q-3057	250 Gallon Reactor (Reactor R7BR2, Building R-7B)	November 1, 1987	None
Q-3059	200 Liter Tank (Tank 31, Building R-2B)	1979	None
Q-3076	2,000 Liter Tank (Tank 111, Building R-2B)	1987	None
Q-3077	2,000 Liter Tank (Tank 112, Building R-2B)	1987	None
Q-3114	3,000 Gallon Reactor (Tank 973, PC-709, Building F-2)	December, 1990	Ozone System
Q-3115	35,000 Gallon Reactor (Tank 974, PC-709, Building F-2)	December, 1990	Ozone System

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q-3118	100 Gallon Drop Tank (Tank 261DT, PC-261, Building C-7)	May 1, 1988	Scrubbers 100-SC and 300-SC; After Condenser 267-AC; Steam Jets 267-SJ1 and 267-SJ2; and VS600SU; and Demister DM101-ME
Q-3119	150 Gallon Tank (Tank 807B, PC-807, Building C-10)	May 1, 1988	After Condensers 803-AC1 and 807A-AC; Steam Jets 803-SJ, 807A-SJ, and VS604-SJ; Surge Tanks 807SU and VS604-SU; Scrubber 839-SC; Inter Condenser VS604-IC; and Liquid Ring Pump VS604-LRP
Q-3120	1,500 Gallon Receiver (Receiver 261R, Building C-7)	May 1, 1988	Scrubbers 100-SC and 300-SC; After Condenser 267-AC; Steam Jets 267-SJ1 and 267-SJ2; and Demister DM101-ME
Q-3127	650 Gallon Reactor (Reactor 251, PC-251, Building C-6)	July 1, 1988	Scrubbers 100-SC and 212-SC; Vent Condenser 251-VC; After Condenser 253-AC; Steam Jet 253-SJ; and Demister DM101-ME
Q3132	Reactor (Tank 16, PC-676, Building R-6)	1988	None
Q-3140	2,000 Liter Crystallizer (Crystallizer D-100 Crxxr, Building R-2B)	1988	None
Q-3142	10,000 Liter Tank (Tank 50, Building R-2B)	1997	None
Q3156	2,000 L Process Tank (TA-123, Building R-10)	January 19, 1994	None
Q3157	2,000 L Process Tank (TA-124, Building R-10)	April 30, 1991	None
Q3158	2,000 L Process Tank (TA-125, Building R-10)	April 30, 1991	None
Q-3179	Wash Tank (Tank 255WT, PC-255, Building C-6)	January 1, 1989	After Condenser 214-AC and Steam Jet 214-SJ

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q-3181	1,500 Gallon Reactor (Reactor 842, PC-842, Building C-10)	January 1, 1990	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
Q-3182	1,750 Gallon Reactor (Reactor 845, PC-845, Building C-10)	January 1, 1989	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; Vent Condenser 845-VC; and Liquid Ring Pumps VS601-LRP and VS603-LRP
Q-3183	1,500 Liter Crystallizer (Crystallizer D-200 Crxxr, Building R-2B)	1989	None
Q-3250	Receiver C19R2 (PC-C19, Building C-19)	January 1, 1989	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q-3262	200 Gallon Wash Tank (Tank 838WT, PC-838, Building C-10)	July 1, 1989	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
Q-3296	1,500 Gallon Reactor (Reactor 228, PC-228, Building C-6)	January 1, 1989	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 208-SJ, 209-SJ1, and 209-SJ2; and Demister DM101-ME
Q-3297	500 Gallon Reactor (Reactor 229, PC-229, Building C-6)	January 1, 1989	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 229-SJ; and Demister DM101-ME
Q-3298	100 Gallon Receiver (Receiver 229R, PC-229, Building C-6)	January 1, 1989	None
Q-3300	20 Gallon Feed Tank (Tank 229FT, PC-229, Building C-6)	January 1, 1989	None
Q-3301	Wash Tank (Tank 229WT, PC-229, Building C-6)	January 1, 1989	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q-3316	5,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-3316, Area S-34)	January, 1989	Conservation Vent
Q-3317	6,500 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-3401, Area S-34)	January, 1989	Conservation Vent
Q-3318	1,800 Gallon Receiver (Receiver 845R, PC-845, Building C-10)	July 1, 1990	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; Vent Condenser 845-VC; and Liquid Ring Pumps VS601-LRP and VS603-LRP
Q-3319	5,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-300, Area S-3)	July, 1989	Condenser and Conservation Vent
Q-3320	5,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-301, Area S-3)	July, 1989	Conservation Vent
Q-3321	5,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-302, Area S-3)	July, 1989	Conservation Vent
Q-3322	5,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-306, Area S-3)	July, 1989	Conservation Vent
Q-3323	6,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-501, Area S-5)	July, 1989	Conservation Vent

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q-3326	100 Gallon Receiver (Receiver 807R, PC-807, Building C-10)	March 1, 1990	After Condenser 807A-AC; Steam Jets 807A-SJ and VS604-SJ; Surge Tanks 807SU and VS604-SU; Scrubber 839-SC; Inter Condenser VS604-IC; and Liquid Ring Pump VS604-LRP
Q-3338	200 Gallon Tank (Shot Tank TA306ST, PC-423, Building C-2)	August 1, 1990	Scrubber 408-SC
Q-3339	200 Gallon Tank (Shot Tank TA304ST, PC-413, Building C-2)	August 1, 1990	Scrubber 408-SC
Q-3344	1,500 Gallon Reactor (Reactor 416, PC-416, Building C-2)	August 1, 1990	Scrubber 408-SC; After Condenser 414-AC; Liquid Ring Pump 414-LRP; Steam Jets 414-SJ1 and 414-SJ2; and Vent Condenser 416-VC
Q3347	1,210 Gallon Crystallizer (Tank 40, PC-754, Building R-3)	1990	Liquid Ring Vacuum Pump KK4689
Q-3351	15,000 Gallon Acetonitrile Storage Tank (Tank TA-0720, Area S-7)	May, 1990	Conservation Vent
Q-3352	15,000 Gallon Tetrahydrofuran Storage Tank (Tank TA-0721, Area S-7)	May, 1990	Conservation Vent
Q-3353	15,000 Gallon Tetrahydrofuran Storage Tank (Tank TA-0722, Area S-7)	May, 1990	Conservation Vent
Q-3362	1,800 Liter Crystallizer (Crystallizer D-101A Crxxr, Building R-2B)	1990	None
Q-3371	10,000 Gallon N-Methyl Pyrrolidinone Storage Tank (Tank TA-733, Area S-7)	May, 1990	Conservation Vent
Q-3375	10,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-303, Area S-3)	July, 1989	Conservation Vent
Q-3376	10,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-305, Area S-3)	July, 1989	Conservation Vent

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q-3377	10,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-304, Area S-3)	July, 1989	Conservation Vent
Q-3378	2,000 Gallon Receiver (Receiver 288R, PC-288, Building C-7)	January 1, 1992	After Condenser 285D-AC; Liquid Ring Vacuum Pump 285D-LRP; and Vent Condenser 285D-VC
Q-3379	1,500 Gallon Reactor (Reactor 281, PC-281, Building C-7)	January 1, 1992	Scrubbers 100-SC, 102-SC, and 300-SC; After Condenser 280-AC; Steam Jet 280-SJ; Vent Condenser 281-VC; and Demister DM101-ME
Q-3380	1,500 Gallon Reactor (Reactor 280, PC-280, Building C-7)	January 1, 1992	Scrubbers 100-SC, 102-SC, and 300-SC; After Condenser 280-AC; Steam Jet 280-SJ; Vent Condenser 280-VC; and Demister DM101-ME
Q-3381	750 Gallon Wash Tank (Tank 286WT, PC-286, Building C-7)	January 1, 1992	Scrubbers 100-SC, 102-SC, and 300-SC; Liquid Ring Pump 283-LRP; and Demister DM101-ME
Q-3388	35,000 Gallon Reactor (Tank 954, PC-709, Building F-2)	March, 1992	Ozone System
Q-3389	35,000 Gallon Reactor (Tank 956, PC-709, Building F-2)	March, 1992	Ozone System
Q-3390	35,000 Gallon Reactor (Tank 958, PC-709, Building F-2)	February, 1993	Ozone System
Q-3395	200 Gallon Drop Tank (Tank 280DT, PC-280, Building C-7)	January 1, 1992	None
Q-3396	400 Gallon Receiver (Receiver 280R, PC-280, Building C-7)	January 1, 1992	Scrubbers 100-SC, 102-SC, and 300-SC; After Condenser 280-AC; Dry Vacuum Pump 280-DVP; Steam Jet 280-SJ; Vent Condenser 280-VC; and Demister DM101-ME
Q-3397	650 Gallon Wash Tank (Tank 284WT, PC-284, Building C-7)	January 1, 1992	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q-3408	6,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-500, Area S-5)	January, 1991	Conservation Vent
Q-3420	1,000 Gallon Reactor (Reactor 801, PC-801, Building C-10)	January 1, 1992	After Condenser 807A-AC; Steam Jets 807A-SJ and VS604-SJ; Surge Tanks 807SU and VS604-SU; Scrubber 839-SC; Inter Condenser VS604-IC; and Liquid Ring Pump VS604-LRP
Q-3431	10,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank T-2302, Area S-23)	March, 1992	Conservation Vent and Scrubber SC-701
Q-3432	10,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank T-2303, Area S-23)	March, 1992	Conservation Vent and Scrubber SC-701
Q-3434	1,000 Gallon Receiver (Receiver 801R, PC-801, Building C-10)	January 1, 1992	Scrubber 839-SC; Inter Condenser VS604-IC; Liquid Ring Pump VS604-LRP; Steam Jet 807A-SJ; and Surge Tank VS604-SU
Q-3435	150 Gallon Methanol Tank (Tank TA-121, PC-157, Building R-7/C-11E)	January 7, 1993	None
Q-3451	300 Gallon Drop Tank (Tank 994DT2, PC-994, Building C-17)	November 1, 1992	Scrubber 998-SC
Q-3454	15,000 Gallon Methylene Chloride Storage Tank (Tank TA-0731, Area S-7)	June, 1992	Conservation Vent and Condenser
Q-3456	100 Gallon Receiver (Receiver 881R, PC-881, Building C-10)	December 28, 1992	Vent Condenser 881D-VC
Q-3459	15,000 Gallon DMSO Storage Tank (Tank TA-0724, Area S-7)	June, 1992	Conservation Vent
Q3467	8,000 L Column (TA-119, Building R-10)	March 13, 1996	None
Q3484	500 Gallon Process Tank (Tank 9, PC-740, Building R-3)	1991	None
Q-3489	1,500 Gallon Hold Tank (Tank 985HT, PC-985, Building C-17)	November 1, 1992	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q-3495	2,000 Gallon Reactor (Reactor 900, PC-900, Building C-17)	November 1, 1992	After Condenser 900-AC; Liquid Ring Pump 900-LRP; Steam Jets 900-SJ1 and 900-SJ2; Vent Condenser 900-VC; and Scrubber 988-SC
Q-3496	2,000 Gallon Mix Tank (Tank 901MT, PC-901, Building C-17)	November 1, 1992	After Condenser 900-AC; Liquid Ring Pump 900-LRP; Steam Jets 900-SJ1 and 900-SJ2; Vent Condenser 901MT-VC; and Scrubber 988-SC
Q-3497	2,000 Gallon Reactor (Reactor 905, PC-905, Building C-17)	November 1, 1992	After Condenser 900-AC; Liquid Ring Pump 900-LRP; Steam Jets 900-SJ1 and 900-SJ2; Vent Condenser 905-VC; and Scrubber 988-SC
Q-3498	2,000 Gallon Mix Tank (Tank 906MT, PC-906, Building C-17)	November 1, 1992	After Condenser 905-AC; Liquid Ring Pump 905-LRP; Steam Jets 905-SJ1 and 905-SJ2; Vent Condenser 906MT-VC; and Scrubber 988-SC
Q-3499	2,000 Gallon Reactor (Reactor 910, PC-910, Building C-17)	November 1, 1992	After Condenser 910-AC; Liquid Ring Pump 910-LRP; Steam Jets 910-SJ1 and 910-SJ2; Vent Condenser 910-VC; and Scrubber 988-SC
Q-3500	2,000 Gallon Mix Tank (Tank 911MT, PC-911, Building C-17)	November 1, 1992	After Condenser 910-AC; Liquid Ring Pump 910-LRP; Steam Jets 910-SJ1 and 910-SJ2; Vent Condenser 911MT-VC; and Scrubber 988-SC
Q-3549	10,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank T-2311, Area S-23)	March, 1992	Conservation Vent and Scrubber SC-701
Q-3550	10,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank T-2312, Area S-23)	March, 1992	Conservation Vent and Scrubber SC-701
Q-3551	10,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank T-2313, Area S-23)	March, 1992	Conservation Vent and Scrubber SC-701

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q-3554	15,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank T-2314, Area S-23)	September 1, 1997	Conservation Vent and Scrubber SC-701
Q-3556	2,500 Gallon Reactor (Reactor 925, PC-925, Building C-17)	March 1, 1994	After Condenser 910-AC; Liquid Ring Pump 910-LRP; Steam Jets 910-SJ1 and 910-SJ2; Vent Condenser 925-VC; and Scrubber 988-SC
Q-3557	2,000 Gallon Receiver (Receiver 915R, PC-915, Building C-17)	November 1, 1992	After Condenser 905-AC; Liquid Ring Pump 905-LRP; Steam Jets 905-SJ1 and 905-SJ2; Vent Condenser 915-VC; and Scrubber 988-SC
Q-3559	200 Gallon Wash Tank (Tank 935WT, PC-935, Building C-17)	November 1, 1992	Scrubber 988-SC
Q-3560	300 Gallon Receiver (Receiver 920R, PC-920, Building C-17)	September 29, 1995	After Condenser 920-AC; Liquid Ring Pump 920-LRP; Steam Jet 920-SJ; Vent Condenser 920-VC; Scrubber 988-SC
Q3563	1,000 Gallon Mother Liquor Tank (Tank 935MLT, PC-935, Building C-17)	September 1, 1995	Scrubber 988-SC
Q-3564	1,000 Gallon Hold Tank (Tank 986HT, PC-986, Building C-17)	January 1, 1991	None
Q-3566	Charge Tank (Tank 809CT, PC-809, Building C-10)	April 1, 1996	None
Q3568	Charge Tank (Tank 808CT, PC-808, Building C-10)	September 17, 1992	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q-3589	1,000 Gallon Receiver (Receiver 834R, PC-834, Building C-10)	May 9, 1993	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; Liquid Ring Pumps VS601-LRP and VS603-LRP
Q-3717	1,000 Gallon Caustic Tank (Tank 993T, PC-993, Building C-17)	November 1, 1992	None
Q-3730	10,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank T-2301, Area S-23)	March, 1992	Conservation Vent and Scrubber SC-701
Q3734	10,000 L Process Tank (TA-101A, Building R-10)	June 3, 1994	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3735	10,000 L Process Tank (TA-101B, Building R-10)	June 3, 1994	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3736	5,000 L Process Tank (TA-102A, Building R-10)	April 30, 1991	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3737	5,000 L Process Tank (TA-102B, Building R-10)	April 30, 1991	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3738	2,500 L Pot Still (TA-103A, Building R-10)	April 30, 1991	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q3739	2,500 L Process Tank (TA-103B, Building R-10)	April 30, 1991	Primary Vent Condenser HX-196A, Secondary Vent Condenser HX-196B, and Thermal Oxidizer TO-1
Q3740	1,500 L Process Tank (TA-104A, Building R-10)	April 30, 1991	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3741	1,500 L Process Tank (TA-104B, Building R-10)	April 30, 1991	Primary Vent Condenser HX-196A, Secondary Vent Condenser HX-196B, and Thermal Oxidizer TO-1
Q3742	1,000 L Process Tank (TA-113, Building R-10)	April 30, 1991	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3743	1,000 L Process Tank (TA-114, Building R-10)	April 30, 1991	Primary Vent Condenser HX-196A, Secondary Vent Condenser HX-196B, and Thermal Oxidizer TO-1
Q3744	1,000 L Process Tank (TA-115, Building R-10)	April 30, 1991	Primary Vent Condenser HX-196A, Secondary Vent Condenser HX-196B, and Thermal Oxidizer TO-1
Q3745	1,000 L Process Tank (TA-116, Building R-10)	April 30, 1991	Primary Vent Condenser HX-196A, Secondary Vent Condenser HX-196B, and Thermal Oxidizer TO-1
Q3749	800 L Crystallizer (TA-129, Building R-10)	April 2, 1993	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3750	400 L Process Receiver (TA-130, Building R-10)	April 2, 1993	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q3751	400 L Drop Tank (TA-131, Building R-10)	April 2, 1993	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3752	400 L Feed Tank (TA-132, Building R-10)	April 2, 1993	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3753	400 L Mother Liquor Receiver Tank (Tank TA-133, Building R-10)	April 2, 1993	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3755	200 L Process Receiver (Process Receiver for HX-190, TA-139, Building R-10)	April 30, 1991	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3756	200 L Bump Tank (TA-141, Building R-10)	April 30, 1991	None
Q-3774	10,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank T-2304, Area S-23)	March, 1992	Conservation Vent and Scrubber SC-701
Q-3781	750 Gallon Receiver (Receiver 854R1, PC-854, Building C-10)	January 1, 1993	After Condenser 852-AC; Steam Jets 852-SJ, 853-SJ1, 853-SJ2, and 853-SJ3; Inter Condensers 853-IC1 and 853-IC2; and Scrubber 853-SC
Q-3783	200 Gallon Wash Tank (Tank 805WT, PC-805, Building C-10)	September 28, 1992	After Condenser 807A-AC; Steam Jets 807A-SJ and VS604-SJ; Surge Tanks 807SU and VS604-SU; Scrubber 839-SC; Inter Condenser VS604-IC; and Liquid Ring Pump VS604-LRP
Q-3784	200 Gallon Wash Tank (Tank 855WT, PC-855, Building C-10)	January 1, 1993	After Condenser 852-AC and Steam Jet 852-SJ
Q-3786	500 Gallon Wash Tank (Tank 829WT, PC-829, Building C-10)	January 1, 1992	None
Q-3789	3,000 Gallon Reactor (Tank 975, PC-709, Building F-2)	October, 1993	Ozone System

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q-3790	35,000 Gallon Reactor (Tank 976, PC-709, Building F-2)	February, 1993	Ozone System
Q3795	790 Gallon Surge Tank (Tank 22, PC-704, Building R-3)	1992	None
Q-3796	14,000 Gallon Reactor (Tank 751, PC-751, Building F-1)	1992	Ozone System
Q-3843	35,000 Gallon Reactor (Tank 951, PC-709, Building F-2)	May, 1995	Ozone System
Q-3844	35,000 Gallon Reactor (Tank 952, PC-709, Building F-2)	March, 1995	Ozone System
Q-3845	35,000 Gallon Reactor (Tank 953, PC-709, Building F-2)	May, 1995	Ozone System
Q-3846	35,000 Gallon Reactor (Tank 955, PC-709, Building F-2)	March, 1995	Ozone System
Q3901	4,000 L Slurry Silica Resin/Fresh Solvent Holding Tank (Tank TA-169, Building R-10)	June 24, 1994	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q-3905	50 Gallon Reactor (PC-5, Building R-7/C-11E)	January 1, 1995	Inter Condensers B-2336 and B-1928; Liquid Ring Pumps KK-7207 and KK-1785; Steam Jets KK-7210, KK-2793, KK-7211, and KK-2792; and Scrubber U-2857
Q-3918	750 Gallon Reactor (Reactor 884, PC-884, Building C-19)	January 1, 1995	Inter Condenser 888-IC; Liquid Ring Pump 888-LRP; and Steam Jets 887-SJ, 888-SJ1, and 888-SJ2
Q-3930	4,000 Liter Tank (Tank 60, Building R-2B)	1995	None
Q-3933	2,000 Gallon Reactor (Reactor 263, PC-263, Building C-7)	January 1, 1995	Scrubbers 100-SC and 300-SC; Vent Condenser 263-VC; After Condenser 267-AC; Steam Jets 267-SJ1 and 267-SJ2; and Demister DM101-ME

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q4060	2,500 L Pot Still (TA-118, Building R-10)	July 14, 1997	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q-4065	1,000 Liter Tank (Carbon Tank, Building R-2B)	1993	None
Q-4067	1,300 Gallon Reactor (Reactor 827, PC-827, Building C-10)	January 1, 1993	After Condenser 828-AC and Steam Jet 828-SJ
Q-4074	750 Gallon Reactor (Reactor 207, PC-207, Building C-6)	January 1, 1993	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 214-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 214-SJ; Vent Condenser 207-VC; and Demister DM101-ME
Q-4076	550 Gallon Caustic Tank (Tank 839T2, PC-839, Building C-10)	January 1, 1994	None
Q4079	Makeup Tank (Tank 35, PC-704, Building R-3)	1993	None
Q-4080	1,500 Gallon Reactor (Reactor 210, PC-210, Building C-6)	January 1, 1993	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; Vent Condenser 210-VC; and Demister DM101-ME

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q-4081	1,500 Gallon Reactor (Reactor 215, PC-215, Building C-6)	January 1, 1994	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; Vent Condenser 215-VC; and Demister DM101-ME
Q-4082	1,300 Gallon Reactor (Reactor 826, PC-826, Building C-10)	November 8, 1994	After Condenser 828-AC and Steam Jet 828-SJ
Q-4088	100 Gallon Drop Tank (Tank 207DT, PC-207, Building C-6)	January 1, 1993	Scrubbers 100-SC and 200-SC; and Demister DM101-ME
Q-4105	100 Gallon Drop Tank (Drop Tank 262DT, PC-262, Building C-7)	January 1, 1993	Scrubber 100-SC and Demister DM101-ME
Q-4129	500 Gallon Receiver (Receiver 211R, PC-211, Building C-6)	January 1, 1993	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; Vent Condenser 210-VC; and Demister DM101-ME
Q-4130	500 Gallon Receiver (Receiver 216R, PC-216, Building C-6)	January 1, 1994	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; Vent Condenser 215-VC; and Demister DM101-ME
Q4138	400 L Fraction Tank (TA-151, Building R-10)	June 24, 1994	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q4139	400 L Fraction Tank (TA-158, Building R-10)	June 24, 1994	Vent Condenser VC-151 and Thermal Oxidizer TO-1
Q4140	400 L Fraction Tank (TA-152, Building R-10)	June 24, 1994	Vent Condenser VC-151 and Thermal Oxidizer TO-1
Q4141	400 L Fraction Tank (TA-157, Building R-10)	June 24, 1994	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4142	400 L Fraction Tank (TA-153, Building R-10)	June 24, 1994	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4143	400 L Fraction Tank (TA-156, Building R-10)	June 24, 1994	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4144	400 L Fraction Tank (TA-154, Building R-10)	June 24, 1994	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4145	400 L Fraction Tank (TA-155, Building R-10)	June 24, 1994	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4146	400 L Fraction Tank (TA-159, Building R-10)	June 24, 1994	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4147	400 L Fraction Tank (TA-166, Building R-10)	June 24, 1994	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4148	400 L Fraction Tank (TA-160, Building R-10)	June 24, 1994	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4149	400 L Fraction Tank (TA-165, Building R-10)	June 24, 1994	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q4150	400 L Fraction Tank (TA-161, Building R-10)	June 24, 1994	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4151	400 L Fraction Tank (TA-164, Building R-10)	June 24, 1994	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4152	400 L Fraction Tank (TA-162, Building R-10)	June 24, 1994	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4153	400 L Fraction Tank (TA-163, Building R-10)	June 24, 1994	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q-4154	15,000 Gallon Ethanol (Fresh) Storage Tank (TA-1104, Area S-27)	July, 1994	Conservation Vent
Q4162	4,000 L Slurry Silica Resin/Fresh Solvent Holding Tank (Tank TA-170, Building R-10)	June 24, 1994	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q-4165	15,000 Gallon Mixed Waste Storage Tank (TA-1108, Area S-27)	July, 1994	Conservation Vent
Q-4167	15,000 Gallon Mixed Waste Storage Tank (TA-1107, Area S-27)	July, 1994	Conservation Vent
Q4168	400 L Waste Bump Tank (TA-167, Building R-10)	December 13, 1994	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4169	400 L Waste Bump Tank (TA-168, Building R-10)	January 3, 1995	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q-4184	35,000 Gallon Reactor (Tank 963, PC-709, Building F-2)	March, 1995	Ozone System
Q-4190	Reactor C19R1 (PC-C19, Building C-19)	January 1, 1995	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q-4197	15,000 Gallon Isobutyl Acetate (Fresh) Storage Tank (TA-1105, Area S-27)	July, 1994	Conservation Vent
Q-4198	15,000 Gallon Amyl Acetate (Fresh) Storage Tank (TA-1106, Area S-27)	July, 1994	Conservation Vent
Q-4201	200 Gallon Mix Tank (Tank C19MT, PC-C19, Building C-19)	January 1, 1995	None
R7A-PC1	Process Condenser R7A-PC1 (Asset #LC-******, PC-R7A, Building R-7A)	August 1, 1996	None
R-14	Laboratory Building R-14 Lab Hoods and Vacuum Pumps (Building R-14)	April, 1997	None
R-297	400 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 427, Building M-2)	1946	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-306	1,240 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 426, Building M-2)	1946	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-344	576 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 420, Building M-2)	1946	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-347	576 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 422, Building M-2)	1946	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-349	1,250 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 312, Building M-2)	1945	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-350	1,250 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 311, Building M-2)	1945	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-351	1,250 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 313, Building M-2)	1945	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-352	1,250 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 314, Building M-2)	1945	Dry Filters 823-1, 823-2, 823-3, and 823-4

Emission Unit	Description	Date Constructed	Emission Control Equipment
R-434	1,620 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 301, Building M-2)	1948	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-435	1,620 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 302, Building M-2)	1948	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-436	1,620 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 303, Building M-2)	1948	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-445	1,620 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 305, Building M-2)	1948	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-446	1,620 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 304, Building M-2)	1948	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-447	1,620 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 306, Building M-2)	1948	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-448	1,620 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 307, Building M-2)	1949	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-471	660 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 424, Building M-2)	1946	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-0527	750 Gallon Receiver (Receiver 425R, PC-425, Building C-2)	January 1, 1970	Scrubber 408-SC and Vent Condenser 425R-VC
R-0529	1,000 Gallon Reactor (Reactor 420, PC-420, Building C-2)	January 1, 1965	Scrubber 408-SC and Vent Condenser 420-VC

Emission Unit	Description	Date Constructed	Emission Control Equipment
R-0531	200 Gallon Receiver (Receiver 840R3, PC-840, Building C-10)	June 1, 1996	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
R-0532	500 Gallon Receiver (Receiver 840R2, PC-840, Building C-10)	January 1, 1996	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP

Emission Unit	Description	Date Constructed	Emission Control Equipment
R-0533	500 Gallon Receiver (Receiver 840R1, PC-840, Building C-10)	July 1, 1966	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
R-0570	1,500 Gallon Receiver (Receiver 419R, PC-419, Building C-2)	January 1, 1970	Scrubber 408-SC; After Condenser 417-AC; Liquid Ring Pump 417-LRP; Steam Jets 417-SJ1 and 417-SJ2; and Vent Condenser 417-VC
R-0579	2,000 Gallon Receiver (Receiver 848R, PC-848, Building C-10)	June 1, 1973	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP

Emission Unit	Description	Date Constructed	Emission Control Equipment
R-0580	2,000 Gallon Reactor (Reactor 833, PC-833, Building C-10)	June 1, 1973	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
R-0597	30 Gallon Reactor (PC-C11E, Building R-7/C-11E)	January 1, 1973	PC-C11E Steam Jet
R-0598	750 Gallon Reactor (Reactor 825, PC-825, Building C-11)	January 1, 1974	Steam Jet 825-SJ
R-0599	50 Gallon Reactor (PC-C11E, Building R-7/C-11E)	January 1, 1977	PC-C11E Steam Jet
R-0601	1,000 Gallon Reactor (Reactor 828, PC-828, Building C-10)	October 1, 1975	After Condensers 828-AC, 840-AC, 841-AC, 846-AC, 847-AC, and VS601-AC, VS603-AC; Steam Jets 828-SJ, 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Scrubber 839-SC; Inter Condensers 840-IC1 and 840-IC2; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP

Emission Unit	Description	Date Constructed	Emission Control Equipment
R-0614	500 Gallon Receiver (Receiver 802R2, PC-802, Building C-10)	June 1, 1977	Scrubbers 802-SC and 839-SC; Steam Jets 802-SJ1 and VS604-SJ; Inter Condenser VS604-IC; Liquid Ring Pump VS604-LRP; and Surge Tank VS604-SU
R-0617	500 Gallon Reactor (Reactor 253, PC-253, Building C-6)	January 1, 1977	Scrubbers 100-SC and 212-SC; After Condenser 253-AC; Steam Jet 253-SJ; and Demister DM101-ME
R-0619	500 Gallon Reactor (Reactor 860, PC-860, Building C-10)	November 1, 1978	After Condenser 860-AC; and Steam Jets 860-SJ1 and 860-SJ2
R-0622	1,000 Gallon Reactor (Reactor 852, PC-852, Building C-10)	December 1, 1979	After Condenser 852-AC; Steam Jets 852-SJ, 853-SJ1, 853-SJ2, and 853-SJ3; Inter Condensers 853-IC1 and 853-IC2; and Scrubber 853-SC;
R-0623	500 Gallon Weigh Tank (Tank 842WT, PC-842, Building C-10)	May 1, 1979	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
R0624	Reactor (Tank 3, PC-675, Building R-6)	1980	None
R-0645	300 Gallon Reactor (Reactor 882, PC-882, Building C-19)	January 1, 1994	Inter Condenser 888-IC; Liquid Ring Pump 888-LRP; and Steam Jets 887-SJ, 888-SJ1, and 888-SJ2

Emission Unit	Description	Date Constructed	Emission Control Equipment
R-0646	500 Gallon Reactor (Reactor 883, PC-883, Building C-19)	January 1, 1995	Inter Condenser 888-IC; Liquid Ring Pump 888-LRP; and Steam Jets 887-SJ, 888-SJ1, and 888-SJ2
R-0680	125 Gallon Charge Tank (Tank 214CT, PC-214, Building C-6)	January 1, 1984	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 214-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 214-SJ; Vent Condenser 214-VC; and Demister DM101-ME
R-0682	750 Gallon Receiver (Receiver 854R2, PC-854, Building C-10)	July 1, 1986	After Condenser 852-AC; Steam Jets 852-SJ, 853-SJ1, 853-SJ2, and 853-SJ3; Inter Condensers 853-IC1 and 853-IC2; and Scrubber 853-SC
R-0685	50 Gallon Distillation Pot (PC-5, Building R-7/C-11E)	April 1, 1985	After Condenser T-2689; Inter Condensers B-1791 and LC-959079; Steam Jet LC-959078; and Liquid Ring Pump LC-959079
R-0686	1,000 Gallon Reactor (Reactor 214, PC-214, Building C-6)	January 1, 1985	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 214-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 214-SJ; Vent Condenser 214-VC; and Demister DM101-ME
R-0688	Hot Well (Hot Well 853HW, PC-853, Building C-10)	December 1, 1985	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
R-0689	300 Gallon Reactor (Reactor RA-110, PC-1, Building R-7)	December 1, 1986	Inter Condenser B-2335; Liquid Ring Pumps KK-7217 and NN-6958; Steam Jets KK-7208, FJ-6111, and KK-7209); and Scrubber U-2857
R-0690	50 Gallon Hot Well (Hot Well 840HW, PC-840, Building C-10)	January 1, 1986	None
R-0691	2,000 Gallon Reactor (Reactor 804, PC-804, Building C-10)	March 1, 1987	After Condensers 803-AC1 and 803-AC2; Dry Vacuum Pump 803-HP; Steam Jet 803-SJ; Vent Condenser 804-VC; and Surge Tank 804SU
R-0694	500 Gallon Receiver (Receiver 224R2, PC-224, Building C-6)	January 1, 1986	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 224-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 224-SJ; Vent Condenser 224-VC; and Demister DM101-ME
R-0695	500 Gallon Receiver (Receiver 224R3, PC-224, Building C-6)	January 1, 1987	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 224-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 224-SJ; Vent Condenser 224-VC; and Demister DM101-ME
R-0696	125 Gallon DeDietrich Model CR-125 Receiver (Receiver 253R, PC-253, Building C-6)	January 1, 1987	After Condenser 253-AC and Steam Jet 253-SJ

Emission Unit	Description	Date Constructed	Emission Control Equipment
R-0697	200 Gallon Receiver (Receiver 219R, PC-219, Building C-6)	January 1, 1986	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; and Demister DM101-ME
R-0751	100 Gallon Receiver (Receiver 258R, PC-258, Building C-6)	September 1, 1980	Vent Condenser 258-VC
R-0752	1,000 Gallon Reactor (Reactor 840, PC-840, Building C-10)	August 1, 1981	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Vent Condenser 840-VC; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
R-0755	1,000 Gallon Reactor (Reactor 841, PC-841, Building C-10)	November 1, 1981	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP

Emission Unit	Description	Date Constructed	Emission Control Equipment
R-0756	500 Gallon Reactor (Reactor 834, PC-834, Building C-10)	November 1, 1981	After Condenser 834-AC; Steam Jets 834-SJ1 and 834-SJ2; and Scrubber 839-SC
R-0759	1,000 Gallon Reactor (Reactor 224, PC-224, Building C-6)	August 1, 1980	Scrubbers 100-SC and 200-SC; Vent Condenser 224-VC; and Demister DM101-ME
R-0760	1,000 Gallon Reactor (Reactor 830, PC-830, Building C-10)	March 1, 1982	After Condensers 828-AC, 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Steam Jets 828-SJ, 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Scrubber 839-SC; Inter Condensers 840-IC1 and 840-IC2; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
R-0767	30 Gallon Reactor (Reactor R7AR2, PC-R7A, Building R-7A)	January 1, 1982	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
R-0768	50 Gallon Reactor (Reactor R7AR1, PC-R7A, Building R-7A)	January 1, 1982	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
R-0769	100 Gallon Reactor (Reactor R7AR4, PC-R7A, Building R-7A)	January 1, 1982	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2

Emission Unit	Description	Date Constructed	Emission Control Equipment
R-0770	150 Gallon Reactor (PC-4, Building R-7)	January 1, 1991	Inter Condenser B-2334; Liquid Ring Pumps KK-7213 and KK-4153; Steam Jets KK-7205, KK-4152, and KK-7206; and Scrubber U-2857
R-0779	1,000 Gallon Reactor (Reactor 418, PC-418, Building C-2)	January 1, 1984	Scrubber 408-SC and Vent Condenser 418-VC
R-0782	50 Gallon Reactor (PC-4, Building R-7/C-11E)	June 1, 1987	Inter Condenser B-2334; Liquid Ring Pumps KK-7213 and KK-4153; Steam Jets KK-7205, KK-4152, and KK-7206; and Scrubber U-2857
R-0784	150 Gallon Tank (Tank 807A, PC-807, Building C-10)	May 1, 1988	After Condenser 807A-AC; Steam Jets 807A-SJ and VS604-SJ; Surge Tanks 807SU and VS604-SU; Scrubber 839-SC; Inter Condenser VS604-IC; and Liquid Ring Pump VS604-LRP
R-0785	1,500 Gallon Reactor (Reactor 258, PC-258, Building C-6)	May 1, 1988	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 253-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, 253-SJ, and 256-SJ; Vent Condenser 258-VC; and Demister DM101-ME
R-0787	2,000 Gallon Reactor (Reactor 262, PC-262, Building C-7)	May 1, 1988	Scrubbers 100-SC and 300-SC; Vent Condenser 262-VC; After Condenser 267-AC; Steam Jets 267-SJ1 and 267-SJ2; and Demister DM101-ME

Emission Unit	Description	Date Constructed	Emission Control Equipment
R-0788	750 Gallon Reactor (Reactor 264, PC-264, Building C-7)	May 1, 1988	Scrubbers 100-SC and 300-SC; Vent Condenser 264-VC; After Condenser 267-AC; Steam Jets 267-SJ1 and 267-SJ2; and Demister DM101-ME
R-0790	50 Gallon Drop Tank (Tank 253DT, PC-253, Building C-6)	November 1, 1987	Scrubbers 100-SC and 212-SC; After Condenser 253-AC; Steam Jet 253-SJ; and Demister DM101-ME
R-0791	2,000 Gallon Receiver (Receiver 262R, PC-262, Building C-7)	May 1, 1988	Scrubbers 100-SC and 300-SC; After Condenser 267-AC; Steam Jets 267-SJ1 and 267-SJ2; and Demister DM101-ME
R-0796	250 Gallon Wash Tank (Tank 265DT, PC-265, Building C-7)	May 1, 1998	None
R-0901	2,000 Gallon Reactor (Reactor 915, PC-915, Building C-17)	March 1, 1992	After Condenser 905-AC; Liquid Ring Pump 905-LRP Steam Jets 905-SJ1 and 905-SJ2; Vent Condenser 915-VC; and Scrubber 988-SC
R-1001	1,500 Gallon Reactor (Reactor 417, PC-417, Building C-2)	August 1, 1989	Scrubber 408-SC; After Condenser 417-AC; Liquid Ring Pump 417-LRP; Steam Jets 417-SJ1 and 417-SJ2; and Vent Condenser 417-VC
R-1002	2,000 Gallon Receiver (Receiver 412R, PC-412, Building C-2)	January 1, 1990	Scrubber 408-SC; After Condenser 413-AC; Liquid Ring Pump 413-LRP; Steam Jets 413-SJ1 and 413-SJ2; and Vent Condenser 413-VC

Emission Unit	Description	Date Constructed	Emission Control Equipment
R-1016	1,500 Gallon Reactor (Reactor 208, PC-208, Building C-6)	January 1, 1989	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 208-SJ, and 209-SJ1, 209-SJ2; Vent Condenser 208-VC; and Demister DM101-ME
R-1017	1,500 Gallon Reactor (Reactor 414, PC-414, Building C-2)	January 1, 1989	Scrubber 408-SC; After Condenser 414-AC; Liquid Ring Pump 414-LRP; Steam Jets 414-SJ1 and 414-SJ2; and Vent Condenser 414-VC
R-1018	1,500 Gallon Reactor (Reactor 413, PC-413, Building C-2)	August 1, 1990	Scrubber 408-SC; After Condenser 413-AC; Liquid Ring Pump 413-LRP; Steam Jets 413-SJ1 and 413-SJ2; and Vent Condenser 413-VC
R-1019	2,000 Gallon Reactor (Reactor 837, PC-837, Building C-10)	September 1, 1990	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP

Emission Unit	Description	Date Constructed	Emission Control Equipment
R-1020	1,000 Gallon Reactor (Reactor 802, PC-802, Building C-10)	January 1, 1992	Scrubbers 802-SC and 839-SC; Steam Jets 802-SJ1 and VS604-SJ; Inter Condenser VS604-IC; Liquid Ring Pump VS604-LRP; and Surge Tank VS604-SU
R-1023	125 Gallon Charge Tank (Tank 208CT, PC-208, Building C-6)	December 11, 1998	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; and Demister DM101-ME
R-1029	750 Gallon Receiver (Receiver 424R, PC-424, Building C-2)	January 1, 1989	Scrubber 408-SC and Vent Condenser 425R-VC
R-1031	1,500 Gallon Receiver (Receiver 415R, PC-415, Building C-2)	August 1, 1990	Scrubber 408-SC; After Condenser 414-AC; Liquid Ring Pump 414-LRP; Steam Jets 414-SJ1 and 414-SJ2; and Vent Condenser 414-VC

Emission Unit	Description	Date Constructed	Emission Control Equipment
R-1035	2,000 Gallon Reactor (Reactor 846, PC-846, Building C-10)	July 9, 1991	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
R-1044	2,000 Gallon Reactor (Reactor 847, PC-847, Building C-10)	January 1, 1994	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
R-1045	75 Gallon Reactor (PC-5, Building R-7/C-11E)	April 1, 1991	Inter Condensers B-2336 and B-1928; Liquid Ring Pumps KK-7207 and KK-1785; Steam Jets KK-7210, KK-2793, KK-7211, and KK-2792; and Scrubber U-2857
R-1046	1,500 Gallon Reactor (Reactor 282, PC-282, Building C-7)	January 1, 1992	After Condenser 282-AC; Steam Jet 282-SJ; and Vent Condenser 282-VC

Emission Unit	Description	Date Constructed	Emission Control Equipment
R-1047	1,500 Gallon Reactor (Reactor 283, PC-283, Building C-7)	January 1, 1992	Scrubbers 100-SC, 102-SC, and 300-SC; Inter Condenser 283-IC; Liquid Ring Pump 283-LRP; Steam Jets 283-SJ1, and 283-SJ2; Vent Condenser 283-VC; and Demister DM101-ME
R-1048	2,000 Gallon Receiver (Receiver 289R, PC-289, Building C-7)	March 1, 1991	After Condenser 285D-AC; Liquid Ring Vacuum Pump 285D-LRP; and Vent Condenser 285D-VC
R-1049 282CT	200 Gallon Drop Tank (Tank 282CT, PC-282, Building C-7)	March 1, 1991	None
R-1049 282DT	200 Gallon Drop Tank (Tank 282DT, Building C-7)	January 1, 1992	After Condenser 282-AC and Steam Jet 282-SJ
R-1050	1,000 Gallon Reactor (Reactor 219, PC-219, Building C-6)	November 19, 1991	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; Vent Condenser 219-VC; and Demister DM101-ME
R-1052	4,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-3420, Area S-34)	March, 1991	Conservation Vent
R-1059	300 Gallon Receiver (Receiver 900R, PC-900, Building C-17)	November 1, 1992	After Condenser 900-AC; Liquid Ring Pump 900-LRP; Steam Jets 900-SJ1 and 900-SJ2; Vent Condenser 900-VC; and Scrubber 988-SC
R-1060	300 Gallon Receiver (Receiver 905R, PC-905, Building C-17)	November 1, 1992	After Condenser 900-AC; Liquid Ring Pump 900-LRP; Steam Jets 900-SJ1 and 900-SJ2; Vent Condenser 905-VC; and Scrubber 988-SC

Emission Unit	Description	Date Constructed	Emission Control Equipment
R-1061	300 Gallon Receiver (Receiver 910R, PC-910, Building C-17)	November 1, 1992	After Condenser 910-AC; Liquid Ring Pump 910-LRP; Steam Jets 910-SJ1 and 910-SJ2; Vent Condenser 910-VC; and Scrubber 988-SC
R-1062	300 Gallon Drop Tank (Tank 994DT1, PC-994, Building C-17)	November 1, 1992	Scrubber 988-SC
R-1066	75 Gallon Reactor (PC-901, Building R-9)	November 1, 1992	Scrubber U-2218; PC-901 After Condenser; PC-901 Inter Condenser; Liquid Ring Pump KK-7067; Steam Jets LC062103, LC062104, and LC062105; and Vent Condensers B-2310 and B-2309
R-1067	100 Gallon Reactor (PC-901, Building R-9)	November 1, 1992	Scrubber U-2218; PC-901 After Condenser; PC-901 Inter Condenser; Liquid Ring Pump KK-7067; Steam Jets LC062103, LC062104, and LC062105; and Vent Condensers B-2310 and B-2309
R-1068	200 Gallon Reactor (PC-902, Building R-9)	November 1, 1992	Scrubber U-2218; PC-902 After Condenser; PC-902 Inter Condenser; Liquid Ring Pump KK-7078; Steam Jets LC062106, LC062108, and LC062107; and Vent Condensers B-2312 and B-2311
R-1069	200 Gallon Reactor (PC-903, Building R-9)	November 1, 1992	Scrubber U-2218; PC-903 After Condenser; PC-903 Inter Condenser; Liquid Ring Pump KK-7080; Steam Jets LC062112, LC062114, and LC062113; and Vent Condensers B-2316 and B-2315

Emission Unit	Description	Date Constructed	Emission Control Equipment
R-1070	300 Gallon Reactor (PC-904, Building R-9)	November 1, 1992	Scrubber U-2218; PC-904 After Condenser; PC-904 Inter Condenser; Liquid Ring Pump LC909300; Steam Jets LC062116, LC062115, and LC062117; and Vent Condensers B-2318 and B-2317
R-1072	500 Gallon Reactor (PC-903, Building R-9)	November 1, 1992	Scrubber U-2218; PC-903 After Condenser; PC-903 Inter Condenser; Liquid Ring Pump KK-7080; Steam Jets LC062112, LC062114, and LC062113; and Vent Condensers B-2316 and B-2315
R-1073	750 Gallon Reactor (PC-904, Building R-9)	November 1, 1992	Scrubbers U-2218 and LC-902222; PC-904 After Condenser; PC-904 Inter Condenser; Liquid Ring Pump LC909300; Steam Jets LC062116, LC062115, and LC062117; and Vent Condensers B-2318 and B-2317
R-1075	100 Gallon Reactor (PC-902, Building R-9)	November 1, 1992	Scrubber U-2218; PC-902 After Condenser; PC-902 Inter Condenser; Liquid Ring Pump KK-7078; Steam Jets LC062106, LC062108, and LC062107; and Vent Condensers B-2312 and B-2311
R-1076	100 Gallon Reactor (PC-905, Building R-9)	November 1, 1992	Scrubber U-2218; PC-905 After Condenser; PC-905 Inter Condenser; Liquid Ring Pump KK-7075; Steam Jets LC062109, LC062111, and LC062110; and Vent Condensers B-2314 and B-2313

Emission Unit	Description	Date Constructed	Emission Control Equipment
R-1083	10,000 Gallon Formic Acid Storage Tank (Tank TA-0723, Area S-7)	May, 1990	Conservation Vent
R-1088	1,000 Gallon Reactor (Reactor 853, PC-853, PC-853, Building C-10)	January 1, 1993	After Condenser 852-AC; Steam Jets 852-SJ, 853-SJ1, 853-SJ2, and 853-SJ3; Inter Condensers 853-IC1 and 853-IC2; and Scrubber 853-SC
R-1091	50 Gallon Reactor (PC-4, Building R-7/C-11E)	July 1, 1994	Inter Condenser B-2334; Liquid Ring Pumps KK-7213 and KK-4153; Steam Jets KK-7205, KK-4152, and KK-7206; and Scrubber U-2857
R-1095	50 Gallon Reactor (PC-4, Building R-7/C-11E)	July 1, 1994	Inter Condenser B-2334; Liquid Ring Pumps KK-7213 and KK-4153; Steam Jets KK-7205, KK-4152, and KK-7206; and Scrubber U-2857
RO-212	Reverse Osmosis Unit (Rm 101 Reverse Osmosis Unit, RO-212, Building R-10)	May 8, 1997	None
S6	175,000 cu. ft. Imperial Industries, Inc. Silo (Tk #S6, Area S-16)	May, 1998	Silo #6 Baghouse
T-1	Zurn Industries Model 13M Fuel Oil/Natural Gas Fired Boiler (Temporary Boiler T1, 84.84 mmBtu/hr, Fuel Oil; 88.32 mmBtu/hr, Natural Gas)	September, 1992	None
T-3	Zurn Industries Model 13M Fuel Oil/Natural Gas Fired Boiler (Temporary Boiler T3, 84.84 mmBtu/hr, Fuel Oil; 88.32 mmBtu/hr, Natural Gas)	September, 1997	None
T-1155	6,500 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-531, Area S-5)	October, 1989	Conservation Vent
T-1156	6,500 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-530, Area S-5)	January, 1990	Conservation Vent

Emission Unit	Description	Date Constructed	Emission Control Equipment
T-1638	14,000 Gallon Empty Storage Tank (Tank TA-0760, Area S-7)	May, 1958	Conservation Vent
T-1701	6,000 Gallon Acetic Acid Storage Tank (Tank T-1701, Area M-4)	January, 1959	None
T-1792	8,000 Gallon Empty Storage Tank (Tank TA-0701, Area S-7)	August, 1960	Conservation Vent
T-1798	7,500 Liter Tank (Tank 44, Building R-2B)	1961	None
T-1838	200 Gallon Tank (Tank 811T2, PC-811, Building C-10)	January 1, 1963	None
T-1842	5,500 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-3410, Area S-34)	September, 1990	Conservation Vent
T-1843	5,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-521, Area S-5)	November, 1990	Conservation Vent and Condenser
T-1858	6,000 Gallon Acetic Acid Storage Tank (Tank T-1858, Area M-4)	September, 1990	None
T-1877	20,000 Gallon Isopropanol Storage Tank (Tank TA-0702, Area S-7)	February, 1964	Conservation Vent
T-1878	20,000 Gallon Methanol Storage Tank (Tank TA-0703, Area S-7)	February, 1964	Conservation Vent
T-1925	2,500 Gallon Methylene Chloride Storage Tank (Tank 35, PC-636, Building S-32)	1996	S-32 Carbon Bed Adsorption System
T-1926	2,500 Gallon Storage Methylene Chloride Tank (Tank 34, PC-636, Building S-32)	1996	S-32 Carbon Bed Adsorption System
T-1968	20,000 Gallon Ethyl Acetate Storage Tank (Tank TA-0711, Area S-7)	March, 1967	Conservation Vent
T-1969	20,000 Gallon Ethanol (w/5% Methylene Hydroxide) Storage Tank (Tank TA-0712, Area S-7)	March, 1967	Conservation Vent
T-1970	10,000 Gallon Toluene Storage Tank (Tank TA-0713, Area S-7)	March, 1967	Conservation Vent
T-2064	10,000 Gallon Heptane Storage Tank (Tank TA-0714, Area S-7)	September, 1967	Conservation Vent

Emission Unit	Description	Date Constructed	Emission Control Equipment
T-2069	907 Gallon Liquid Products Manufacturing Sterile Products Mix Tank (Tank 737, Building M-2)	1971	Dry Filter 823-8
T2095	175,000 cu. ft. SEB Semco Silo (Tk #S5, Area S-16)	June, 1968	Silo #5 Baghouse
T2096	175,000 cu. ft. SEB Semco Silo (Tk #S4, Area S-16)	June, 1968	Silo #4 Baghouse
T2097	175,000 cu. ft. SEB Semco Silo (Tk #S3, Area S-16)	June, 1968	Silo #3 Baghouse
T2098	175,000 cu. ft. SEB Semco Silo (Tk #S2, Area S-16)	June, 1968	Silo #2 Baghouse
T2099	175,000 cu. ft. SEB Semco Silo (Tk #S1, Area S-16)	June, 1968	Silo #1 Baghouse
T-2206	10,000 Gallon Carbon Tetrachloride Storage Tank (Tank TA-0732, Area S-7)	January, 1971	Conservation Vent
T2408	Receiver (Tank 10R, PC-634, Building R-6)	1977	Liquid Ring Vacuum Pump KK2744; Dry Vacuum Pump Condenser; and S-32 Carbon Bed
T-2600	Mix Tank (Tank R7AT6, PC-R7A, Building R-7A)	January 1, 1982	None
T-2628	100 Gallon Reactor (PC-2, Building R-7/C-11E)	January 1, 1994	Inter Condenser B-2337; Liquid Ring Pumps KK-7214 and KK-6485; Steam Jets KK-7215 and KK-7216; and Scrubber U-2857
T-2629	300 Gallon Reactor (PC-2, Building R-7/C-11E)	January 1, 1994	Inter Condenser B-2337; Liquid Ring Pumps KK-7214, KK-6485, and KK-6080; Steam Jets KK-7215 and KK-7216; and Scrubber U-2857
T-2630	500 Gallon Reactor (PC-2, Building R-7/C-11E)	January 1, 1994	Inter Condenser B-2337; Liquid Ring Pump KK-7214 and KK-6485; Steam Jets KK-7215 and KK-7216; and Scrubber U-2857

Emission Unit	Description	Date Constructed	Emission Control Equipment
T-2690	20 Gallon Receiver (PC-5, Building R-7/C-11E)	April 1, 1985	None
T-2691	20 Gallon Receiver (PC-5, Building R-7/C-11E)	April 1, 1985	None
T-2692	50 Gallon Receiver (PC-5, Building R-7C-11E)	April 1, 1985	None
T-2947	100 Gallon Overflow Tank (Tank TA101T, PC-TA101, Building C-19)	January 1, 1994	None
T-2948	100 Gallon Accumulation Tank (Tank 839T1, PC-839, Building C-10)	January 1, 1994	Scrubber 839-SC
T-3103	200 Gallon Receiver (PC-1, Building R-7/C-11E)	January 1, 1993	Inter Condenser B-2335; Liquid Ring Pumps KK-7217 and NN-6958; Steam Jets KK-7208, FJ-6111, and KK-7209; and Scrubber U-2857
T-7457	7,500 Liter Tank (Tank 43, Building R-2B)	1961	None
TA-108	Evaporator Receiver (Tank TA-108, Building R-10)	April 30, 1991	None
TA-180	500 L Bump Tank (Tank TA-180, Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-181	500 L Bump Tank (Tank TA-181, Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-182	500 L Bump Tank (Tank TA-182, Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-183	500 L Bump Tank (Tank TA-183, Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-184	500 L Bump Tank (Tank TA-184, Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B

Emission Unit	Description	Date Constructed	Emission Control Equipment
TA-186	1,500 L Process Tank (Tank TA-186, Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-187	240 L Receiver (Tank TA-187, Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-189	5,000 L Process Tank (Tank TA-189, Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-190	5,000 L Process Tank (Tank TA-190, Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-191	240 L Receiver (Tank TA-191, Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA307ST	300 Gallon Tank (Shot Tank TA307ST, Asset #LC-******, PC-413, Building C-2)	February 1, 1998	Scrubber 408-SC
TA-601	10,000 L Process Tank (Tank TA-601, Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-602	5,000 L Process Tank (Tank TA-602, Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-603	5,000 L Process Tank (Tank TA-603, Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-604	10,000 L Process Tank (Tank TA-604, Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B

Emission Unit	Description	Date Constructed	Emission Control Equipment
TA-605	2,500 L Process Tank (Tank TA-605, Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-606	240 L Process Tank (Tank TA-606, Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-611	100 L Process Tank (Tank TA-611, Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-612	600 L Process Tank (Tank TA-612, Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-614	800 L Northland Stainless Process Tank (Tank TA-614, Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-615	240 L Process Tank (Tank TA-615, Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-616	400 L Process Tank (Tank TA-616, Building R-10)	March 9, 1999	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-9501	10,000 Gallon Amyl Alcohol (Fresh) Storage Tank (TA-9501, Area S-30)	June, 1995	Conservation Vent
TA-9502	10,000 Gallon Amyl Acetate (Fresh) Storage Tank (TA-9502, Area S-30)	June, 1995	Conservation Vent
TA-9602	8,500 Gallon Northland Stainless Methanol (Fresh) Storage Tank (TA-9602, Area S-30)	September, 1998	Conservation Vent
TA-9603	10,000 Gallon Methylene Chloride (Fresh) Storage Tank (Tank TA-9603, Area S-30)	October, 1995	S-32 Carbon Bed Adsorption

Emission Unit	Description	Date Constructed	Emission Control Equipment
TA-9608	4,000 Gallon Methylene Chloride (Waste) Storage Tank (Tank TA-9608, Area S-30)	November, 1996	Conservation Vent
TA-9705	10,000 Gallon Proprionic Acid Storage Tank (TA-9705, Area S-30)	September, 1998	Conservation Vent
Tank 3	31,000 Liter Media Mix Tank (CS#3, Tank 3, Building F-2)	1967	Rotoclone
Tank 3/4 Hopper	Hopper (Tank 3/4 Hopper, Building F-2)	1967	None
Tank 4	31,000 Liter Media Mix Tank (CS#3 Tank 4, Building F-2)	1967	Rotoclone
Tank 42/43 Hopper	Solids Hopper (Tank 42/43 Solids Hopper, Building F-2)	1975	None
Tank 114	Acetone Storage Tank (Tank 114, Area S-27)	Modified January, 1994	None
Tank 501	3,000 Gallon Reactor (Tank 501, PC-733, Building F-1)	May, 1997	Ozone System
Tank 503	3,000 Gallon Reactor (Tank 503, PC-733, Building F-1)	May, 1997	Ozone System
Tank 571	3,000 Gallon Reactor (Tank 571, PC-708, Building F-2)	1996	Ozone System
Tank 572	3,000 Gallon Reactor (Tank 572, PC-708, Building F-2)	October, 1996	Ozone System
Tank 714	10,000 Gallon Reactor (Tank 714, PC-611, Building F-1)	1948	Ozone System
Tank 716	10,000 Gallon Reactor (Tank 716, PC-611, Building F-1)	1948	Ozone System
Tank 720	10,000 Gallon Reactor (Tank 720, PC-611, Building F-1)	1951	Ozone System
Tank 752	14,000 Gallon Tank (Tank 752, Building F-1)	1995	Ozone System
Tank 977	3,000 Gallon Reactor (Tank 977, PC-709, Building F-2)	Unknown	Ozone System
Tank 978	35,000 Gallon Reactor (Tank 978, PC-709, Building F-2)	Unknown	Ozone System

Emission Unit	Description	Date Constructed	Emission Control Equipment
TT-16	Edmore Iron Works, Inc. Model Class 324-225EMBT Coal/Natural Gas Fired Boiler (Boiler No. 5, 85 mmBtu/hr, Coal; 78 mmBtu/hr Natural Gas)	November, 1948	Primary and Secondary Fly Ash Collectors
TT-20	Lasker Boiler & Engineering Co. Model Class B 35.8 Coal/Natural Gas Fired Boiler (Boiler No. 6, 85 mmBtu/hr, Coal; 78 mmBtu/hr Natural Gas)	June, 1951	Primary and Secondary Fly Ash Collectors
TT-33	Lasker Boiler & Engineering Co. Model Class J-32 Coal/Natural Gas Fired Boiler (Boiler No. 7, 138 mmBtu/hr, Coal; 129 mmBtu/hr, Natural Gas)	November, 1959	Flue Gas Recirculation and Primary and Secondary Fly Ash Collectors
TT-46	Lasker Boiler & Engineering Co. Model Class J-32 Coal/Natural Gas Fired Boiler (Boiler No. 8, 138 mmBtu/hr, Coal; 129 mmBtu/hr, Natural Gas)	February, 1966	Flue Gas Recirculation and Primary and Secondary Fly Ash Collectors
U-2028	Filter Press (Filter 824FP, PC-824, Building C-11)	June 1, 1987	None
U2191	Centrifuge (CE-104, Building R-10)	April 30, 1991	None
U2192	Centrifuge (CE-105, Building R-10)	April 30, 1991	None
U2954	Filter Press (FL-101, Building R-10)	April 30, 1991	None
X1	31,553 Gallon Wastewater Treatment Tank (X1 Raw Waste Wet Well)	Prior to 1970	Wastewater Treatment Plant Aeration Air System and Boilers No. 7 and No. 8
X2	1,000,000 Gallon Wastewater Treatment Tank (X2 Equalization Tank)	Prior to 1970	Wastewater Treatment Plant Aeration Air System and Boilers No. 7 and No. 8
X3-1	381,000 Gallon Wastewater Treatment Tank (Clarifier No. 1)	Prior to 1970	Packed Bed Scrubber X3-1 or Boilers No. 7 and No. 8
X3-2	381,000 Gallon Wastewater Treatment Tank (Clarifier No. 2)	February, 1972	Packed Bed Scrubber X3-1 or Boilers No. 7 and No. 8
X3-3	317,000 Gallon	October, 1990	Packed Bed Scrubber

Emission Unit	Description	Date Constructed	Emission Control Equipment
	Wastewater Treatment Tank (Clarifier No. 3)		X3-1 or Boilers No. 7 and No. 8
X4	900,000 Gallon Wastewater Treatment Tank (X4 Aeration Tank)	1972	Boilers No. 7 and No. 8
X7A	4,000,000 Gallon Wastewater Treatment Tank (X-7A Anaerobic Lagoon)	August, 1986	Flare or Boiler No. 8
X7B	4,000,000 Gallon Wastewater Treatment Tank (X-7B Anaerobic Lagoon)	August, 1986	Flare or Boiler No. 8
X8	1,000,000 Gallon Wastewater Treatment Tank (X8 Equalization Tank)	April, 1989	Soil Filter X8 or Boilers No. 7 and No. 8
X9A/B	400,000 Gallon Wastewater Treatment Tank (X9A/B Aeration Tank)	April, 1993	Scrubber X9-1
X9-C	300,000 Gallon Wastewater Treatment Tank (X9-C Equalization Tank)	April, 1993	Soil Filter X9C-1 or Scrubber X9-1
X9D	317,000 Gallon Wastewater Treatment Tank (X9D Clarifier)	April, 1993	Scrubber X9-1
X9E	317,000 Gallon Wastewater Treatment Tank (X9E Clarifier)	April, 1993	Scrubber X9-1
Portable Equipment	Portable Vessels, Reactors, Receivers, Tanks, Solid/Liquid Separators, Filters, Centrifuges, Dryers, Mills, Sifters, and Oscillators	--	Scrubbers, Condensers, or Baghouses (as configured for the process)
Fugitive PM Emissions	Traffic Areas, Parking Lots, and Coal Piles	--	None
Fugitive VOM and HAP Emissions	Equipment Leaks and Cleanup Operations	--	None

5.0 OVERALL SOURCE CONDITIONS

5.1 Source Description

5.1.1 This permit is issued based on the source requiring a CAAPP permit as a major source of CO, NO_x, PM_{10}, SO_2, VOM, and HAP emissions.

5.2 Applicable Regulations

5.2.1 Specific emission units at this source are subject to particular regulations as set forth in Section 7 (Unit-Specific Conditions) of this permit.

5.2.2 In addition, emission units at this source are subject to the following regulations of general applicability:

a. No person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally overhead at a point beyond the property line of the source unless the wind speed is greater than 40.2 kilometers per hour (25 miles per hour), pursuant to 35 IAC 212.301 and 212.314.

Compliance with this requirement is considered to be assured by the inherent nature of operations at this source, as demonstrated by historical operation.

b. The emission of smoke or other particulate matter from any emission unit shall not exceed an opacity of greater than 30 percent, except that an opacity of greater than 30 percent but less than 60 percent shall be allowed for a period or periods aggregating 8 minutes in any 60 minute period provided that such opaque emissions permitted during any 60 minute period shall occur from only one such emission unit located within a 305 meter (1000 feet) radius from the center point of any other such emission unit owned or operated by the Permittee, and provided further that such opaque emissions permitted from each such emission unit shall be limited to 3 times in any 24 hour period, pursuant to 35 IAC 212.123 and 212.124.

5.2.3 Operating Program for Particulate Matter

a. This source shall be operated under the provisions of an operating program prepared by the Permittee and submitted to the Illinois EPA for its review. Such operating program shall be designed to significantly reduce fugitive particulate matter emissions [35 IAC 212.309(a)].

b. The operating program shall be amended from time to time by the Permittee so that the operating program is current. Such amendments shall be consistent with the requirements set forth by this Condition and shall be submitted to the Illinois EPA [35 IAC 212.312].

c. All normal traffic pattern roads and parking facilities located at this source shall be paved or treated with water, oils, or chemical dust suppressants. All paved areas shall be cleaned on a regular basis. All areas treated with water, oils, or chemical dust suppressants shall have the treatment applied on a regular basis, as needed, in accordance with the operating program [35 IAC 212.306].

d. All unloading and transporting operations of materials collected by pollution control equipment shall be enclosed or shall utilize spraying, pelletizing, screw conveying or other equivalent methods [35 IAC 212.307].

e. Crushers, grinding mills, screening operations, bucket elevators, conveyor transfer points, conveyors, bagging operations, storage bins and fine product truck and railcar loading operations shall be sprayed with water or a surfactant solution, utilize choke-feeding or be treated by an equivalent method in accordance with an operating program [35 IAC 212.308].

5.2.4 This source is subject to the NESHAP for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks, 40 CFR 63 Subparts A and I because, pursuant to 40 CFR 63.190(b)(5), the source contains pharmaceutical production processes using carbon tetrachloride or methylene chloride (carbon tetrachloride and methylene chloride emissions only) located at a plant site that is a major source as defined in section 112(a) of the CAA. The Illinois EPA is administering NESHAP in Illinois on behalf of the USEPA under a delegation agreement.

5.2.5 This source is subject to the NESHAP for Equipment Leaks, 40 CFR 63 Subparts A and H because, pursuant to 40 CFR 63.192(a)(1), the owner or operator of a source subject to 40 CFR 63 Subpart I shall comply with the requirements of 40 CFR 63 Subpart H for the processes and designated organic HAP's listed in 40 CFR 63.190(b). The Illinois EPA is administering NESHAP in Illinois on behalf of the USEPA under a delegation agreement.

5.2.6 This stationary source, as defined in 40 CFR 63.1250, is subject to 40 CFR Part 63 Subpart GGG ,National Emission Standards for Pharmaceuticals Production. The owner or operator shall certify compliance with the requirements of 40 CFR Part 63 Subpart GGG, as part of the annual compliance certification as required by 40 CFR Part 70 or 71.

a. *Definition of affected source*. Pursuant to 40 CFR 63.1250(a), the affected source subject to 40 CFR 63 Subpart GGG is the pharmaceutical manufacturing operation, as defined in 40 CFR 63.1251. Except as specified in Condition 5.2.6(c) (see also 40 CFR 63.1250(d)), the provisions of 40 CFR 63 Subpart GGG apply to pharmaceutical manufacturing operations that meet the criteria specified in Conditions 5.2.6(a)(i) through (a)(iii) (see also 40 CFR 63.1250(a)(1) through (a)(3)) as follows:

i. Manufacture a pharmaceutical product, as defined in 40 CFR 63.1251 [40 CFR 63.1250(a)(1)];

ii. Are located at a plant site that is a major source as defined in section 112(a) of the CAA [40 CFR 63.1250(a)(2)]; and

iii. Process, use, or produce HAP [40 CFR 63.1250 (a)(3)].

b. *General Provisions*. Table 1 of 40 CFR 63 Subpart GGG specifies the provisions of 40 CFR 63 Subpart A that apply to an owner or operator of an affected source subject to 40 CFR 63 Subpart GGG, and clarifies specific provisions in 40 CFR 63 Subpart A as necessary for 40 CFR 63 Subpart GGG [40 CFR 63.1250(c)].

c. *Processes exempted from the affected source*. The provisions of 40 CFR 63 Subpart GGG do not apply to research and development facilities [40 CFR 63.1250(d)].

d. An owner or operator of an existing affected source must comply with the provisions of 40 CFR 63 Subpart GGG within 3 years after September 21, 1998 [40 CFR 63.1250(f)(1)].

e. *Applicability of 40 CFR 63 Subpart GGG except during periods of startup, shutdown, and malfunction*.

i. Each provision set forth in 40 CFR 63 Subpart GGG shall apply at all times except that emission limitations shall not apply during

periods of: startup; shutdown; and malfunction, if the startup, shutdown, and malfunction precludes the ability of a particular emission point of an affected source to comply with one or more specific emission limitations to which it is subject and the owner or operator follows the provisions for periods of startup, shutdown, and malfunction, as specified in Conditions 5.6.2(n)(iii) and 5.7.3(n) (see also 40 CFR 63.1259(a)(3) and 63.1260(i)). Startup, shutdown, and malfunction are defined in 40 CFR 63.1251 [40 CFR 63.1250(g)(1)].

ii. The provisions set forth in Condition 5.4.2 (see also 40 CFR 63.1255) shall apply at all times except during periods of nonoperation of the PMPU (or specific portion thereof) in which the lines are drained and depressurized resulting in the cessation of the emissions to which Condition 5.4.2 (see also 40 CFR 63.1255) applies [40 CFR 63.1250(g)(2)].

iii. The owner or operator shall not shut down items of equipment that are required or utilized for compliance with the emissions limitations of 40 CFR 63 Subpart GGG during times when emissions (or, where applicable, wastewater streams or residuals) are being routed to such items of equipment, if the shutdown would contravene emissions limitations of 40 CFR 63 Subpart GGG applicable to such items of equipment. This Condition does not apply if the item of equipment is malfunctioning, or if the owner or operator must shut down the equipment to avoid damage due to a malfunction of the PMPU or portion thereof [40 CFR 63.1250(g)(3)].

iv. During startups, shutdowns, and malfunctions when the emissions limitations of 40 CFR 63 Subpart GGG do not apply pursuant to Conditions 5.2.6(e)(i) through (iii) (see also 40 CFR 63.1250(g)(1) through (3)), the owner or operator shall implement, to the extent reasonably available, measures to prevent or minimize excess emissions to the extent practical. For purposes of this Condition, "excess emissions" means emissions in excess of those that would have occurred if there were no startup, shutdown, or malfunction and the owner or operator complied with the relevant provisions of 40 CFR 63 Subpart GGG. The measures to be taken shall be identified

in the applicable startup, shutdown, and malfunction plan, and may include, but are not limited to, air pollution control technologies, work practices, pollution prevention, monitoring, and/or changes in the manner of operation of the source. Back-up control devices are not required, but may be used if available [40 CFR 63.1250(g)(4)].

f. *Consistency with other regulations.*

i. *Consistency with other MACT standards*. After the compliance dates specified in Condition 5.2.6 (see also 40 CFR 63.1250), an affected source subject to the provisions of 40 CFR 63 Subpart GGG that is also subject to the provisions of any other subpart of 40 CFR part 63 may elect, to the extent the subparts are consistent, which subpart under which to maintain records and report to EPA. The affected source shall identify in the Notification of Compliance Status report required by Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) under which authority such records will be maintained [40 CFR 63.1250(h)(1)].

ii. *Consistency with 40 CFR parts 264 and 265, subparts AA, BB, and/or CC*. After the compliance dates specified in Condition 5.2.6 (see also 40 CFR 63.1250), if any affected source subject to 40 CFR 63 Subpart GGG is also subject to monitoring, recordkeeping, and reporting requirements in 40 CFR part 264, subpart AA, BB, or CC, or is subject to monitoring and recordkeeping requirements in 40 CFR part 265, subpart AA, BB, or CC and the owner or operator complies with the periodic reporting requirements under 40 CFR part 264, subpart AA, BB, or CC that would apply to the device if the facility had final-permitted status, the owner or operator may elect to comply either with the monitoring, recordkeeping, and reporting requirements of 40 CFR 63 Subpart GGG, or with the monitoring, recordkeeping, and reporting requirements in 40 CFR parts 264 and/or 265, as described in this Condition, which shall constitute compliance with the monitoring, record keeping, and reporting requirements of 40 CFR 63 Subpart GGG. If the owner or operator elects to comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR parts 264 and/or 265, the owner or

operator shall report all information required by Condition 5.7.3(l) (see also 40 CFR 63.1260(g)). The owner or operator shall identify in the Notification of Compliance Status required by Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) the monitoring, recordkeeping, and reporting authority under which the owner or operator will comply [40 CFR 63.1250(h)(2)].

5.2.7 Risk Management Plan

Should this stationary source, as defined in 40 CFR Section 68.3, become subject to the Accidental Release Prevention regulations in 40 CFR Part 68, then the owner or operator shall submit [40 CFR 68.215(a)(2)(i) and (ii)]:

a. A compliance schedule for meeting the requirements of 40 CFR Part 68 by the date provided in 40 CFR 68.10(a); or

b. A certification statement that the source is in compliance with all requirements of 40 CFR Part 68, including the registration and submission of the Risk Management Plan (RMP), as part of the annual compliance certification required by 40 CFR Part 70 or 71.

5.2.8 The Permittee shall comply with the standards for recycling and emissions reduction of ozone depleting substances pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR Part 82:

a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.

b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

5.2.9 a. Should this stationary source become subject to a regulation under 40 CFR Parts 60, 61, or 63, or 35 IAC after the date issued of this permit, then the owner or operator shall, in accordance with the applicable regulation(s), comply with the applicable

requirements by the date(s) specified and shall certify compliance with the applicable requirements of such regulation(s) as part of the annual compliance certification, as required by 40 CFR Part 70 or 71.

b. No later than upon the submittal for renewal of this permit, the owner or operator shall submit, as part of an application, the necessary information to address either the non-applicability of, or demonstrate compliance with all applicable requirements of any potentially applicable regulation which was promulgated after the date issued of this permit.

c. This stationary source will be subject to 40 CFR Part 63, Subpart GGG ,National Emission Standards for Pharmaceuticals Production, when such rule becomes final and effective. The Permittee shall comply with the applicable requirements of such regulation by the date(s) specified in such regulation and shall certify compliance with the applicable requirements of such regulation as part of the annual compliance certification required by 40 CFR Part 70 or 71 beginning in the year that compliance is required under a final and effective rule.

5.2.10 Episode Action Plan

a. If the source is required to have an episode action plan pursuant to 35 IAC 244.142, the Permittee shall maintain at the source and have on file with the Illinois EPA a written episode action plan (plan) for reducing the levels of emissions during yellow alerts, red alerts, and emergencies, consistent with safe operating procedures. The plan shall contain the information specified in 35 IAC 244.144.

b. The Permittee shall immediately implement the appropriate steps described in this plan should an air pollution alert or emergency be declared.

c. If a change occurs at the source which requires a revision of the plan (e.g., operational change, change in the source contact person), a copy of the revised plan shall be submitted to the Illinois EPA for review within 30 days of the change. Such plans shall be further revised if disapproved by the Illinois EPA.

d. For sources required to have a plan pursuant to 35 IAC 244.142, a copy of the original plan and any subsequent revisions shall be sent to:

i. Illinois EPA, Compliance Section; and

ii. For sources located in Cook County and outside of the city of Chicago: Cook County Department of Environmental Control; or

iii. For sources located within the city of Chicago: Chicago Department of Environmental Control.

5.3 Non-Applicability of Regulations of Concern

5.3.1 This permit is issued based on the source not being subject to the control requirements of 35 IAC 218.501, Control Requirements for Batch Operations, pursuant to 35 IAC 218.501(b)(2), which excludes any emission unit included within the category specified in 35 IAC 218 Subpart T.

5.4 Source-Wide Operational and Production Limits and Work Practices

In addition to the source-wide requirements in the Standard Permit Conditions in Section 9, the Permittee shall fulfill the following source-wide operational and production limitations and/or work practice requirements:

5.4.1 Pursuant to 40 CFR 63.1252, each owner or operator of any affected source subject to the provisions of 40 CFR 63 Subpart GGG shall control HAP emissions to the level specified in Condition 5.4.1 (see also 40 CFR 63.1252) on and after compliance date for existing sources specified in Condition 5.2.4(d) (see also 40 CFR 63.1250(f)). Compliance with the emission limits may be demonstrated initially through the provisions of 40 CFR 63.1257 (Test methods and compliance procedures) and continuously through the provisions of 40 CFR 63.1258 (Monitoring requirements).

a. Opening of a safety device. Opening of a safety device, as defined in 40 CFR 63.1251, is allowed at any time conditions require it to do so to avoid unsafe conditions [40 CFR 63.1252(a)].

b. Closed-vent systems. Pursuant to 40 CFR 63.1252(b), the owner or operator of a closed-vent system that contains bypass lines that could divert a vent stream away from a control device used to comply with the requirements in 40 CFR 63.1253, 63.1254, and 63.1256 shall comply with the requirements of Table 4 to 40 CFR 63 Subpart GGG and Conditions 5.4.1(b)(i) or (ii) (see also 40 CFR 63.1252(b)(1) or (2)). Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, rupture disks and

pressure relief valves needed for safety purposes are not subject to this condition.

i. Install, calibrate, maintain, and operate a flow indicator that determines whether vent stream flow is present at least once every 15 minutes. Records shall be maintained as specified in Condition 5.6.2(i)(vi)(A) (see also 40 CFR 63.1259(i)(6)(i)). The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere [40 CFR 63.1252(b)(1)]; or

ii. Secure the bypass line valve in the closed position with a car seal or lock and key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and the vent stream is not diverted through the bypass line. Records shall be maintained as specified in Condition 5.6.2(i)(vi)(B) (see also 40 CFR 63.1259(i)(6)(ii) [40 CFR 63.1252(b)(2)].

c. Heat exchange systems. Pursuant to 40 CFR 63.1252(c), except as provided in Condition 5.4.1(c)(ii) (see also 40 CFR 63.1252(c)(2)), owners and operators of affected sources shall comply with the requirements in Condition 5.4.1(c)(i) (see also 40 CFR 63.1252(c)(1)) for heat exchange systems that cool process equipment or materials used in pharmaceutical manufacturing operations.

i. The heat exchange system shall be treated according to the provisions of 40 CFR 63.104, except that the monitoring frequency shall be no less than quarterly [40 CFR 63.1252(c)(1)].

ii. For identifying leaking equipment, the owner or operator of heat exchange systems on equipment which meet current good manufacturing practice (CGMP) requirements of 21 CFR part 211 may elect to use the physical integrity of the reactor as the surrogate indicator of heat exchange system leaks around the reactor [40 CFR 63.1252(c)(2)].

d. Emissions averaging provisions. Pursuant to 40 CFR 63.1252(d), except as specified in Conditions 5.4.1 (d)(i) through (v) (see also 40 CFR 63.1252(d)(1) through (5)), owners or operators of storage tanks or processes subject to the provisions of 40 CFR 63.1253

and 63.1254 may choose to comply by using emissions averaging requirements specified in 40 CFR 63.1257(g) or (h) for any storage tank or process.

i. A State may prohibit averaging of HAP emissions and require the owner or operator of an existing source to comply with the provisions in 40 CFR 63.1253 and 63.1254 [40 CFR 63.1252(d)(1)].

ii. Only emission sources subject to the requirements of 40 CFR 63.1253(b)(1) and (c)(1) or 40 CFR 63.1254(a)(2), (a)(3)(ii)(A) or (a)(3)(iii) may be included in any averaging group [40 CFR 63.1252(d)(2)].

iii. Processes which have been permanently shutdown or storage tanks permanently taken out of HAP service may not be included in any averaging group [40 CFR 63.1252(d)(3)].

iv. Processes and storage tanks already controlled on or before November 15, 1990 may not be included in an emissions averaging group, except where the level of control is increased after November 15, 1990. In these cases, the uncontrolled emissions shall be the controlled emissions as calculated on November 15, 1990 for the purpose of determining the uncontrolled emissions as specified in 40 CFR 63.1257(g) and (h) [40 CFR 63.1252(d)(4)].

v. Emission points controlled to comply with a State or Federal rule other than 40 CFR 63 Subpart GGG may not be included in an emission averaging group, unless the level of control has been increased after November 15, 1990 above what is required by the other State or Federal rule. Only the control above what is required by the other State or Federal rule will be credited. However, if an emission point has been used to generate emissions averaging credit in an approved emissions average, and the point is subsequently made subject to a State or Federal rule other than 40 CFR 63 Subpart GGG, the point can continue to generate emissions averaging credit for the purpose of complying with the previously approved average [40 CFR 63.1252 (d)(5)].

vi. Not more than 20 processes subject to 40 CFR 63.1254(a)(2)(i), 20 storage tanks subject to 40 CFR 63.1253(b)(1), and 20 storage tanks subject to 40 CFR 63.1253(c)(1)(i) at an

affected source may be included in an emissions averaging group [40 CFR 63.1252(d)(6)].

vii. Compliance with the emissions standards in 40 CFR 63.1253 shall be satisfied when the annual percent reduction efficiency is greater than or equal to 90 percent for those tanks meeting the requirements of 40 CFR 63.1253(a)(1) and 95 percent for those tanks meeting the requirements of 40 CFR 63.1253(a)(2), as demonstrated using the test methods and compliance procedures specified in 40 CFR 63.1257(g) [40 CFR 63.1252 (d)(7)].

viii. Compliance with the emissions standards in 40 CFR 63.1254(a)(2) shall be satisfied when the annual percent reduction efficiency is greater than or equal to 93 percent, as demonstrated using the test methods and compliance procedures specified in 40 CFR 63.1257(h) [40 CFR 63.1252 (d)(8)].

e. Pollution prevention alternative. Pursuant to 40 CFR 63.1252(e), except as provided in Condition 5.4.1 (e)(i) (see also 40 CFR 63.1252(e)(1)), owners and operators may choose to meet the pollution prevention alternative requirement specified in either Condition 5.4.1(e)(ii) or (iii) (see also 40 CFR 63.1252(e)(2) or (3)) for any PMPU, in lieu of the requirements specified in 40 CFR 63.1253, 63.1254, 63.1255, and 63.1256. Compliance with Conditions 5.4.1(e)(ii) and (iii) (see also 40 CFR 63.1252(e)(2) and (3)) shall be demonstrated through the procedures in Condition 5.9.2 (see also 40 CFR 63.1257(f)).

i. The HAP that are generated in the PMPU that are not part of the production-indexed consumption factor must be controlled according to the requirements of 40 CFR 63.1253, 63.1254, 63.1255, and 63.1256. The HAP that are generated as a result of combustion control of emissions must be controlled according to the requirements of Condition 5.4.1(g) (see also 40 CFR 63.1252(g)) [40 CFR 63.1252(e)(1)].

ii. The production-indexed HAP consumption factor (kg HAP consumed/kg produced) shall be reduced by at least 75 percent from a 3 year average baseline established no earlier than the 1987 calendar year, or for the time period from startup of the process until the present in which the PMPU was operational and data are

available, whichever is the lesser time period. If a time period less than 3 years is used to set the baseline, the data must represent at least 1 year's worth of data. For any reduction in the HAP factor achieved by reducing a HAP that is also a VOC, an equivalent reduction in the VOC factor is also required. For any reduction in the HAP factor that is achieved by reducing a HAP that is not a VOC, the VOC factor may not be increased [40 CFR 63.1252(e)(2)].

iii. Pursuant to 40 CFR 63.1252(e)(3), both requirements specified in Conditions 5.4.1 (e)(iii)(A) and (B) (see also 40 CFR 63.1252 (e)(3)(i) and (ii)) are met.

A. The production-indexed HAP consumption factor (kg HAP consumed/kg produced) shall be reduced by at least 50 percent from a 3-year average baseline established no earlier than the 1987 calendar year, or for the time period from startup of the process until the present in which the PMPU was operational and data are available, whichever is less. If a time period less than 3 years is used to set the baseline, the data must represent at least 1 year's worth of data. For any reduction in the HAP factor achieved by reducing a HAP that is also a VOC, an equivalent reduction in the VOC factor is also required. For any reduction in the HAP factor that is achieved by reducing a HAP that is not a VOC, the VOC factor may not be increased [40 CFR 63.1252 (e)(3)(i)].

B. Pursuant to 40 CFR 63.1252(e)(3)(ii), the total PMPU HAP emissions shall be reduced by an amount, in kg/yr, that, when divided by the annual production rate, in kg/yr, and added to the reduction of the production-indexed HAP consumption factor, in kg/kg, yields a value of at least 75 percent of the average baseline HAP production-indexed consumption factor established according to Condition 5.4.1 (e)(iii)(A) (see also 40 CFR 63.1252 (e)(3)(i)) according to the equation provided in Condition 5.9.2(b)(ii)(A) (see also 40 CFR 63.1257(f)(2)(ii)(A)). The total PMPU VOC emissions shall be reduced by an amount calculated according

to the equation provided in Condition 5.9.2 (b)(ii)(B) (see also 40 CFR 63.1257 (f)(2)(ii)(B)). The annual reduction in HAP and VOC air emissions must be due to the use of the following control devices:

I. Combustion control devices such as incinerators, flares or process heaters [40 CFR 63.1252 (e)(3)(ii)(A)].

II. Control devices such as condensers and carbon adsorbers whose recovered product is destroyed or shipped offsite for destruction [40 CFR 63.1252(e)(3)(ii)(B)].

III. Any control device that does not ultimately allow for recycling of material back to the PMPU [40 CFR 63.1252(e)(3)(ii)(C)].

IV. Any control device for which the owner or operator can demonstrate that the use of the device in controlling HAP emissions will have no effect on the production-indexed consumption factor for the PMPU [40 CFR 63.1252(e)(3)(ii)(D)].

f. Control requirements for certain liquid streams in open systems within a PMPU.

i. The owner or operator shall comply with the provisions of Table 5 of 40 CFR 63 Subpart GGG, for each item of equipment meeting all the criteria specified in Conditions 63.1252(f)(ii) through (iv) (see also 40 CFR 63.1252(f)(2) through (4)) and either Condition 5.4.1(f)(v)(A) or (B) (see also 40 CFR 63.1252(f)(5)(i) or (ii)) [40 CFR 63.1252(f)(1)].

ii. The item of equipment is of a type identified in Table 5 of 40 CFR 63 Subpart GGG [40 CFR 63.1252 (f)(2)];

iii. The item of equipment is part of a PMPU, as defined in 40 CFR 63.1251 [40 CFR 63.1252 (f)(3)];

iv. The item of equipment is controlled less stringently than in Table 5 of 40 CFR 63 Subpart GGG and the item of equipment is not

otherwise exempt from controls by the provisions of 40 CFR 63 Subpart GGG or Subpart A [40 CFR 63.1252 (f)(4)]; and

v. The item of equipment:

A. Is a drain, drain hub, manhole, lift station, trench, pipe, or oil/water separator that conveys water with an annual average concentration greater than or equal to 1,300 parts per million by weight (ppmw) of partially soluble HAP compounds; or an annual average concentration greater than or equal to 5,200 ppmw of partially soluble and/or soluble HAP compounds. The annual average concentration shall be determined according to the procedures in 40 CFR 63.1257(e)(1)(ii) [40 CFR 63.1252 (f)(5)(i)].

B. Is a tank that receives one or more streams that contain water with an annual average concentration greater than or equal to 1,300 ppmw of partially soluble HAP compounds, or greater than or equal to 5,200 ppmw of total partially soluble and/or soluble HAP compounds. The owner or operator of the source shall determine the average concentration of the stream at the inlet to the tank and according to the procedures in 40 CFR 63.1257(e)(1)(ii) [40 CFR 63.1252(f)(5)(ii)].

g. Control requirements for halogenated vent streams that are controlled by combustion devices. Pursuant to 40 CFR 63.1252(g), if a combustion device is used to comply with the provisions of 40 CFR 63.1253 (storage tanks), 63.1254 (process vents), 63.1256(h) (wastewater vent streams) for a halogenated vent stream, then the vent stream shall be ducted to a halogen reduction device such as, but not limited to, a scrubber, before it is discharged to the atmosphere. The halogen reduction device must reduce emissions by the amounts specified in either Condition 5.4.1(g)(i) or (ii) (see also 40 CFR 63.1252(g)(1) or (2)).

i. A halogen reduction device after the combustion control device must reduce overall emissions of hydrogen halides and halogens, as defined in 40 CFR 63.1251, by 95 percent or to

a concentration less than or equal to 20 ppmv [40 CFR 63.1252 (g)(1)].

ii. A halogen reduction device located before the combustion control device must reduce the halogen atom content of the vent stream to a concentration less than or equal to 20 ppmv [40 CFR 63.1252(g)(2)].

5.4.2 Equipment Leaks

a. General Equipment Leak Requirements.

i. The provisions of Condition 5.4.2 (see also 40 CFR 63.1255) apply to pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, instrumentation systems, control devices, and closed-vent systems required by 40 CFR 63 Subpart GGG that are intended to operate in organic hazardous air pollutant service 300 hours or more during the calendar year within a source subject to the provisions of 40 CFR 63 Subpart GGG [40 CFR 63.1255(a)(1)].

ii. Consistency with other regulations. Pursuant to 40 CFR 63.1255(a)(2), after the compliance date for a process, equipment subject to both Condition 5.4.2 (see also 40 CFR 63.1255) and either of the following will be required to comply only with the provisions of 40 CFR 63 Subpart GGG:

A. 40 CFR part 60 [40 CFR 63.1255(a)(2)(i)].

B. 40 CFR part 61 [40 CFR 63.1255(a)(2)(ii)].

iii. The provisions in 40 CFR 63.1(a)(3) do not alter the provisions in Condition 5.4.2(a)(ii) (see also 40 CFR 63.1255(a)(2)) [40 CFR 63.1255(a)(4)].

iv. Lines and equipment not containing process fluids are not subject to the provisions of Condition 5.4.2 (see also 40 CFR 63.1255). Utilities, and other nonprocess lines, such as heating and cooling systems which do not combine their materials with those in the processes they serve, are not considered to be part of a process [40 CFR 63.1255(a)(5)].

v. The provisions of Condition 5.4.2 (see also 40 CFR 63.1255) do not apply to bench-scale processes, regardless of whether the processes are located at the same plant site as a process subject to the provisions of 40 CFR 63 Subpart GGG [40 CFR 63.1255(a)(6)].

vi. Each piece of equipment to which Condition 5.4.2 (see also 40 CFR 63.1255) applies shall be identified such that it can be distinguished readily from equipment that is not subject to Condition 5.4.2 (see also 40 CFR 63.1255). Identification of the equipment does not require physical tagging of the equipment. For example, the equipment may be identified on a plant site plan, in log entries, or by designation of process boundaries by some form of weatherproof identification. If changes are made to the affected source subject to the leak detection requirements, equipment identification for each type of component shall be updated, if needed, within 15 calendar days of the end of each monitoring period for that component [40 CFR 63.1255(a)(7)].

vii. Equipment that is in vacuum service is excluded from the requirements of Condition 5.4.2 (see also 40 CFR 63.1255) [40 CFR 63.1255(a)(8)].

viii. Equipment that is in organic HAP service, but is in such service less than 300 hours per calendar year, is excluded from the requirements of Condition 5.4.2 (see also 40 CFR 63.1255) if it is identified as required in Condition 5.6.2 (k)(ix) (see also 40 CFR 63.1255(g)(9)) [40 CFR 63.1255(a)(9)].

ix. Pursuant to 40 CFR 63.1255(a)(10), when each leak is detected by visual, audible, or olfactory means, or by monitoring as described in 40 CFR 63.180(b) or (c), the following requirements apply:

A. A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment [40 CFR 63.1255 (a)(10)(i)].

B. The identification on a valve or connector in light liquid or gas/vapor service may be removed after it has been

monitored as specified in Condition 5.4.2(e)(v)(C) (see also 40 CFR 63.1255(e)(7)(iii)), and no leak has been detected during the follow-up monitoring [40 CFR 63.1255(a)(10)(ii)].

C. The identification on equipment, except on a valve or connector in light liquid or gas/vapor service, may be removed after it has been repaired [40 CFR 63.1255 (a)(10)(iii)].

b. Pursuant to 40 CFR 63.1255(b)(1), the owner or operator of a source subject to Condition 5.4.2 (see also 40 CFR 63.1255) shall comply with the following sections of 40 CFR 63 Subpart H, except for 40 CFR 63.160, 63.161, 63.162, 63.163, 63.167, 63.168, 63.170, 63.171, 63.172, 63.173, 63.181, and 63.182. In place of 40 CFR 63.160 and 63.162, the owner or operator shall comply with Condition 5.4.2(a) (see also 40 CFR 63.1255(a)); in place of 40 CFR 63.161, the owner or operator shall comply with 40 CFR 63.1251; in place of 40 CFR 63.163 and 63.173, the owner or operator shall comply with Condition 5.4.2(c) (see also 40 CFR 63.1255(c)); in place of 40 CFR 63.167, the owner or operator shall comply with Condition 5.4.2(d) (see also 40 CFR 63.1255(d)); in place of 40 CFR 63.168, the owner or operator shall comply with Condition 5.4.2(e) (see also 40 CFR 63.1255(e)); in place of 40 CFR 63.170, the owner or operator shall comply with 40 CFR 63.1254; in place of 40 CFR 63.171, the owner or operator shall comply with Condition 5.4.2(b)(v) (see also 40 CFR 63.1255 (b)(1)(v)); in place of 40 CFR 63.172, the owner or operator shall comply with Condition 5.4.2(b)(vi) (see also 40 CFR 63.1255(b)(1)(vi)); in place of 40 CFR 63.181, the owner or operator shall comply with Condition 5.4.2(g) (see also 40 CFR 63.1255(g)); in place of 40 CFR 63.182, the owner or operator shall comply with Condition 5.7.3(n) (see also 40 CFR 63.1255(h)). The term process unit" as used in 40 CFR 63 Subpart H shall be considered to be defined the same as "group of processes" for sources subject to 40 CFR 63 Subpart GGG.

i. Condition 5.4.3 (see also 40 CFR 63.164), Compressors [40 CFR 63.1255(b)(1)(i)];

ii. Condition 5.4.4 (see also 40 CFR 63.165), Pressure relief devices in gas/vapor service [40 CFR 63.1255(b)(1)(ii)];

iii. Condition 5.4.5 (see also 40 CFR 40 CFR 63.166), Sampling connection systems [40 CFR 63.1255 (b)(1)(iii)];

iv. Condition 5.4.6 (see also 40 CFR 63.169), Pumps, valves, connectors, and agitators in heavy liquid service; instrumentation systems; and pressure relief devices in liquid service [40 CFR 63.1255(b)(1)(iv)];

v. Condition 5.4.7 (see also 40 CFR 63.171), Delay of repair, pursuant to 40 CFR 63.1255(b)(1)(v), shall apply except 40 CFR 63.171(a) shall not apply. Instead, delay of repair of equipment for which leaks have been detected is allowed if one of the following conditions exist:

A. The repair is technically infeasible without a process shutdown. Repair of this equipment shall occur by the end of the next scheduled process shutdown [40 CFR 63.1255(b)(1)(v)(A)].

B. The owner or operator determines that repair personnel would be exposed to an immediate danger if attempting to repair without a process shutdown. Repair of this equipment shall occur by the end of the next scheduled process shutdown [40 CFR 63.1255(b)(1)(v)(B)].

vi. Condition 5.4.8 (see also 40 CFR 63.172), Closed-vent systems and control devices, pursuant to 40 CFR 63.1255(b)(1)(vi), for closed-vent systems used to comply with 40 CFR 63 Subpart GGG, and for control devices used to comply with Condition 5.4.2 (see also 40 CFR 63.1255) only, except:

A. 40 CFR 63.172(k) and (l) shall not apply. In place of 40 CFR 63.172(k) and (l), the owner or operator shall comply with Condition 5.4.2(f) (see also 40 CFR 63.1255(f) [40 CFR 63.1255(b)(1)(vi)(A)].

B. Owners or operators may, instead of complying with the provisions of Condition 5.4.8(f) (see also 40 CFR 63.172(f)), design a closed-vent system to operate at a pressure below atmospheric pressure. The system shall be equipped with at least one pressure gage or other pressure measurement device that

can be read from a readily accessible location to verify that negative pressure is being maintained in the closed-vent system when the associated control device is operating [40 CFR 63.1255(b)(1)(vi)(B)].

vii. Condition 5.4.9 (see also 40 CFR 63.174), Connectors, except:

A. 40 CFR 63.174(f) and (g) shall not apply. In place of 40 CFR 63.174(f) and (g), the owner or operator shall comply with Condition 5.4.2(f) (see also 40 CFR 63.1255(f)) [40 CFR 63.1255 (b)(1)(vii)(A)].

B. 40 CFR 63.174(b)(3)(ii) shall not apply. Instead, if the percent leaking connectors in the process unit was less than 0.5 percent, but equal to or greater than 0.25 percent, during the last required monitoring period, monitoring shall be performed once every 4 years. An owner or operator may comply with the requirements of this Condition by monitoring at least 40 percent of the connectors in the first 2 years and the remainder of the connectors within the next 2 years. The percent leaking connectors will be calculated for the total of all monitoring performed during the 4 year period [40 CFR 63.1255(b)(1)(vii)(C)].

C. 40 CFR 63.174(b)(3)(iv)shall not apply. Instead, the owner or operator shall increase the monitoring frequency to once every 2 years for the next monitoring period if leaking connectors comprise at least 0.5 percent but less than 1.0 percent of the connectors monitored within the 4 years specified in Condition 5.4.2 (b)(vii)(C) (see also 40 CFR 63.1255 (b)(1)(vii)(C)) or the first 4 years specified in 40 CFR 63.174(b)(3)(iii). At the end of that 2 year monitoring period, the owner or operator shall monitor once per year while the percent leaking connectors is greater than or equal to 0.5 percent; if the percent leaking connectors is less than 0.5 percent, the owner or operator may return to monitoring once every 4

years or may monitor in accordance with 40 CFR 63.174(b)(3)(iii), if appropriate [40 CFR 63.1255 (b)(1)(vii)(D)].

D. 40 CFR 63.174(b)(3)(v) shall not apply. Instead, if an owner or operator complying with the requirements of Conditions 5.2.4 (b)(vii)(C) and (D) (see also 40 CFR 63.1255(b)(1)(vii)(C) and (D)) or 40 CFR 63.174(b)(3)(iii) for a group of processes determines that 1 percent or greater of the connectors are leaking, the owner or operator shall increase the monitoring frequency to one time per year. The owner or operator may again elect to use the provisions of Condition 5.4.2(b)(vii)(C) or (D) (see also 40 CFR 63.1255 (b)(1)(vii)(C) or (D)) after a monitoring period in which less than 0.5 percent of the connectors are determined to be leaking [40 CFR 63.1255(b)(1)(vii)(E)].

E. 40 CFR 63.174(b)(3)(iii) shall not apply. Instead, monitoring shall be required once every 8 years, if the percent leaking connectors in the process unit was less than 0.25 percent during the last required monitoring period. An owner or operator shall monitor at least 50 percent of the connectors in the first 4 years and the remainder of the connectors within the next 4 years. If the percent leaking connectors in the first 4 years is equal to or greater than 0.35 percent, the monitoring program shall revert at that time to the appropriate monitoring frequency specified in Condition 5.4.2 (b)(vii)(C), (D), or (E) (see also 40 CFR 63.1255(b)(1)(vii)(C), (D), or (E)) [40 CFR 63.1255(b)(1)(vii)(F)].

viii. Condition 5.4.10 (see also 40 CFR 63.177), Alternative means of emission limitation: General [40 CFR 63.1255(b)(1)(viii)];

ix. Condition 5.4.11 (see also 40 CFR 63.178), Alternative means of emission limitation: Batch processes, except that 40 CFR 63.178(b), requirements for pressure testing, shall apply to all processes, not just batch processes [40 CFR 63.1255(b)(1)(ix)];

x. Condition 5.4.12 (see also 40 CFR 63.179), Alternative means of emission limitation: Enclosed-vented process units [40 CFR 63.1255 (b)(1)(x)];

xi. Condition 5.9.4 (see also 40 CFR 63.180), Test methods and procedures, except 40 CFR 63.180 (b)(4)(ii)(A) through (C) shall not apply. Instead calibration gases shall be a mixture of methane and air at a concentration of approximately, but less than, 10,000 parts per million methane for agitators; 2,000 parts per million for pumps; and 500 parts per million for all other equipment, except as provided in Condition 5.9.4(b)(iv)(C) (see also 40 CFR 63.180(b)(4)(iii)) [40 CFR 63.1255(b)(1)(xi)].

c. Standards for Pumps in Light Liquid Service and Agitators in Gas/Vapor Service and in Light Liquid Service.

i. The provisions of Condition 5.4.2(c) (see also 40 CFR 63.1255(c)) apply to each pump that is in light organic HAP liquid service, and to each agitator in organic HAP gas/vapor service or in light organic HAP liquid service [40 CFR 63.1255(c)(1)].

ii. A. Monitoring. Each pump and agitator subject to Condition 5.4.2 (see also 40 CFR 63.1255) shall be monitored quarterly to detect leaks by the method specified in 40 CFR 63.180(b), except as provided in 40 CFR 63.177, Condition 5.4.2(f) (see also 40 CFR 63.1255(f)), and Conditions 5.2.4 (c)(v) through (ix) (see also 40 CFR 63.1255(c)(5) through (c)(9)) [40 CFR 63.1255(c)(2)(i)].

B. Leak definition. Pursuant to 40 CFR 63.1255(c)(2)(ii), the instrument reading, as determined by the method as specified in 40 CFR 63.180(b), that defines a leak is:

I. For agitators, an instrument reading of 10,000 parts per million or greater [40 CFR 63.1255 (c)(2)(ii)(A)].

II. For pumps, an instrument reading of 2,000 parts per million or greater [40 CFR 63.1255(c)(2)(ii)(B)].

C. Visual Inspections. Each pump and agitator shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump or agitator seal. If there are indications of liquids dripping from the seal, a leak is detected [40 CFR 63.1255(c)(2)(iii)].

iii. Repair provisions.

A. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in Condition 5.4.2(b)(v) (see also 40 CFR 63.1255 (b)(1)(v)) [40 CFR 63.1255(c)(3)(i)].

B. Pursuant to 40 CFR 63.1255(c)(3)(ii), a first attempt at repair shall be made no later than 5 calendar days after the leak is detected. First attempts at repair include, but are not limited to, the following practices where practicable:

I. Tightening of packing gland nuts [40 CFR 63.1255(c)(3)(ii)(A)].

II. Ensuring that the seal flush is operating at design pressure and temperature [40 CFR 63.1255 (c)(3)(ii)(B)].

iv. Exemptions. Pursuant to 40 CFR 63.1255(c)(5), each pump or agitator equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of Conditions 5.4.2(c)(i) through (c)(iv)(C) (see also 40 CFR 63.1255(c)(1) through (c)(4)(iii)), provided the following requirements are met:

A. Pursuant to 40 CFR 63.1255(c)(5)(i), each dual mechanical seal system is:

I. Operated with the barrier fluid at a pressure that is at all times greater than the pump/agitator stuffing box pressure [40 CFR 63.1255(c)(5)(i)(A)]; or

II. Equipped with a barrier fluid degassing reservoir that is connected by a closed-vent system

to a control device that complies with the requirements of Condition 5.4.2 (b)(vi) (see also 40 CFR 63.1255 (b)(1)(vi)) [40 CFR 63.1255 (c)(5)(i)(B)]; or

III. Equipped with a closed-loop system that purges the barrier fluid into a process stream [40 CFR 63.1255 (c)(5)(i)(C)].

B. The barrier fluid is not in light liquid service [40 CFR 63.1255(c)(5)(ii)].

C. Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both [40 CFR 63.1255(c)(5)(iii)].

D. Pursuant to 40 CFR 63.1255(c)(5)(iv), each pump/agitator is checked by visual inspection each calendar week for indications of liquids dripping from the pump/agitator seal.

I. If there are indications of liquids dripping from the pump/agitator seal at the time of the weekly inspection, the pump/agitator shall be monitored as specified in 40 CFR 63.180(b) to determine if there is a leak of organic HAP in the barrier fluid [40 CFR 63.1255(c)(5)(iv)(A)].

II. If an instrument reading of 2,000 parts per million or greater is measured for pumps, or 10,000 parts per million or greater is measured for agitators, a leak is detected [40 CFR 63.1255(c)(5)(iv)(B)].

E. Each sensor as described in Condition 5.4.2(c)(iv)(C) (see also 40 CFR 63.1255 (c)(5)(iii)) is observed daily or is equipped with an alarm unless the pump is located within the boundary of an unmanned plant site [40 CFR 63.1255(c)(5)(v)].

F. I. The owner or operator determines, based on design considerations and operating experience, criteria

applicable to the presence and frequency of drips and to the sensor that indicate failure of the seal system, the barrier fluid system, or both [40 CFR 63.1255(c)(5)(vi)(A)].

II. If indications of liquids dripping from the pump/agitator seal exceed the criteria established in Condition 5.4.2(c)(iv)(F)(I) (see also 40 CFR 63.1255(c)(5)(vi)(A)), or if, based on the criteria established in Condition 5.4.2 (c)(iv)(F)(I) (see also 40 CFR 63.1255(c)(5)(vi)(A)), the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected [40 CFR 63.1255(c)(5)(vi)(B)].

III. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in Condition 5.4.2(b)(v) (see also 40 CFR 63.1255(b)(1)(v)) [40 CFR 63.1255(c)(5)(vi)(C)].

IV. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected [40 CFR 63.1255(c)(5)(vi)(D)].

v. Any pump/agitator that is designed with no externally actuated shaft penetrating the pump/agitator housing is exempt from the requirements of Conditions 5.4.2(c)(i) through (c)(iv) (see also 40 CFR 63.1255(c)(1) through (c)(4)), except for the requirements of Condition 5.4.2(c)(ii)(C) (see also 40 CFR 63.1255(c)(2)(iii)) and, for pumps, Condition 5.9.1(a)(iv) (see also 40 CFR 63.1255(c)(4)(iv)) [40 CFR 63.1255(c)(6)].

vi. Any pump/agitator equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals back to the process or to a control device that complies with the requirements of Condition 5.4.2(b)(vi) (see also 40 CFR 63.1255(b)(1)(vi)) is exempt from the requirements of Conditions 5.4.2(c)(ii)

through (c)(v) (see also 40 CFR 63.1255(c)(2) through (c)(5)) [40 CFR 63.1255(c)(7)].

vii. Any pump/agitator that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of Conditions 5.4.2(c)(ii)(C) and (c)(v)(D) (see also 40 CFR 63.1255(c)(2)(iii) and (c)(5)(iv)), and the daily requirements of Condition 5.4.2 (c)(iv)(E) (see also 40 CFR 63.1255(c)(5)(v)), provided that each pump/agitator is visually inspected as often as practicable and at least monthly [40 CFR 63.1255(c)(8)].

viii. If more than 90 percent of the pumps in a group of processes meet the criteria in either Condition 5.4.2(c)(iv) or (c)(v) (see also 40 CFR 63.1255(c)(5) or (c)(6)), the process is exempt from the requirements of Condition 5.9.1(a) (see also 40 CFR 63.1255(c)(4)) [40 CFR 63.1255(c)(9)].

d. Standards: Open-Ended Valves or Lines.

i. A. Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in 40 CFR 63.177 and Conditions 5.4.2(d)(iv) through (vi) (see also 40 CFR 63.1255 (d)(4) through (6)) [40 CFR 63.1255 (d)(1)(i)].

B. The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line, or during maintenance or repair. The cap, blind flange, plug, or second valve shall be in place within 1 hour of cessation of operations requiring process fluid flow through the open-ended valve or line, or within 1 hour of cessation of maintenance or repair [40 CFR 63.1255 (d)(1)(ii)].

ii. Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed [40 CFR 63.1255(d)(2)].

iii. When a double block and bleed system is being used, the bleed valve or line may remain open

during operations that require venting the line between the block valves but shall comply with Condition 5.4.2(d)(ii) (see also 40 CFR 63.1255 (d)(2)) at all other times [40 CFR 63.1255(d)(3)].

iv. Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of Conditions 5.4.2(d)(i) through (d)(iii) (see also 40 CFR 63.1255(d)(1) through (d)(3)) [40 CFR 63.1255 (d)(4)].

v. Open-ended valves or lines containing materials which would autocatalytically polymerize are exempt from the requirements of Conditions 5.4.2 (d)(i) through (d)(iii) (see also 40 CFR 63.1255 (d)(1) through (d)(3)) [40 CFR 63.1255(d)(5)].

vi. Open-ended valves or lines containing materials which could cause an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in Conditions 5.4.2(d)(i) through (d)(iii) (see also 40 CFR 63.1255(d)(1) through (d)(3)) are exempt from the requirements of Conditions 5.4.2(d)(i) through (d)(iii) (see also 40 CFR 63.1255(d)(1) through (d)(3)) [40 CFR 63.1255(d)(6)].

e. Standards: Valves in Gas/Vapor Service and in Light Liquid Service.

i. The provisions of Condition 5.4.2 (see also 40 CFR 63.1255) apply to valves that are either in gas organic HAP service or in light liquid organic HAP service [40 CFR 63.1255(e)(1)].

ii. For existing affected sources, all valves subject to Condition 5.4.2 (see also 40 CFR 63.1255) shall be monitored, except as provided in Condition 5.4.2(f) (see also 40 CFR 63.1255(f)) and in 40 CFR 63.177, by no later than 1 year after the compliance date [40 CFR 63.1255(e)(2)].

iii. Monitoring. Pursuant to 40 CFR 63.1255(e)(3), the owner or operator of a source subject to Condition 5.4.2 (see also 40 CFR 63.1255) shall monitor all valves, except as provided in Condition 5.4.2(f) (see also 40 CFR

63.1255(f)) and in 40 CFR 63.177, at the intervals specified in Condition 5.4.2(e)(iv) (see also 40 CFR 63.1255(e)(4)) and shall comply with all other provisions of Condition 5.4.2 (see also 40 CFR 63.1255), except as provided in Condition 5.4.2 (b)(v) (see also 40 CFR 63.1255(b)(1)(v)), 40 CFR 63.178, and 40 CFR 63.179.

A. The valves shall be monitored to detect leaks by the method specified in 40 CFR 63.180(b) [40 CFR 63.1255(e)(3)(i)].

B. An instrument reading of 500 parts per million or greater defines a leak [40 CFR 63.1255(e)(3)(ii)].

iv. Subsequent monitoring frequencies. Pursuant to 40 CFR 63.1255(e)(4), after conducting the initial survey required in Condition 5.4.2 (e)(ii) (see also 40 CFR 63.1255(e)(2)), the owner or operator shall monitor valves for leaks at the intervals specified below:

A. For a group of processes with 2 percent or greater leaking valves, calculated according to Condition 5.9.1(c) (see also 40 CFR 63.1255(e)(6)), the owner or operator shall monitor each valve once per month, except as specified in Condition 5.4.2(e)(vii) (see also 40 CFR 63.1255 (e)(9)) [40 CFR 63.1255(e)(4)(i)].

B. For a group of processes with less than 2 percent leaking valves, the owner or operator shall monitor each valve once each quarter, except as provided in Conditions 5.4.2(e)(iv)(C) through (e)(iv)(E) (see also 40 CFR 63.1255 (e)(4)(iii) through (e)(4)(v)) [40 CFR 63.1255(e)(4)(ii)].

C. For a group of processes with less than 1 percent leaking valves, the owner or operator may elect to monitor each valve once every 2 quarters [40 CFR 63.1255 (e)(4)(iii)].

D. For a group of processes with less than 0.5 percent leaking valves, the owner or operator may elect to monitor each valve once every 4 quarters [40 CFR 63.1255 (e)(4)(iv)].

E. For a group of processes with less than 0.25 percent leaking valves, the owner or operator may elect to monitor each valve once every 2 years [40 CFR 63.1255 (e)(4)(v)].

v. Repair provisions.

A. When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in Condition 5.4.2(b)(v) (see also 40 CFR 63.1255(b)(1)(v)) [40 CFR 63.1255 (e)(7)(i)].

B. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected [40 CFR 63.1255(e)(7)(ii)].

C. When a leak is repaired, the valve shall be monitored at least once within the first 3 months after its repair. Days that the valve is not in organic HAP service shall not be considered part of this 3 month period [40 CFR 63.1255(e)(7)(iii)].

vi. Pursuant to 40 CFR 63.1255(e)(8), first attempts at repair include, but are not limited to, the following practices where practicable:

A. Tightening of bonnet bolts [40 CFR 63.1255 (e)(8)(i)],

B. Replacement of bonnet bolts [40 CFR 63.1255(e)(8)(ii)],

C. Tightening of packing gland nuts [40 CFR 63.1255(e)(8)(iii)], and

D. Injection of lubricant into lubricated packing [40 CFR 63.1255(e)(8)(iv)].

vii. Any equipment located at a plant site with fewer than 250 valves in organic HAP service in the affected source is exempt from the requirements for monthly monitoring specified in Condition 5.4.2(e)(iv)(A) (see also 40 CFR 63.1255 (e)(4)(i)). Instead, the owner or operator shall monitor each valve in organic

HAP service for leaks once each quarter, or comply with Conditions 5.4.2(e)(iv)(C) or (e)(iv)(D) (see also 40 CFR 63.1255(e)(4)(iii) or (e)(4)(iv)) [40 CFR 63.1255(e)(9)].

f. Unsafe to Monitor, Difficult to Monitor, and Inaccessible Equipment.

i. Pursuant to 40 CFR 63.1255(f)(1), equipment that is designated as unsafe to monitor, difficult to monitor, or inaccessible is exempt from the monitoring requirements specified in Conditions 5.4.2(f)(i)(A) through (D) (see also 40 CFR 63.1255(f)(1)(i) through (iv)) provided the owner or operator meets the requirements specified in Condition 5.4.2(f)(ii), (f)(iii), or (f)(iv) (see also 40 CFR 63.1255(f)(2), (f)(3), or (f)(4)), as applicable. Ceramic or ceramic-lined connectors are subject to the same requirements as inaccessible connectors.

A. For pumps and agitators, Conditions 5.4.2 (c)(ii), (c)(iii), and (c)(iv) (see also 40 CFR 63.1255(c)(2), (c)(3), and (c)(4)) do not apply [40 CFR 63.1255(f)(1)(i)].

B. For valves, Conditions 5.4.2(e)(ii) through (e)(vii) (see also 40 CFR 63.1255 (e)(2) through (e)(7)) do not apply [40 CFR 63.1255(f)(1)(ii)].

C. For closed-vent systems, 40 CFR 63.172 (f)(1) and (2), and (g) do not apply [40 CFR 63.1255(f)(1)(iii)].

D. For connectors, 40 CFR 63.174(b) through (e) do not apply [40 CFR 63.1255 (f)(1)(iv)].

ii. Equipment that is unsafe to monitor.

A. Equipment may be designated as unsafe to monitor if the owner or operator determines that monitoring personnel would be exposed to an immediate danger as a consequence of complying with the monitoring requirements in Conditions 5.2.4(f)(i)(A) through (D) (see also 40 CFR 63.1255(f)(1)(i) through (iv)) [40 CFR 63.1255(f)(2)(i)].

B. The owner or operator of equipment that is designated as unsafe-to-monitor must

have a written plan that requires monitoring of the equipment as frequently as practicable during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable [40 CFR 63.1255(f)(2)(ii)].

iii. Equipment that is difficult to monitor.

A. Equipment may be designated as difficult to monitor if the owner or operator determines that the equipment cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface or it is not accessible at anytime in a safe manner [40 CFR 63.1255 (f)(3)(i)];

B. At an existing source, any equipment within a group of processes that meets the criteria of Condition 5.4.2(f)(iii)(A) (see also 40 CFR 63.1255(f)(3)(i)) may be designated as difficult to monitor [40 CFR 63.1255(f)(3)(ii)].

C. The owner or operator of equipment designated as difficult to monitor must follow a written plan that requires monitoring of the equipment at least once per calendar year [40 CFR 63.1255 (f)(3)(iii)].

iv. Inaccessible equipment and ceramic or ceramic-lined connectors.

A. Pursuant to 40 CFR 63.1255(f)(4)(i), a connector, agitator, or valve may be designated as inaccessible if it is:

I. Buried [40 CFR 63.1255(f)(4)(i)(A)];

II. Insulated in a manner that prevents access to the equipment by a monitor probe [40 CFR 63.1255(f)(4)(i)(B)];

III. Obstructed by equipment or piping that prevents access to the equipment by a monitor probe [40 CFR 63.1255(f)(4)(i)(C)];

IV. Unable to be reached from a wheeled scissor-lift or hydraulic-type scaffold which would allow access to equipment up to 7.6 meters (25 feet) above the ground [40 CFR 63.1255 (f)(4)(i)(D)]; or

V. Not able to be accessed at any time in a safe manner to perform monitoring. Unsafe access includes, but is not limited to, the use of a wheeled scissor-lift on unstable or uneven terrain, the use of a motorized man-lift basket in areas where an ignition potential exists, or access would require near proximity to hazards such as electrical lines, or would risk damage to equipment [40 CFR 63.1255 (f)(4)(i)(E)].

B. At an existing source, any connector, agitator, or valve that meets the criteria of Condition 5.4.2(f)(iv)(A) (see also 40 CFR 63.1255(f)(4)(i)) may be designated as inaccessible [40 CFR 63.1255(f)(4)(ii)].

C. If any inaccessible equipment or ceramic or ceramic-lined connector is observed by visual, audible, olfactory, or other means to be leaking, the leak shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in Condition 5.6.2(k) (see also 40 CFR 63.1225(g)) [40 CFR 63.1255(f)(4)(iii)].

5.4.3 Compressors

a. Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of process fluid to the atmosphere, except as provided in Conditions 5.4.3(h) and (i) (see also 40 CFR 63.164(h) and (i)) [40 CFR 63.164(a)].

b. Pursuant to 40 CFR 63.164(b), each compressor seal system as required in Condition 5.4.3(a) (see also 40 CFR 63.164(a)) shall be:

i. Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure [40 CFR 63.164(b)(1)]; or

ii. Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that complies with the requirements of Condition 5.4.2(b)(vi) (see also 40 CFR 63.1255(b)(1)(vi)) [40 CFR 63.164(b)(2) and 63.1255(b)(1)]; or

iii. Equipped with a closed-loop system that purges the barrier fluid directly into a process stream [40 CFR 63.164(b)(3)].

c. The barrier fluid shall not be in light liquid service [40 CFR 63.164(c)].

d. Each barrier fluid system as described in Conditions 5.4.3(a) through (c) (see also 40 CFR 63.164(a) through (c)) shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both [40 CFR 63.164(d)].

e. i. Each sensor as required in Condition 5.4.3(d) (see also 40 CFR 63.164(d)) shall be observed daily or shall be equipped with an alarm unless the compressor is located within the boundary of an unmanned plant site [40 CFR 63.164(e)(1)].

ii. The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both [40 CFR 63.164(e)(2)].

f. If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined under Condition 5.4.3(e)(ii) (see also 40 CFR 63.164(e)(2)), a leak is detected [40 CFR 63.164(f)].

g. i. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in Condition 5.4.2(b)(v) (see also 40 CFR 63.1255(b)(1)(v)) [40 CFR 63.164(g)(1) and 63.1255(b)(1)].

ii. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected [40 CFR 63.164(g)(2)].

h. A compressor is exempt from the requirements of Conditions 5.4.3(a) through (f) (see also 40 CFR

63.164(a) through (f)) if it is equipped with a closed-vent system to capture and transport leakage from the compressor drive shaft seal back to a process or a fuel gas system or to a control device that complies with the requirements of Condition 5.4.2 (b)(vi) (see also 40 CFR 63.1255(b)(1)(vi)) [40 CFR 63.164(h)].

i. Pursuant to 40 CFR 63.164(i) and 63.1255(b)(1), any compressor that is designated, as described in Condition 5.4.2(g) (see also 40 CFR 63.1255(g)), to operate with an instrument reading of less than 500 parts per million above background, is exempt from the requirements of Conditions 5.4.3(a) through (h) (see also 40 CFR 63.164(a) through (h)) if the compressor:

i. Is demonstrated to be operating with an instrument reading of less than 500 parts per million above background, as measured by the method specified in Condition 5.9.4(c) (see also 40 CFR 63.180(c)) [40 CFR 63.164(i)(1)]; and

ii. Is tested for compliance with Condition 5.4.3 (i)(i) (see also 40 CFR 63.164(i)(1)) initially upon designation, annually, and at other times requested by the Illinois EPA and/or USEPA [40 CFR 63.164(i)(2)].

5.4.4 Pressure Relief Devices in Gas/Vapor Service

a. Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with an instrument reading of less than 500 parts per million above background except as provided in Condition 5.4.4(b) (see also 40 CFR 63.165(b)), as measured by the method specified in Condition 5.9.4(c) (see also 40 CFR 63.180(c)) [40 CFR 63.165(a)].

b. i. After each pressure release, the pressure relief device shall be returned to a condition indicated by an instrument reading of less than 500 parts per million above background, as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in Condition 5.4.2(b)(v) (see also 40 CFR 63.1255(b)(1)(v)) [40 CFR 63.165(b)(1) and 63.1255(b)(1)].

ii. No later than 5 calendar days after the pressure release and being returned to organic HAP service, the pressure relief device shall be monitored to confirm the condition

indicated by an instrument reading of less than 500 parts per million above background, as measured by the method specified in Condition 5.9.4(c) (see also 40 CFR 63.180(c)) [40 CFR 63.165(b)(2)].

c. Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device as described in Condition 5.4.2(b)(vi) (see also 40 CFR 63.1255(b)(1)(vi)) is exempt from the requirements of Conditions 5.4.4(a) and (b) (see also 40 CFR 63.165(a) and (b)) [40 CFR 63.165(c) and 63.1255(b)(1)].

d. i. Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of Conditions 5.4.4(a) and (b) (see also 40 CFR 63.165(a) and (b)), provided the owner or operator complies with the requirements in Condition 5.4.4(d)(ii) (see also 40 CFR 63.165 (d)(2)) [40 CFR 63.165(d)(1)].

ii. After each pressure release, a rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in Condition 5.4.2 (b)(v) (see also 40 CFR 63.1255(b)(1)(v)) [40 CFR 63.165(d)(2) and 63.1255(b)(1)].

5.4.5 Sampling Connection Systems

a. Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system, except as provided in Condition 5.4.2(a) (see also 40 CFR 63.1255(a)]. Gases displaced during filling of the sample container are not required to be collected or captured [40 CFR 63.166(a) and 63.1255(b)(1)].

b. Pursuant to 40 CFR 63.166(b), each closed-purge, closed-loop, or closed-vent system as required in Condition 5.4.5(a) (see also 40 CFR 63.166(a)) shall:

i. Return the purged process fluid directly to the process line [40 CFR 63.166(b)(1)]; or

ii. Collect and recycle the purged process fluid to a process [40 CFR 63.166(b)(2)]; or

iii. Be designed and operated to capture and transport the purged process fluid to a control device that complies with the requirements of Condition 5.4.2(b)(vi) (see also 40 CFR 63.1255 (b)(1)(vi)) [40 CFR 63.166(b)(2) and 63.1255 (b)(1)]; or

iv. Pursuant to 40 CFR 63.166(b)(4), collect, store, and transport the purged process fluid to a system or facility identified in Condition 5.4.5 (b)(iv)(A), (B), or (C) (see also 40 CFR 63.166 (b)(4)(i), (ii), or (iii)).

A. A waste management unit as defined in 40 CFR 63.111, if the waste management unit is subject to, and operated in compliance with the provisions of Subpart G of 40 CFR part 63 applicable to group 1 wastewater streams. If the purged process fluid does not contain any organic HAP listed in Table 9 of 40 CFR 63 Subpart G, the waste management unit need not be subject to, and operated in compliance with the requirements of 40 CFR 63 Subpart G applicable to group 1 wastewater streams provided the facility has an NPDES permit or sends the wastewater to an NPDES permitted facility [40 CFR 63.166 (b)(4)(i)].

B. A treatment, storage, or disposal facility subject to regulation under 40 CFR part 262, 264, 265, or 266 [40 CFR 63.166 (b)(4)(ii)]; or

C. A facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261 [40 CFR 63.166 (b)(4)(iii)].

c. In-situ sampling systems and sampling systems without purges are exempt from the requirements of Conditions 5.4.5(a) and (b) (see also 40 CFR 63.166(a) and (b)) [40 CFR 63.166(c)].

5.4.6 Pumps, Valves, Connectors, and Agitators in Heavy Liquid Service; Instrumentation Systems; and Pressure Relief Devices in Liquid Service

a. Pumps, valves, connectors, and agitators in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and instrumentation

systems shall be monitored within 5 calendar days by the method specified in Condition 5.9.4(b) (see also 40 CFR 63.180(b)) if evidence of a potential leak to the atmosphere is found by visual, audible, olfactory, or any other detection method. If such a potential leak is repaired as required in Conditions 5.4.6(c) and (d) (see also 40 CFR 63.169(c) and (d)), it is not necessary to monitor the system for leaks by the method specified in Condition 5.9.4(b) (see also 40 CFR 63.180(b)) [40 CFR 63.169(a)].

b. If an instrument reading of 10,000 parts per million or greater for agitators, 5,000 parts per million or greater for pumps handling polymerizing monomers, 2,000 parts per million or greater for pumps in food/medical service or pumps subject to Condition 5.4.2(c) (see also 40 CFR 63.1255(c)), or 500 parts per million or greater for valves, connectors, instrumentation systems, and pressure relief devices is measured, a leak is detected [40 CFR 63.169(b) and 63.1255(b)(1)].

c. i. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in Condition 5.4.2(b)(v) (see also 40 CFR 63.1255(b)(1)(v)) [40 CFR 63.169(c)(1) and 63.1255(b)(1)].

ii. The first attempt at repair shall be made no later than 5 calendar days after each leak is detected [40 CFR 63.169(c)(2)].

iii. For equipment identified in Condition 5.4.6(a) (see also 40 CFR 63.169(a)) that is not monitored by the method specified in Condition 5.9.4(b) (see also 40 CFR 63.180(b)), repaired shall mean that the visual, audible, olfactory, or other indications of a leak to the atmosphere have been eliminated; that no bubbles are observed at potential leak sites during a leak check using soap solution; or that the system will hold a test pressure [40 CFR 63.169(c)(3)].

d. First attempts at repair include, but are not limited to, the practices described under Conditions 5.4.2(c) and (e) (see also 40 CFR 63.1255(c) and (e)), for pumps and valves, respectively [40 CFR 63.169(d) and 63.1255(b)(1)].

5.4.7 Delay of Repair

a. Delay of repair of equipment for which leaks have been detected is allowed for equipment that is isolated from the process and that does not remain in organic HAP service [40 CFR 63.171(b)].

b. Pursuant to 40 CFR 63.171(c), delay of repair for valves, connectors, and agitators is also allowed if:

   i. The owner or operator determines that emissions of purged material resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair [40 CFR 63.171(c)(1)], and

   ii. When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with Condition 5.4.2(b)(vi) (see also 40 CFR 63.1255 (b)(1)(vi)); [40 CFR 63.171(c)(2) and 63.1255 (b)(1)].

c. Pursuant to 40 CFR 63.171(d), delay of repair for pumps is also allowed if:

   i. Pursuant to 40 CFR 63.171(d)(1), repair requires replacing the existing seal design with a new system that the owner or operator has determined under the provisions of also 40 CFR 63.176(d) will provide better performance or:

      A. A dual mechanical seal system that meets the requirements of Condition 5.4.2(c) (see also 40 CFR 63.1255(c)) [40 CFR 63.171(d)(1)(i) and 63.1255(b)(1)],

      B. A pump that meets the requirements of Condition 5.4.2(c) (see also 40 CFR 63.1255(c)) [40 CFR 63.171(d)(1)(ii) and 63.1255(b)(1)], or

      C. A closed-vent system and control device that meets the requirements of Condition 5.4.2(c) (see also 40 CFR 63.1255(c)) [40 CFR 63.171(d)(1)(iii) and 63.1255(b)(1)]; and

   ii. Repair is completed as soon as practicable, but not later than 6 months after the leak was detected [40 CFR 63.171(d)(2)].

d. Delay of repair beyond a process unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit shutdown, valve

assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the second process unit shutdown will not be allowed unless the third process unit shutdown occurs sooner than 6 months after the first process unit shutdown [40 CFR 63.171(e)].

5.4.8 Closed-Vent Systems and Control Devices

a. Owners or operators of closed-vent systems and control devices used to comply with provisions of 40 CFR 63 Subpart GGG shall comply with the provisions of Condition 5.4.8 (see also 40 CFR 63.172), except as provided in Condition 5.4.2(a) (see also 40 CFR 63.1255(a)) [40 CFR 63.172(a) and 63.1255(b)(1)].

b. Recovery or recapture devices (e.g., condensers and absorbers) shall be designed and operated to recover the organic hazardous air pollutant emissions or volatile organic compounds emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts par million by volume, whichever is less stringent. The 20 parts per million by volume performance standard is not applicable to the provisions of Condition 5.4.12 (see also 40 CFR 63.179) [40 CFR 63.172(b)].

c. Enclosed combustion devices shall be designed and operated to reduce the organic hazardous air pollutant emissions or volatile organic compounds emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent, or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760°C [40 CFR 63.172(c)].

d. Flares used to comply with 40 CFR 63 Subpart GGG shall comply with the requirements of 40 CFR 63.11(b) [40 CFR 63.172(d) and 63.1255(b)(1)].

e. Owners or operators of control devices that are used to comply with the provisions of 40 CFR 63 Subpart GGG shall monitor these control devices to ensure that they are operated and maintained in conformance with their design [40 CFR 63.172(e) and 63.1255(b)(1)].

f. Pursuant to 40 CFR 63.172(f), except as provided in Condition 5.4.2(f) (see also 40 CFR 63.1255(f), each closed-vent system shall be inspected according to the procedures and schedule specified in Conditions

5.4.8 (f)(i) and (f)(ii) (see also 40 CFR 63.172(f)(1) and (f)(2)).

i. Pursuant to 40 CFR 63.172(f)(1), if the closed-vent system is constructed of hard-piping, the owner or operator shall:

A. Conduct an initial inspection according to the procedures in Condition 5.4.8(g) (see also 40 CFR 63.172(g)) [40 CFR 63.172 (f)(1)(i)], and

B. Conduct annual visual inspections for visible, audible, or olfactory indications of leaks [40 CFR 63.172(f)(1)(i)].

ii. Pursuant to 40 CFR 63.172(f)(2), if the vapor collection system or closed-vent system is constructed of duct work, the owner or operator shall:

A. Conduct an initial inspection according to the procedures in Condition 5.4.8(g) (see also 40 CFR 63.172(g)) [40 CFR 63.172 (f)(2)(i)], and

B. Conduct annual inspections according to the procedures in Condition 5.4.8(g) (see also 40 CFR 63.172(g)) [40 CFR 63.172 (f)(2)(ii)].

g. Each closed-vent system shall be inspected according to the procedures in Condition 5.9.4(b) (see also 40 CFR 63.180(b)) [40 CFR 63.172(g)].

h. Pursuant to 40 CFR 63.172(h), leaks, as indicated by an instrument reading greater than 500 parts per million above background or by visual inspections, shall be repaired as soon as practicable, except as provided in Condition 5.4.8(i) (see also 40 CFR 63.172(i)).

i. A first attempt at repair shall be made no later than 5 calendar days after the leak is detected [40 CFR 63.172(h)(1)].

ii. Repair shall be completed no later than 15 calendar days after the leak is detected, except as provided in Condition 5.4.8(i) (see also 40 CFR 63.172(i)) [40 CFR 63.172(h)(2)].

i. Delay of repair of a closed-vent system for which leaks have been detected is allowed if the repair is

technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown [40 CFR 63.172(i)].

j. Pursuant to 40 CFR 63.172(j), for each closed-vent system that contains bypass lines that could divert a vent stream away from the control device and to the atmosphere, the owner or operator shall comply with the provisions of either Condition 5.4.8(j)(i) or (j)(ii) (see also 40 CFR 63.172(j)(1) or (j)(2)), except as provided in Condition 5.4.8(j)(iii) (see also 40 CFR 63.172(j)(3)).

   i. Install, set or adjust, maintain, and operate a flow indicator that takes a reading at least once every 15 minutes. Records shall be generated as specified in 40 CFR 63.118(a)(3). The flow indicator shall be installed at the entrance to any bypass line [40 CFR 63.172 (j)(1)]; or

   ii. Secure the bypass line valve in the non-diverting position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure the valve is maintained in the non-diverting position and the vent stream is not diverted through the bypass line [40 CFR 63.172(j)(2)].

   iii. Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for safety purposes are not subject to this Condition [40 CFR 63.172(j)(3)].

k. Whenever organic HAP emissions are vented to a closed-vent system or control device used to comply with the provisions of 40 CFR 63 Subpart GGG, such system or control device shall be operating [40 CFR 63.172(m)].

l. After the compliance dates specified in 40 CFR 63.100, the owner or operator of any control device subject to 40 CFR 63 Subpart GGG that is also subject to monitoring, recordkeeping, and reporting requirements in 40 CFR part 264, subpart BB, or is subject to monitoring and recordkeeping requirements in 40 CFR part 265, subpart BB, may elect to comply

either with the monitoring, recordkeeping, and reporting requirements of 40 CFR 63 Subpart GGG, or with the monitoring, recordkeeping, and reporting requirements in 40 CFR parts 264 and/or 265, as described in this Condition, which shall constitute compliance with the monitoring, recordkeeping and reporting requirements of 40 CFR 63 Subpart GGG. The owner or operator shall identify which option has been chosen, in the next periodic report required by Condition 5.7.3(n) (see also 40 CFR 63.1255(h)) [40 CFR 63.172(n) and 63.1255 (b)(1)].

5.4.9 Connectors in Gas/Vapor Service and in Light Liquid Service

a. Pursuant to 40 CFR 63.174(a) and 63.1255 (b)(1)(vii)(A), the owner or operator of a process unit subject to 40 CFR 63 Subpart GGG shall monitor all connectors in gas/vapor and light liquid service and in Conditions 5.4.2(f) (see also 40 CFR 63.1255(f)) and 5.4.9(e) (see also 40 CFR 63.174(h)), at the intervals specified in Conditions 5.4.2 (b)(vii)(B) through (E) and 5.4.9(b) (see also 40 CFR 63.174(b) and 63.1255(b)(1)(vii)(C) through (F)).

i. The connectors shall be monitored to detect leaks by the method specified in Condition 5.9.4(b) (see also 40 CFR 63.180(b)) [40 CFR 63.174(a)(1)].

ii. If an instrument reading greater than or equal to 500 parts per million is measured, a leak is detected [40 CFR 63.174(a)(2)].

b. Pursuant to 40 CFR 63.174(b) and 63.1255(b)(1), the owner or operator shall monitor for leaks at the intervals specified in Condition 5.4.9(b)(i) (see also 40 CFR 63.174(b)(1)) and Conditions 5.4.2(b)(vii)(B) through (E) and 5.4.9(b)(ii) (see also 40 CFR 63.174 (b)(3)(i) and 63.1255(b)(1)(vii)(C) through (F)).

i. For each group of existing process units within an existing source, by no later than 12 months after the compliance date, the owner or operator shall monitor all connectors, except as provided in Conditions 5.4.2(f) and 5.4.9(e)(i) (see also 40 CFR 63.1255(f) and 40 CFR 63.174(h)) [40 CFR 63.174(b)(1) and 63.1255(b)(1)(vii)(A)].

ii. After conducting the initial survey required in Condition 5.4.9(b)(i) (see also 40 CFR 63.174 (b)(1)), the owner or operator shall

perform all subsequent monitoring of connectors once per year (i.e., 12-month period), if the percent leaking connectors in the process unit was 0.5 percent or greater during the last required annual or biennial monitoring period, and at the frequencies specified in Conditions 5.4.2 (b)(vii)(B) through (E) (see also 40 CFR 63.1255 (b)(1)(vii)(C) through (F)), except as provided in Condition 5.4.9(c)(ii) (see also 40 CFR 63.174(c)(2)) [40 CFR 63.174(b)(3)(i) and 63.1255(b)(1)(vii)(C) through (F)].

c. i. A. Except as provided in Condition 5.4.9 (c)(i)(B) (see also 40 CFR 63.174 (c)(1)(ii)), each connector that has been opened or has otherwise had the seal broken shall be monitored for leaks when it is reconnected or within the first 3 months after being returned to organic hazardous air pollutants service. If the monitoring detects a leak, it shall be repaired according to the provisions of Condition 5.4.9(d) (see also 40 CFR 63.174(d)), unless it is determined to be nonrepairable, in which case it is counted as a nonrepairable connector for the purposes of Condition 5.9.3(b) (see also 40 CFR 63.174(i)(2)) [40 CFR 63.174 (c)(1)(i)].

B. As an alternative to the requirements in Condition 5.4.9(c)(i)(A) (see also 40 CFR 63.174(c)(1)(i)), an owner or operator may choose not to monitor connectors that have been opened or otherwise had the seal broken. In this case, the owner or operator may not count nonrepairable connectors for the purposes of Condition 5.9.3(b) (see also 40 CFR 63.174(i)(2)). The owner or operator shall calculate the percent leaking connectors for the monitoring periods described in Conditions 5.4.2(b)(vii) and 5.4.9(b) (see also 40 CFR 63.174(b) and 63.1255(b)(1)(vii)), by setting the nonrepairable component, C_{AN}, in the equation in Condition 5.9.3(b) (see also 40 CFR 63.174(i)(2)) to zero for all monitoring periods [40 CFR 63.174 (c)(1)(ii) and 63.1255(b)(1)(vii)].

C. An owner or operator may switch alternatives described in Conditions

5.4.9 (c)(i)(A) and (B) (see also 40 CFR 63.174 (c)(1)(i) and (ii)) at the end of the current monitoring period he is in, provided that it is reported as required in Condition 5.7.3(n) (see also 40 CFR 63.1255(h)) and begin the new alternative in annual monitoring. The initial monitoring in the new alternative shall be completed no later than 12 months after reporting the switch [40 CFR 63.174 (c)(1)(iii) and 63.1255(b)(1)].

ii. Pursuant to 40 CFR 63.174(c)(2) and 63.1255 (b)(1)(vii), as an alternative to the requirements of Conditions 5.4.2(b)(vii)(B) through (E) and 5.4.9(b)(iii) (see also 40 CFR 63.174(b)(3)(i) and 63.1255(b)(1)(vii)(C) through (F)), each screwed connector 2 inches or less in nominal inside diameter installed in a process unit before the dates specified in Condition 5.4.9(c)(ii)(D) (see also 40 CFR 63.174(c)(2)(iv)):

A. Comply with the requirements of Condition 5.4.6 (see also 40 CFR 63.169) [40 CFR 63.174(c)(2)(i)], and

B. Be monitored for leaks within the first 3 months after being returned to organic hazardous air pollutants service after having been opened or otherwise had the seal broken. If that monitoring detects a leak, it shall be repaired according to the provisions of Condition 5.4.9(d) (see also 40 CFR 63.174(d)) [40 CFR 63.174 (c)(2)(ii)].

C. For sources not subject to 40 CFR 63 Subparts F and I, the provisions of Condition 5.4.9(c)(ii) (see also 40 CFR 63.174(c)(2)) apply to screwed connectors installed before the date of proposal of the 40 CFR 63 Subpart GGG [40 CFR 63.174 (c)(2)(iv)].

d. When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in Condition 5.4.2(b)(vii)(A) and in Condition 5.4.2 (b)(v) (see also 40 CFR 63.1255(b)(1)(vii)(A) and (v)). A first attempt at repair shall be made no later than 5 calendar days after the leak is detected [40 CFR 63.174(d), 63.1255(b)(1) and (b)(1)(vii)(A)].

e. i. Pursuant to 40 CFR 63.174(h) and 63.1255(b)(1), any connector that is inaccessible or is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined), is exempt from the monitoring requirements of Conditions 5.4.2(b)(vii)(B) through (E) and 5.4.9(a) and (c) (see also 40 CFR 63.174(a) and (c) and 63.1255(b)(1)(vii)(C) through (F)) and from the recordkeeping and reporting requirements of Condition 5.4.2(g) (see also 40 CFR 63.1255(g)) and Condition 5.7.3(n) (see also 40 CFR 63.1255(h)).

A. Buried [40 CFR 63.174(h)(1)(i)];

B. Insulated in a manner that prevents access to the connector by a monitor probe [40 CFR 63.174(h)(1)(ii)];

C. Obstructed by equipment or piping that prevents access to the connector by a monitor probe [40 CFR 63.174(h)(1)(iii)];

D. Unable to be reached from a wheeled scissor-lift or hydraulic-type scaffold which would allow access to connectors up to 7.6 meters (25 feet) above the ground [40 CFR 63.174(h)(1)(iv)];

E. Inaccessible because it would require elevating the monitoring personnel more than 2 meters above a permanent support surface or would require the erection of scaffold [40 CFR 63.174(h)(1)(v)]; or

F. Not able to be accessed at any time in a safe manner to perform monitoring. Unsafe access includes, but is not limited to, the use of a wheeled scissor-lift on unstable or uneven terrain, the use of a motorized man-lift basket in areas where an ignition potential exists, or access would require near proximity to hazards such as electrical lines, or would risk damage to equipment [40 CFR 63.174 (h)(1)(vi)].

ii. If any inaccessible or ceramic or ceramic-lined connector is observed by visual, audible, olfactory, or other means to be leaking, the leak shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in Condition 5.4.2(b)(v) (see also 40

CFR 63.1255 (b)(1)(v)) of 40 CFR 63 Subpart GGG and Condition 5.4.2(f) (see also 40 CFR 63.1255(f)) [40 CFR 63.174(h)(2) and 63.1255(b)(1) and (b)(1)(vii)(A)].

iii. A first attempt at repair shall be made no later than 5 calendar days after the leak is detected [40 CFR 63.174(h)(3)].

f. Optional credit for removed connectors. Pursuant to 40 CFR 63.174(j) and 63.1255(b)(1)(vii), if an owner or operator eliminates a connector subject to monitoring under Conditions 5.4.2(b)(vii)(B) through (E) and 5.4.9(b) (see also 40 CFR 63.174(b) and 63.1255 (b)(1)(vii)(C) through (F)), the owner or operator may receive credit for elimination of the connector, as described in Condition 5.9.3 (see also 40 CFR 63.174(i)), provided the requirements in Conditions 5.4.9(f)(i) through (f)(iv) (see also 40 CFR 63.174 (j)(1) through (j)(4)) are met.

i. The connector was welded after the date of proposal of 40 CFR 63 Subpart GGG [40 CFR 63.174(j)(1) and 63.1255(b)(1)].

ii. The integrity of the weld is demonstrated by monitoring it according to the procedures in Condition 5.9(b) (see also 40 CFR 63.180(b)) or by testing using X-ray, acoustic monitoring, hydrotesting, or other applicable method [40 CFR 63.174(j)(2)].

iii. Welds created after the date of proposal but before the date of promulgation of 40 CFR 63 Subpart GGG are monitored or tested by 3 months after the compliance date specified in 40 CFR 63 Subpart GGG [40 CFR 63.174(j)(3) and 63.1255 (b)(1)].

iv. Welds created after promulgation of 40 CFR 63 Subpart GGG are monitored or tested within 3 months after being welded [40 CFR 63.174(j)(4)].

v. If an inadequate weld is found or the connector is not welded completely around the circumference, the connector is not considered a welded connector and is therefore not exempt from the provisions of 40 CFR 63 Subpart GGG [40 CFR 63.174(j)(5) and 63.1255(b)(1)].

5.4.10 Alternative Means of Emission Limitation: General

a. Permission to use an alternative means of emission limitation under section 112(h)(3) of the CAA shall be governed by the following procedures in Condition 5.4.10(b) through (e) (see also 40 CFR 63.177(b) through (e)) [40 CFR 63.177(a)].

b. Pursuant to 40 CFR 63.177(b), where the standard is an equipment, design, or operational requirement:

   i. Each owner or operator applying for permission to use an alternative means of emission limitation under 40 CFR 63.6(g) shall be responsible for collecting and verifying emission performance test data for an alternative means of emission limitation [40 CFR 63.177(b)(1)].

   ii. The Illinois EPA and/or USEPA will compare test data for the means of emission limitation to test data for the equipment, design, and operational requirements [40 CFR 63.177(b)(2)].

   iii. The Illinois EPA and/or USEPA may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same emission reduction as the equipment, design, and operational requirements [40 CFR 63.177(b)(3)].

c. Pursuant to 40 CFR 63.177(c), where the standard is a work practice:

   i. Each owner or operator applying for permission shall be responsible for collecting and verifying test data for an alternative means of emission limitation [40 CFR 63.177(c)(1)].

   ii. For each kind of equipment for which permission is requested, the emission reduction achieved by the required work practices shall be demonstrated for a minimum period of 12 months [40 CFR 63.177(c)(2)].

   iii. For each kind of equipment for which permission is requested, the emission reduction achieved by the alternative means of emission limitation shall be demonstrated [40 CFR 63.177(c)(3)].

   iv. Each owner or operator applying for permission shall commit, in writing, for each kind of equipment to work practices that provide for emission reductions equal to or greater than

the emission reductions achieved by the required work practices [40 CFR 63.177(c)(4)].

v. The Illinois EPA and/or USEPA will compare the demonstrated emission reduction for the alternative means of emission limitation to the demonstrated emission reduction for the required work practices and will consider the commitment in Condition 5.4.10(c)(iv) (see also 40 CFR 63.177(c)(4)) [40 CFR 63.177(c)(5)].

vi. The Illinois EPA and/or USEPA may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same or greater emission reduction as the required work practices of 40 CFR 63 Subpart GGG [40 CFR 63.177(c)(5) and 63.1255(b)(1)].

d. An owner or operator may offer a unique approach to demonstrate the alternative means of emission limitation [40 CFR 63.177(d)].

e. i. Manufacturers of equipment used to control equipment leaks of an organic HAP may apply to the Illinois EPA and/or USEPA for permission for an alternative means of emission limitation that achieves a reduction in emissions of the organic HAP achieved by the equipment, design, and operational requirements of 40 CFR 63 Subpart GGG [40 CFR 63.177(e)(1) and 63.1255(b)(1)].

ii. The Illinois EPA and/or USEPA will grant permission according to the provisions of Conditions 5.4.10(b), (c), and (d) (see also 40 CFR 63.177(b), (c), and (d)) [40 CFR 63.17(e)(2)].

5.4.11 Alternative Means of Emission Limitation: Batch Processes

a. As an alternative to complying with the requirements of Condition 5.4.3 (see also 40 CFR 63.164), Condition 5.4.4 (see also 40 CFR 63.165), Condition 5.4.5 (see also 40 CFR 40 CFR 63.166), Condition 5.4.6 (see also 40 CFR 63.169), Condition 5.4.7 (see also 40 CFR 63.171), and Condition 5.4.9 (see also 40 CFR 63.174), an owner or operator of a batch process that operates in organic HAP service during the calendar year may comply with one of the standards specified in Conditions 5.4.11(b) and (c) (see also 40 CFR 63.178(b) and (c)), or the owner or operator may petition for approval of an alternative standard

under the provisions of Condition 5.4.10 (see also 40 CFR 63.177). The alternative standards of this Condition (see also 40 CFR 63.178(a)) provide the options of pressure testing or monitoring the equipment for leaks. The owner or operator may switch among the alternatives provided the change is documented as specified in Condition 5.4.2(g) (see also 40 CFR 63.1255(g)) [40 CFR 63.178(a)].

b. Pursuant to 40 CFR 63.178(b), the following requirements shall be met if an owner or operator elects to use pressure testing of batch product-process equipment to demonstrate compliance with 40 CFR 63 Subpart GGG. An owner or operator who complies with the provisions of this Condition is exempt from the monitoring provisions of Conditions 5.4.6 and 5.4.9 (see also 40 CFR 63.169 and 63.174).

i. Pursuant to 40 CFR 63.178(b)(1), each time equipment is reconfigured for production of a different product or intermediate, the batch product-process equipment train shall be pressure-tested for leaks before organic HAP is first fed to the equipment and the equipment is placed in organic HAP service.

A. When the batch product-process train is reconfigured to produce a different product, pressure testing is required only for the new or disturbed equipment [40 CFR 63.178(b)(1)(i)].

B. Each batch product process that operates in organic HAP service during a calendar year shall be pressure tested at least once during that calendar year [40 CFR 63.178(b)(1)(ii)].

C. Pressure testing is not required for routine seal breaks, such as changing hoses or filters, which are not part of the reconfiguration to produce a different product or intermediate [40 CFR 63.178 (b)(1)(iii)].

ii. The batch product process equipment shall be tested either using the procedures specified in Condition 5.9.4(f) (see also 40 CFR 63.180(f) for pressure or vacuum loss or with a liquid using the procedures specified in Condition 5.9.4(g) (see also 40 CFR 63.180(g)) [40 CFR 63.178(b)(2)].

iii. A. For pressure or vacuum tests, a leak is detected if the rate of change in pressure is greater than 6.9 kilopascals (1 psig) in 1 hour or if there is visible, audible, or olfactory evidence of fluid loss [40 CFR 63.178(b)(3)(i)].

B. For pressure tests using a liquid, a leak is detected if there are indications of liquids dripping or if there is other evidence of fluid loss [40 CFR 63.178 (b)(3)(ii)].

iv. A. If a leak is detected, it shall be repaired and the batch product-process equipment shall be retested before start-up of the process [40 CFR 63.178 (b)(4)(i)].

B. If a batch product-process fails the retest or the second of two consecutive pressure tests, it shall be repaired as soon as practicable, but not later than 30 calendar days after the second pressure test, provided the conditions specified in Condition 5.4.11(d) (see also 40 CFR 63.178(d)) are met [40 CFR 63.178 (b)(4)(ii)].

c. Pursuant to 40 CFR 63.178(c) and 63.1255(b)(1), the following requirements shall be met if an owner or operator elects to monitor the equipment to detect leaks by the method specified in Condition 5.9.4(b) (see also 40 CFR 63.180(b)) to demonstrate compliance with 40 CFR 63 Subpart GGG.

i. The owner or operator shall comply with the requirements of Conditions 5.4.3 through 5.4.6 and 5.4.8 through 5.4.9 (see also 40 CFR 63.164 through 63.166 and 63.169, 63.172, and 63.174) [40 CFR 63.178(c)(1)].

ii. The equipment shall be monitored for leaks by the method specified in Condition 5.9.4(b) (see also 40 CFR 63.180(b)) when the equipment is in organic HAP service, in use with an acceptable surrogate volatile organic compound which is not an organic HAP, or is in use with any other detectable gas or vapor [40 CFR 63.178(c)(2)].

iii. Pursuant to 40 CFR 63.178(c)(3), the equipment shall be monitored for leaks as specified below:

A. Each time the equipment is reconfigured for the production of a new product, the reconfigured equipment shall be monitored for leaks within 30 days of start-up of the process. This initial monitoring of reconfigured equipment shall not be included in determining percent leaking equipment in the process unit [40 CFR 63.178(c)(3)(i)].

B. Connectors shall be monitored in accordance with the requirements in Condition 5.4.9 (see also 40 CFR 63.174) [40 CFR 63.178(c)(3)(ii)].

C. Equipment other than connectors shall be monitored at the frequencies specified in table 1 of 40 CFR Subpart H. The operating time shall be determined as the proportion of the year the batch product-process that is subject to the provisions of 40 CFR 63 Subpart GGG is operating [40 CFR 63.178 (c)(3)(iii)].

D. The monitoring frequencies specified in table 1 of 40 CFR 63 Subpart H are not requirements for monitoring at specific intervals and can be adjusted to accommodate process operations. An owner or operator may monitor anytime during the specified monitoring period (e.g., month, quarter, year), provided the monitoring is conducted at a reasonable interval after completion of the last monitoring campaign. For example, if the equipment is not operating during the scheduled monitoring period, the monitoring can be done during the next period when the process is operating [40 CFR 63.178 (c)(3)(iv)].

iv. If a leak is detected, it shall be repaired as soon as practicable but not later than 15 calendar days after it is detected, except as provided in Condition 5.4.11(d) (see also 40 CFR 63.178(d)) [40 CFR 63.178(c)(4)].

d. Pursuant to 40 CFR 63.178(d), delay of repair of equipment for which leaks have been detected is allowed if the replacement equipment is not available providing the following conditions are met:

i. Equipment supplies have been depleted and supplies had been sufficiently stocked before the supplies were depleted [40 CFR 63.178 (d)(1)].

ii. The repair is made no later than 10 calendar days after delivery of the replacement equipment [40 CFR 63.178(d)(2)].

5.4.12 Process units enclosed in such a manner that all emissions from equipment leaks are vented through a closed-vent system to a control device meeting the requirements of Condition 5.4.8 (see also 40 CFR 63.172) are exempt from the requirements of Conditions 5.4.3 through 5.4.7 (see also 40 CFR 63.164 through 63.166, 63.169, and 63.171), and Condition 5.4.9 (see also 40 CFR 63.174). The enclosure shall be maintained under a negative pressure at all times while the process unit is in operation to ensure that all emissions are routed to a control device [40 CFR 63.179].

5.4.13 Pursuant to 35 IAC 218.483, the owner or operator of a pharmaceutical manufacturing source shall:

a. Provide a vapor balance system that is at least 90 percent effective in reducing VOM emissions from truck or railcar deliveries to storage tanks with capacities equal to or greater than 7.57 m^3 (2,000 gal) that store VOL with vapor pressures greater than 28.0 kPa (4.1 psi) at 294.3°K (70°F) [35 IAC 218.483(a)]; and

b. Install, operate, and maintain pressure/vacuum conservation vents set at 0.2 kPa (0.03 psi) or greater on all storage tanks that store VOL with vapor pressures greater than 10 kPa (1.5 psi) at 294.3°K (70°F) [35 IAC 218.483(b)].

5.4.14 The owner or operator shall install covers on all in-process tanks used to manufacture pharmaceuticals and containing a VOL at any time. These covers must remain closed, except as production, sampling, maintenance or inspection procedures require operator access [35 IAC 218.484].

5.4.15 The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

5.5 Source-Wide Emission Limitations

5.5.1 Permitted Emissions for Fees

The annual emissions from the source, not considering insignificant activities as addressed by Section 3.0 of this permit, shall not exceed the following limitations. The overall source emissions shall be determined by adding emissions from all emission units. Compliance with these limits shall be determined on a calendar year basis. These limitations (Condition 5.5.1) are set for the purpose of establishing fees and are not federally enforceable.

Permitted Emissions of Regulated Pollutants

Pollutant	Tons/Year
Nitrogen Oxides (NO_x)	577.43
Particulate Matter (PM)	340.59
Sulfur Dioxide (SO_2)	1,259.69
Volatile Organic Material (VOM)	207.98
HAP, not included in VOM or PM	267.07
TOTAL	2,652.76

5.5.2 Emissions of Hazardous Air Pollutants

Source-wide emission limitations for HAP as listed in Section 112(b) of the CAA are not set. This source is considered to be a major source of HAPs.

5.5.3 Other Source-Wide Emission Limitations

The annual emissions from the source shall not exceed the following limitations:

a. i. The total emissions of VOM from Building R-10 (including pilot plant operations and pharmaceutical production) shall not exceed 5.9 tons/year. This limit is based on the maximum actual emissions at the maximum production rate.

ii. The limits on VOM are limitations established in Permit 98070020, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned Permit does not constitute a new major source or major modification pursuant to 35 IAC Part 203. See Conditions 7.1.6(f)(iii), 7.1.6(h)(iii), 7.1.6(i)(iii), 7.5.6(a), 7.7.6(a), 7.18.6(a)(i), 7.18.6(a)(ii), 7.20.6(a), 7.23.6(b)(i), 7.31.6(a), 7.33.6(a)(i), 7.33.6(a)(ii), and 7.44.6(a). [T1]

iii. The VOM emission units with contemporaneous VOM emissions are described in Table 1 of Attachment 4. The emission units or activities used to decrease emissions are described in Table 2 of Attachment 4. The net change in VOM emissions is described in Table 3 of Attachment 4.

b. i. Total emissions of volatile organic material (VOM) from the Chemical Manufacturing Area (Buildings A-2, C-2, C-3, C-6, C-7, C-7A, C-7NW, C-10, C-11, C-13, C-14, C-17, C-19, R-7A, and R-7B) shall not exceed 43.82 tons per year.

ii. Total emissions of particulate matter from the Chemical Manufacturing Area shall not exceed 2.04 tons/year.

iii. The above limitations were established in Permit 72100547, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD) and 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 and 35 IAC Part 203 [T1].

iv. As a consequence of the above conditions, this permit is issued based on the Chemical Manufacturing Area not constituting a new major source or major modification subject to 35 IAC Part 203. The VOM emissions from the Chemical Manufacturing Area are limited to 43.82 tons/year (Condition 5.5.3(b)). These are the actual VOM emissions for 1993, 1994, 1995, and 1996 (42.158 tons/year) plus an increase of 1.6620 tons/year as authorized by Construction Permits 94030108, 95060114, 95090098, 96030235, 96030238, 96070050, 96080008, 96080039, 96080050, 96080119, 96090048, and 97040054. The net increase in the emissions of VOM over the contemporaneous period of five consecutive calendar years from the entire source is less than 25 tons/year, as described by Attachment 5.

c. i. Total emissions of volatile organic material (VOM) from the Chemical Pilot Plant (Buildings

R-7, R-8 (Special Labs), R-9, and C-11 East) shall not exceed 7.2 tons per year.

ii. Total emissions of particulate matter from the Chemical Pilot Plant shall not exceed 0.44 tons/year.

iii. The above limitations were established in Permit 79120037, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD) and 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 and 35 IAC Part 203 [T1].

iv. As a consequence of the above conditions, this permit is issued based on the Chemical Pilot Plant not constituting a new major source or major modification subject to 35 IAC Part 203. The VOM emissions from the Chemical Pilot Plant are limited to 7.2 tons/year (Condition 5.5.3 (c)(i)). These are the actual VOM emissions for 1993, 1994, 1995, 1996, and 1997 (5.0115 tons/year) plus an increase of 2.1885 tons/year as authorized by Construction Permits 94030003, 94030004, 94060081, 95120237, 96010081, 97030068, 97040051, and 97100013. The net increase in the emissions of VOM over the contemporaneous period of five consecutive calendar years from the entire source is less than 25 tons/year, as described by Attachment 5.

d. i. Emissions of Carbon Monoxide (CO), Nitrogen Oxides (NO_x), particulate matter with an aerodynamic diameter less than or equal to 10 micrometers (PM_{10}), sulfur dioxide (SO_2), and volatile organic material (VOM) from Boilers #5, 6, 7, 8, 9, T1, and T3, and Gas Turbine #1, combined, shall not exceed the following limits:

Pollutant	Tons/year
CO	297.15
NO_x	570.84
PM_{10}	279.46
SO_2	1,191.36
VOM	6.16

ii. These limits are based on historical emission levels of the existing boilers at the source, as described in Attachment 6, plus increases of 99 tons/year for CO, 39 tons/year for NO_x and SO_2, 14 tons/year for PM_{10}, and 2.5 tons/year for VOM.

iii. As a consequence of the conditions contained herein, this permit is issued based on the Utilities Division (Boilers #5, 6, 7, 8, 9, T1, and T3, and Gas Turbine #1) not constituting a new major source or major modification subject to 35 IAC Part 203. The VOM emissions from the Utilities Division are limited to 6.16 tons/year (Condition 5.5.3(d)). These are the actual VOM emissions for 1993 and 1994 (3.66 tons/year) plus an increase of 0.99 ton/year as authorized by Permits 93120062 and 96120093 and an additional 1.51 tons/year from the No. 2 distillate fuel oil-fired burners on Temporary Boilers 1 (Boiler T1) and 3 (Boiler T3). The net increase in the emissions of VOM over the contemporaneous period of five consecutive calendar years from the entire source is less than 25 tons/year, as described in Attachment 7.

iv. The limits on CO, NO_x, and SO_2 are limitations established in Permit 97090028, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned Permit does not constitute a new major source or major modification pursuant to the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21. [T1]

v. The limits on PM_{10} and VOM are limitations established in Permit 97090028, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned Permit does not constitute a new major source or major modification pursuant to 35 IAC Part 203. [T1]

e. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

5.6 General Recordkeeping Requirements

5.6.1 Emission Records

The Permittee shall maintain records of the following items for the source to demonstrate compliance with Condition 5.5.1, pursuant to Section 39.5(7)(b) of the Act:

Total annual emissions on a calendar year basis for the emission units covered by Section 7 (Unit Specific Conditions) of this permit.

5.6.2 NESHAP Recordkeeping

a. Requirements of subpart A of 40 CFR part 63. Pursuant to 40 CFR 63.1259(a), the owner or operator of an affected source shall comply with the recordkeeping requirements in subpart A of 40 CFR part 63 as specified in Table 1 of 40 CFR 63 Subpart GGG and in Conditions 5.6.2(a)(i) through (v) (see also 40 CFR 63.1259(a)(1) through (5)).

i. Data retention. Each owner or operator of an affected source shall keep copies of all records and reports required by 40 CFR 63 Subpart GGG for at least 5 years, as specified in 40 CFR 63.10(b)(1) [40 CFR 63.1259(a)(1)].

ii. Records of applicability determinations. The owner or operator of a stationary source that is not subject to 40 CFR 63 Subpart GGG shall keep a record of the applicability determination, as specified in 40 CFR 63.10(b)(3) [40 CFR 63.1259(a)(2)].

iii. Startup, shutdown, and malfunction plan. The owner or operator of an affected source shall develop and implement a written startup, shutdown, and malfunction plan as specified in 40 CFR 63.6(e)(3). This plan shall describe, in detail, procedures for operating and maintaining the affected source during periods of startup, shutdown, and malfunction and a program for corrective action for malfunctioning process, air pollution control, and monitoring equipment used to comply with 40 CFR 63 Subpart GGG. The owner or operator of an affected source shall keep the current and superseded versions of this plan onsite, as specified in 40 CFR 63.6 (e)(3)(v). The owner or operator shall keep the startup, shutdown, and malfunction records specified in Condition 5.6.2(b)(iii)(A) through (C) (see also 40 CFR 63.1259(b)(3)(i) through (iii)). Reports related to the plan shall be submitted

as specified in 40 CFR 63.1260(i) [40 CFR 63.1259(a)(3)].

A. The owner or operator shall record the occurrence and duration of each malfunction of air pollution control equipment used to comply with 40 CFR 63 Subpart GGG, as specified in 40 CFR 63.6 (e)(3)(iii) [40 CFR 63.1259(a)(3)(i)].

B. The owner or operator shall record the occurrence and duration of each malfunction of continuous monitoring systems used to comply with 40 CFR 63 Subpart GGG [40 CFR 63.1259(a)(3)(ii)].

C. For each startup, shutdown, or malfunction, the owner or operator shall record all information necessary to demonstrate that the procedures specified in the affected source's startup, shutdown, and malfunction plan were followed, as specified in 40 CFR 63.6 (e)(3)(iii); alternatively, the owner or operator shall record any actions taken that are not consistent with the plan, as specified in 40 CFR 63.6(e)(3)(iv) [40 CFR 63.1259(a)(3)(iii)].

iv. Recordkeeping requirements for sources with continuous monitoring systems. The owner or operator of an affected source who elects to install a continuous monitoring system shall maintain records specified in 40 CFR 63.10(c)(1) through (14) [40 CFR 63.1259(a)(4)].

v. Application for approval of construction or reconstruction. For new affected sources, each owner or operator shall comply with the provisions in 40 CFR 63.5 regarding construction and reconstruction, excluding the provisions specified in 40 CFR 63.5(d)(1)(ii)(H), (d)(2), and (d)(3)(ii) [40 CFR 63.1259(a)(5)].

b. Records of equipment operation. Pursuant to 40 CFR 63.1259(b), the owner or operator must keep the following records up-to-date and readily accessible:

i. Each measurement of a control device operating parameter monitored in accordance with 40 CFR 63.1258 and each measurement of a treatment process parameter monitored in accordance with

40 CFR 63.1258(g)(2) and (3) [40 CFR 63.1259 (b)(1)].

ii. For processes subject to 40 CFR 63.1252(e), records of consumption, production, and the rolling average values of the production-indexed HAP and VOC consumption factors [40 CFR 63.1259(b)(2)].

iii. For each continuous monitoring system used to comply with 40 CFR 63 Subpart GGG, records documenting the completion of calibration checks and maintenance of continuous monitoring systems [40 CFR 63.1259(b)(3)].

iv. For processes in compliance with the 2,000 lb/yr emission limit of 40 CFR 63.1254(a)(1), records of the rolling annual total emissions [40 CFR 63.1259(b)(4)].

v. Pursuant to 40 CFR 63.1259(b)(5), records of the following, as appropriate:

A. The number of batches per year for each batch process [40 CFR 63.1259(b)(5)(i)].

B. The operating hours per year for continuous processes [40 CFR 63.1259 (b)(5)(ii)].

vi. Uncontrolled and controlled emissions per batch for each process [40 CFR 63.1259(b)(6)].

vii. Wastewater concentration per POD or process [40 CFR 63.1259(b)(7)].

viii. Number of storage tank turnovers per year, if used in an emissions average [40 CFR 63.1259 (b)(8)].

ix. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].

x. Description of worst-case operating conditions as determined using the procedures described in 40 CFR 63.1257(b)(8) for control devices [40 CFR 63.1259(b)(10)].

xi. Periods of planned routine maintenance as described in 40 CFR 63.1257(c)(5) [40 CFR 63.1259(b)(11)].

c. Records of operating scenarios. The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with 40 CFR 63 Subpart GGG [40 CFR 63.1259(c)].

d. Records of equipment leak detection and repair programs. The owner or operator of any affected source implementing the leak detection and repair (LDAR) program specified in Condition 5.4.2 (see also 40 CFR 63.1255), shall implement the recordkeeping requirements in Condition 5.4.2 (see also 40 CFR 63.1255) [40 CFR 63.1259(d)].

e. Records of emissions averaging. Pursuant to 40 CFR 63.1259(e), the owner or operator of any affected source that chooses to comply with the requirements of Condition 5.4.1(d) (see also 40 CFR 63.1252(d)) shall maintain up-to-date records of the following information:

i. Pursuant to 40 CFR 63.1259(e)(1), an Implementation Plan which shall include in the plan, for all process vents and storage tanks included in each of the averages, the information listed in Conditions 5.6.2(e)(i)(A) through (E) (see also 40 CFR 63.1259(e)(1)(i) through (v)).

A. The identification of all process vents and storage tanks in each emissions average [40 CFR 63.1259(e)(1)(i)].

B. The uncontrolled and controlled emissions of HAP and the overall percent reduction efficiency as determined in 40 CFR 63.1257 (g)(1) through (4) or 63.1257(h)(1) through (3) as applicable [40 CFR 63.1259 (e)(1)(ii)].

C. The calculations used to obtain the uncontrolled and controlled HAP emissions and the overall percent reduction efficiency [40 CFR 63.1259(e)(1)(iii)].

D. The estimated values for all parameters required to be monitored under 40 CFR 63.1258(f) for each process and storage tank included in an average [40 CFR 63.1259(e)(1)(iv)].

E. A statement that the compliance demonstration, monitoring, inspection, recordkeeping and reporting provisions in 40 CFR 63.1257(g) and (h), 63.1258(f),

and Condition 5.7.3(i) (see also 40 CFR 63.1260(k)) that are applicable to each emission point in the emissions average will be implemented beginning on the date of compliance [40 CFR 63.1259(e)(1)(v)].

ii. Pursuant to 40 CFR 63.1259(e)(2), the Implementation Plan must demonstrate that the emissions from the processes and storage tanks proposed to be included in the average will not result in greater hazard or, at the option of the operating permit authority, greater risk to human health or the environment than if the storage tanks and process vents were controlled according to the provisions in 40 CFR 63.1253 and 63.1254, respectively.

A. Pursuant to 40 CFR 63.1259(e)(2)(i), this demonstration of hazard or risk equivalency shall be made to the satisfaction of the operating permit authority.

I. The Illinois EPA and/or USEPA may require owners and operators to use specific methodologies and procedures for making a hazard or risk determination [40 CFR 63.1259 (e)(2)(i)(A)].

II. The demonstration and approval of hazard or risk equivalency shall be made according to any guidance that the Illinois EPA and/or USEPA makes available for use or any other technically sound information or methods [40 CFR 63.1259 (e)(2)(i)(B)].

B. An emissions averaging plan that does not demonstrate hazard or risk equivalency to the satisfaction of the Illinois EPA and/or USEPA shall not be approved. The Illinois EPA and/or USEPA may require such adjustments to the emissions averaging plan as are necessary in order to ensure that the average will not result in greater hazard or risk to human health or the environment than would result if the emission points were controlled according to 40 CFR 63.1253 and 63.1254 [40 CFR 63.1259(e)(2)(ii)].

C. Pursuant to 40 CFR 63.1259(e)(2)(iii), a hazard or risk equivalency demonstration must:

I. Be a quantitative, comparative chemical hazard or risk assessment [40 CFR 63.1259(e)(2)(iii)(A)];

II. Account for differences between averaging and non-averaging options in chemical hazard or risk to human health or the environment [40 CFR 63.1259(e)(2)(iii)(B)]; and

III. Meet any requirements set by the Illinois EPA and/or USEPA for such demonstrations [40 CFR 63.1259 (e)(2)(iii)(C)].

iii. Records as specified in Conditions 5.6.2(a), (b) and (d) (see also 40 CFR 63.1259(a), (b) and (d)) [40 CFR 63.1259(e)(3)].

iv. A rolling quarterly calculation of the annual percent reduction efficiency as specified in 40 CFR 63.1257(g) and (h) [40 CFR 63.1259(e)(4)].

f. Records of delay of repair. Documentation of a decision to use a delay of repair due to unavailability of parts, as specified in 40 CFR 63.1256(i), shall include a description of the failure, the reason additional time was necessary (including a statement of why replacement parts were not kept onsite and when delivery from the manufacturer is scheduled), and the date when the repair was completed [40 CFR 63.1259(f)].

g. Record of wastewater stream or residual transfer. The owner or operator transferring an affected wastewater stream or residual removed from an affected wastewater stream in accordance with 40 CFR 63.1256(a)(5) shall keep a record of the notice sent to the treatment operator stating that the wastewater stream or residual contains organic HAP which are required to be managed and treated in accordance with the provisions of 40 CFR 63 Subpart GGG [40 CFR 63.1259(g)].

h. Records of extensions. The owner or operator shall keep documentation of a decision to use an extension, as specified in 40 CFR 63.1256(b)(6)(ii) or (b)(9), in a readily accessible location. The documentation shall include a description of the failure,

documentation that alternate storage capacity is unavailable, and specification of a schedule of actions that will ensure that the control equipment will be repaired and the tank will be emptied as soon as practical [40 CFR 63.1259(h)].

i. Records of inspections. Pursuant to 40 CFR 63.1259(i), the owner or operator shall keep records specified in Conditions 5.6.2(i)(i) through (ix) (see also 40 CFR 63.1259(i)(1) through (9)).

i. A record that each waste management unit inspection required by 40 CFR 63.1256(b) through (f) was performed [40 CFR 63.1259(i)(1)].

ii. A record that each inspection for control devices required by 40 CFR 63.1256(h) was performed [40 CFR 63.1259(i)(2)].

iii. A record of the results of each seal gap measurement required by 40 CFR 63.1256(b)(5) and (f)(3). The records shall include the date of measurement, the raw data obtained in the measurement, and the calculations described in 40 CFR 63.120(b)(2) through (4) [40 CFR 63.1259 (i)(3)].

iv. Records identifying all parts of the vapor collection system, closed-vent system, fixed roof, cover, or enclosure that are designated as unsafe to inspect in accordance with 40 CFR 63.1258(h)(6), an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment [40 CFR 63.1259(i)(4)].

v. Records identifying all parts of the vapor collection system, closed-vent system, fixed roof, cover, or enclosure that are designated as difficult to inspect in accordance with 40 CFR 63.1258(h)(7), an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment [40 CFR 63.1259 (i)(5)].

vi. Pursuant to 40 CFR 63.1259(i)(6), for each vapor collection system or closed-vent system that contains bypass lines that could divert a vent stream away from the control device and to the atmosphere, the owner or operator shall keep a record of the information specified in either Condition 5.6.2(i)(vi)(A) or (B) (see also 40 CFR 63.1259(i)(6)(i) or (ii)).

A. Hourly records of whether the flow indicator specified under Condition 5.4.1 (b)(i) (see also 40 CFR 63.1252(b)(1)) was operating and whether a diversion was detected at any time during the hour, as well as records of the times and durations of all periods when the vent stream is diverted from the control device or the flow indicator is not operating [40 CFR 63.1259(i)(6)(i)].

B. Where a seal mechanism is used to comply with Condition 5.4.1(b)(ii) (see also 40 CFR 63.1252(b)(2)), hourly records of flow are not required. In such cases, the owner or operator shall record that the monthly visual inspection of the seals or closure mechanisms has been done, and shall record the occurrence of all periods when the seal mechanism is broken, the bypass line valve position has changed, or the key for a lock-and-key type lock has been checked out, and records of any car-seal that has broken [40 CFR 63.1259(i)(6)(ii)].

vii. Pursuant to 40 CFR 63.1259(i)(7), for each inspection conducted in accordance with 40 CFR 63.1258(h)(2) and (3) during which a leak is detected, a record of the information specified in Condition 5.6.2(i)(vii)(A) through (H) (see also 40 CFR 63.1259(i)(7)(i) through (viii)).

A. The instrument identification numbers; operator name or initials; and identification of the equipment [40 CFR 63.1259(i)(7)(i)].

B. The date the leak was detected and the date of the first attempt to repair the leak [40 CFR 63.1259(i)(7)(ii)].

C. Maximum instrument reading measured by the method specified in 40 CFR 63.1258(h)(4) after the leak is successfully repaired or determined to be nonrepairable [40 CFR 63.1259(i)(7)(iii)].

D. "Repair delayed" and the reason for the delay if a leak is not repaired within 15

calendar days after discovery of the leak [40 CFR 63.1259(i)(7)(iv)].

E. The name, initials, or other form of identification of the owner or operator (or designee) whose decision it was that repair could not be effected without a shutdown [40 CFR 63.1259(i)(7)(v)].

F. The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days [40 CFR 63.1259 (i)(7)(vi)].

G. Dates of shutdowns that occur while the equipment is unrepaired [40 CFR 63.1259 (i)(7)(vii)].

H. The date of successful repair of the leak [40 CFR 63.1259(i)(7)(viii)].

viii. For each inspection conducted in accordance with 40 CFR 63.1258(h)(3) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected [40 CFR 63.1259(i)(8)].

ix. For each visual inspection conducted in accordance with 40 CFR 63.1258(h)(2)(i)(B) or (h)(2)(iii)(B) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected [40 CFR 63.1259(i)(9)].

j. Pursuant to 40 CFR 63.1255(e)(5)(iv), in addition to records required by Condition 5.6.2(k) (see also 40 CFR 63.1255(g)), the owner or operator shall maintain records specified in Conditions 5.6.2(j)(i) through (iv) (see also 40 CFR 63.1255(e)(5)(iv)(A) through (D)).

i. Which valves are assigned to each subgroup [40 CFR 63.1255(e)(5)(iv)(A)],

ii. Monitoring results and calculations made for each subgroup for each monitoring period [40 CFR 63.1255(e)(5)(iv)(B)],

iii. Which valves are reassigned and when they were reassigned [40 CFR 63.1255(e)(5)(iv)(C)], and

iv. The results of the semiannual overall performance calculation required in Condition 5.9.1(b)(iii) (see also 40 CFR 63.1255 (e)(5)(iii)) [40 CFR 63.1255(e)(5)(iv)(D)].

k. Recordkeeping Requirements for Equipment Leaks.

i. An owner or operator of more than one group of processes subject to the provisions of Condition 5.4.2 (see also 40 CFR 63.1255) may comply with the recordkeeping requirements for the groups of processes in one recordkeeping system if the system identifies with each record the program being implemented (e.g., quarterly monitoring) for each type of equipment. All records and information required by Conditions 5.4.2 and 5.6.2 (see also 40 CFR 63.1255) shall be maintained in a manner that can be readily accessed at the plant site. This could include physically locating the records at the plant site or accessing the records from a central location by computer at the plant site [40 CFR 63.1255(g)(1)].

ii. General recordkeeping. Pursuant to 40 CFR 63.1255(g)(2), except as provided in Condition 5.4.2(e) (see also 40 CFR 63.1255(e)) and in Condition 5.4.2(a)(ix) (see also 40 CFR 63.1255 (a)(9)), the following information pertaining to all equipment subject to the requirements in Condition 5.4.2 (see also 40 CFR 63.1255) shall be recorded:

A. I. A list of identification numbers for equipment (except connectors that are not subject to Condition 5.4.2(f) (see also 40 CFR 63.1255(f)) and instrumentation systems) subject to the requirements of this Condition. Connectors, except those subject to Condition 5.4.2(f) (see also 40 CFR 63.1255(f)), need not be individually identified if all connectors in a designated area or length of pipe subject to the provisions of Condition 5.4.2 (see also 40 CFR 63.1255) are identified as a group, and the number of subject connectors is indicated. The list for each type of equipment shall be completed no later than the completion of the initial

survey required for that component. The list of identification numbers shall be updated, if needed, to incorporate equipment changes within 15 calendar days of the completion of each monitoring survey for the type of equipment component monitored [40 CFR 63.1255 (g)(2)(i)(A)].

II. A schedule for monitoring connectors subject to the provisions of 40 CFR 63.174(a) and valves subject to the provisions of Condition 5.4.2(e)(iv) (see also 40 CFR 63.1255(e)(4)) [40 CFR 63.1255(g)(2)(i)(B)].

III. Physical tagging of the equipment to indicate that it is in organic HAP service is not required. Equipment subject to the provisions of Condition 5.4.2 (see also 40 CFR 63.1255) may be identified on a plant site plan, in log entries, or by other appropriate methods [40 CFR 63.1255(g)(2)(i)(C)].

B. I. A list of identification numbers for equipment that the owner or operator elects to equip with a closed-vent system and control device, under the provisions of Condition 5.4.2(c)(vi) (see also 40 CFR 63.1255(c)(7)), 40 CFR 63.164(h), or 40 CFR 63.165(c) [40 CFR 63.1255(g)(2)(ii)(A)].

II. A list of identification numbers for compressors that the owner or operator elects to designate as operating with an instrument reading of less than 500 parts per million above background, under the provisions of 40 CFR 63.164(i) [40 CFR 63.1255(g)(2)(ii)(B)].

C. I. A list of identification numbers for pressure relief devices subject to the provisions in 40 CFR 63.165(a) [40 CFR 63.1255(g)(2)(iii)(A)].

II. A list of identification numbers for pressure relief devices equipped with rupture disks, under the provisions of 40 CFR 63.165(d) [40 CFR 63.1255(g)(2)(iii)(B)].

D. Identification of instrumentation systems subject to the provisions of Condition 5.4.2 (see also 40 CFR 63.1255). Individual components in an instrumentation system need not be identified [40 CFR 63.1255(g)(2)(iv)].

E. The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. The written procedures may be included as part of the startup/shutdown/malfunction plan, required by Condition 5.7.3(g) (see also 40 CFR 63.1260(i)), for the source or may be part of a separate document that is maintained at the plant site. Reasons for delay of repair may be documented by citing the relevant sections of the written procedure [40 CFR 63.1255 (g)(2)(v)].

F. Pursuant to 40 CFR 63.1255(g)(2)(vi), the following information shall be recorded for each dual mechanical seal system:

I. Design criteria required by Condition 5.4.2(c)(iv)(F)(I) (see also 40 CFR 63.1255(c)(5)(vi)(A)) and 40 CFR 63.164(e)(2), and an explanation of the design criteria [40 CFR 63.1255(g)(2)(v)(A)]; and

II. Any changes to these criteria and the reasons for the changes [40 CFR 63.1255(g)(2)(v)(B)].

G. A list of equipment designated as unsafe to monitor, difficult to monitor, or inaccessible under Conditions 5.4.2(f) or (b)(v)(B) (see also 40 CFR 63.1255(f) or (b)(1)(v)(B)) and a copy of the plan for monitoring or inspecting this equipment [40 CFR 63.1255(g)(2)(vii)].

H. A list of connectors removed from and added to the process, as described in Condition 5.9.3(a) (see also 40 CFR

63.174 (i)(1)), and documentation of the integrity of the weld for any removed connectors, as required in Condition 5.4.9(f) (see also 40 CFR 63.174(j)). This is not required unless the net credits for removed connectors is expected to be used [40 CFR 63.1255(g)(2)(viii)].

I. For batch processes that the owner or operator elects to monitor as provided under 40 CFR 63.178(c), a list of equipment added to batch product processes since the last monitoring period required in 40 CFR 63.178(c)(3)(ii) and (3)(iii). This list must be completed for each type of equipment within 15 calendar days of the completion of each monitoring survey for the type of equipment monitored [40 CFR 63.1255(g)(2)(ix)].

iii. Records of visual inspections. For visual inspections of equipment subject to the provisions of Conditions 5.4.2(c)(ii)(C) and (c)(v)(D)(I) (see also 40 CFR 63.1255 (c)(2)(iii) and (c)(5)(iv)(A)), the owner or operator shall document that the inspection was conducted and the date of the inspection. The owner or operator shall maintain records as specified in Condition 5.6.2(k)(iv) (see also 40 CFR 63.1255(g)(4)) for leaking equipment identified in this inspection, except as provided in Condition 5.6.2(k)(v) (see also 40 CFR 63.1255(g)(5)). These records shall be retained for 2 years [40 CFR 63.1255(g)(3)].

iv. Monitoring records. Pursuant to 40 CFR 63.1255(g)(4), when each leak is detected as specified in Condition 5.4.2(c) (see also 40 CFR 63.1255(c)) and 40 CFR 63.164; Condition 5.4.2(e) (see also 40 CFR 63.1255(e)) and 40 CFR 63.169; and 40 CFR 63.172 and 63.174, the following information shall be recorded and kept for 2 years onsite and 3 years offsite (5 years total):

A. The instrument and the equipment identification number and the operator name, initials, or identification number [40 CFR 63.1255(g)(4)(i)].

B. The date the leak was detected and the date of the first attempt to repair the leak [40 CFR 63.1255(g)(4)(ii)].

C. The date of successful repair of the leak [40 CFR 63.1255(g)(4)(iii)].

D. If postrepair monitoring is required, the maximum instrument reading measured by Method 21 of 40 CFR part 60, appendix A after the leak is successfully repaired or determined to be nonrepairable [40 CFR 63.1255(g)(4)(iv)].

E. Pursuant to 40 CFR 63.1255(g)(4)(v), "repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

I. The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure [40 CFR 63.1255(g)(4)(v)(A)].

II. If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked onsite before depletion and the reason for depletion [40 CFR 63.1255(g)(4)(v)(B)].

F. If repairs were delayed, dates of process shutdowns that occur while the equipment is unrepaired [40 CFR 63.1255(g)(4)(vi)].

G. I. If the alternative in 40 CFR 63.174 (c)(1)(ii) is not in use for the monitoring period, identification, either by list, location (area or grouping), or tagging of connectors disturbed since the last monitoring period required in 40 CFR 63.174(b), as described in 40 CFR 63.174(c)(1) [40 CFR 63.1255(g)(4)(vii)(A)].

II. The date and results of follow-up monitoring as required in 40 CFR

63.174(c). If identification of disturbed connectors is made by location, then all connectors within the designated location shall be monitored [40 CFR 63.1255 (g)(4)(vii)(B)].

H. The date and results of the monitoring required in 40 CFR 63.178(c)(3)(i) for equipment added to a batch process since the last monitoring period required in 40 CFR 63.178(c)(3)(ii) and (c)(3)(iii). If no leaking equipment is found in this monitoring, the owner or operator shall record that the inspection was performed. Records of the actual monitoring results are not required [40 CFR 63.1255 (g)(4)(viii)].

I. Copies of the periodic reports as specified in Condition 5.7.3(n)(iii) (see also 40 CFR 63.1255(h)(3)), if records are not maintained on a computerized data base capable of generating summary reports from the records [40 CFR 63.1255(g)(4)(ix)].

v. Records of pressure tests. Pursuant to 40 CFR 63.1255(g)(5), the owner or operator who elects to pressure test a process equipment train and supply lines between storage and processing areas to demonstrate compliance with Condition 5.4.2 (see also 40 CFR 63.1255) is exempt from the requirements of Conditions 5.6.2(k)(ii), (k)(iii), (k)(iv), and (k)(vi) (see also 40 CFR 63.1255(g)(2), (g)(3), (g)(4), and (g)(6)). Instead, the owner or operator shall maintain records of the following information:

A. The identification of each product, or product code, produced during the calendar year. It is not necessary to identify individual items of equipment in the process equipment train [40 CFR 63.1255(g)(5)(i)].

B. Records demonstrating the proportion of the time during the calendar year the equipment is in use in the process that is subject to the provisions of 40 CFR 63 Subpart GGG. Examples of suitable documentation are records of time in use for individual pieces of equipment or

average time in use for the process unit. These records are not required if the owner or operator does not adjust monitoring frequency by the time in use, as provided in 40 CFR 63.178(c)(3)(iii) [40 CFR 63.1255(g)(5)(ii)].

C. Physical tagging of the equipment to identify that it is in organic HAP service and subject to the provisions of Condition 5.4.2 (see also 40 CFR 63.1255) is not required. Equipment in a process subject to the provisions of this appendix may be identified on a plant site plan, in log entries, or by other appropriate methods [40 CFR 63.1255(g)(5)(iii)].

D. The dates of each pressure test required in 40 CFR 63.178(b), the test pressure, and the pressure drop observed during the test [40 CFR 63.1255(g)(5)(iv)].

E. Records of any visible, audible, or olfactory evidence of fluid loss [40 CFR 63.1255(g)(5)(v)].

F. Pursuant to 40 CFR 63.1255(g)(5)(vi), when a process equipment train does not pass two consecutive pressure tests, the following information shall be recorded in a log and kept for 2 years:

I. The date of each pressure test and the date of each leak repair attempt [40 CFR 63.1255(g)(5)(vi)(A)].

II. Repair methods applied in each attempt to repair the leak [40 CFR 63.1255(g)(5)(vi)(B)].

III. The reason for the delay of repair [40 CFR 63.1255(g)(5)(vi)(C)].

IV. The expected date for delivery of the replacement equipment and the actual date of delivery of the replacement equipment [40 CFR 63.1255(g)(5)(vi)(D)].

V. The date of successful repair [40 CFR 63.1255(g)(5)(vi)(E)].

vi. Records of compressor compliance tests. Pursuant to 40 CFR 63.1255(g)(6), the dates and results of each compliance test required for compressors subject to the provisions in 40 CFR 63.164(i) and the dates and results of the monitoring following a pressure release for each pressure relief device subject to the provisions in 40 CFR 63.165(a) and (b). The results shall include:

A. The background level measured during each compliance test [40 CFR 63.1255(g)(6)(i)].

B. The maximum instrument reading measured at each piece of equipment during each compliance test [40 CFR 63.1255 (g)(6)(ii)].

vii. Records for closed-vent systems. Pursuant to 40 CFR 63.1255(g)(7), the owner or operator shall maintain records of the information specified in Conditions 5.6.2(k)(vii)(A) through (k)(vii)(C) (see also 40 CFR 63.1255(g)(7)(i) through (g)(7)(iii)) for closed-vent systems and control devices subject to the provisions of Condition 5.4.2(b)(vi) (see also 40 CFR 63.1255 (b)(1)(vi)). The records specified in Condition 5.6.2(g)(vii)(A) (see also 40 CFR 63.1255 (g)(7)(i)) shall be retained for the life of the equipment. The records specified in Conditions 5.6.2(k)(vii)(A) and (k)(vii)(C) (see also 40 CFR 63.1255(g)(7)(ii) and (g)(7)(iii)) shall be retained for 2 years.

A. Pursuant to 40 CFR 63.1255(g)(7)(i), the design specifications and performance demonstrations specified in Conditions 5.6.2(k)(vii)(A)(I) through (g)(vii)(A)(IV) (see also 40 CFR 63.1255 (g)(7)(i)(A) through (g)(7)(i)(D)).

I. Detailed schematics, design specifications of the control device, and piping and instrumentation diagrams [40 CFR 63.1255(g)(7)(i)(A)].

II. The dates and descriptions of any changes in the design specifications [40 CFR 63.1255(g)(7)(i)(B)].

III. The flare design (i.e., steam assisted, air assisted, or nonassisted) and the results of the compliance demonstration required by 40 CFR 63.11(b) [40 CFR 63.1255 (g)(7)(i)(C)].

IV. A description of the parameter or parameters monitored, as required in Condition 5.4.2(b)(vi) (see also 40 CFR 63.1255(b)(1)(vi)), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring [40 CFR 63.1255(g)(7)(i)(D)].

B. Pursuant to 40 CFR 63.1255(g)(7)(ii), records of operation of closed-vent systems and control devices.

I. Dates and durations when the closed-vent systems and control devices required in Condition 5.4.2(c) (see also 40 CFR 63.1255(c)) and 40 CFR 63.164 through 63.166 are not operated as designed as indicated by the monitored parameters, including periods when a flare pilot light system does not have a flame [40 CFR 63.1255(g)(7)(ii)(A)].

II. Dates and durations during which the monitoring system or monitoring device is inoperative [40 CFR 63.1255(g)(7)(ii)(B)].

III. Dates and durations of startups and shutdowns of control devices required in Condition 5.4.2(c)(vi) (see also 40 CFR 63.1255(c)(7)) and 40 CFR 63.164 through 63.166 [40 CFR 63.1255(g)(7)(ii)(C)].

C. Pursuant to 40 CFR 63.1255(g)(7)(iii), records of inspections of closed-vent systems subject to the provisions of Condition 5.4.8 (see also 40 CFR 63.172).

I. For each inspection conducted in accordance with the provisions of

Condition 5.4.8(f)(i) or (f)(ii) (see also 40 CFR 63.172(f)(1) or (f)(2)) during which no leaks were detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected [40 CFR 63.1255(g)(7)(iii)(A)].

II. For each inspection conducted in accordance with the provisions of Condition 5.4.8(f)(i) or (f)(ii) (see also 40 CFR 63.172(f)(1) or (f)(2)) during which leaks were detected, the information specified in Condition 5.6.2(k)(iv) (see also 40 CFR 63.1255(g)(4)) shall be recorded [40 CFR 63.1255 (g)(7)(iii)(B)].

viii. Records for components in heavy liquid service. Information, data, and analysis used to determine that a piece of equipment or process is in heavy liquid service shall be recorded. Such a determination shall include an analysis or demonstration that the process fluids do not meet the criteria of "in light liquid or gas service." Examples of information that could document this include, but are not limited to, records of chemicals purchased for the process, analyses of process stream composition, engineering calculations, or process knowledge [40 CFR 63.1255(g)(8)].

ix. Records of exempt components. Identification, either by list, location (area or group) of equipment in organic HAP service less than 300 hours per year subject to the provisions of Condition 5.4.2 (see also 40 CFR 63.1255) [40 CFR 63.1255(g)(9)].

x. Records of alternative means of compliance determination. Pursuant to 40 CFR 63.1255 (g)(10), owners and operators choosing to comply with the requirements of 40 CFR 63.179 shall maintain the following records:

A. Identification of the process(es) and the organic HAP they handle [40 CFR 63.1255 (g)(10)(i)].

B. A schematic of the process, enclosure, and closed-vent system [40 CFR 63.1255 (g)(10)(ii)].

C. A description of the system used to create a negative pressure in the enclosure to ensure that all emissions are routed to the control device [40 CFR 63.1255 (g)(10)(iii)].

5.6.3 NSPS Recordkeeping

Any owner or operator subject to the provisions of 40 CFR Part 60 shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility [40 CFR 60.7(b)]

5.6.4 Records for Storage Vessels

Each storage vessel with a design capacity less than 40,000 gallons is subject to no provisions of 35 IAC Part 218 other than those required by maintaining readily accessible records of the dimensions of the storage vessel and analysis of the capacity of the storage vessel [35 IAC 218.129(f)].

5.6.5 Records for Leak Detection Monitoring:

Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 5.4.13 (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

a. The name of the leaking equipment [35 IAC 218.489(b)(1)];

b. The date and time the leak is detected [35 IAC 218.489(b)(2)];

c. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

d. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

5.6.6 Records for Pharmaceutical Manufacturing

a. Pursuant to 35 IAC 218.489(c), the following records shall be kept for emission units subject to Condition 5.4.10 (see also 35 IAC 218.484) which contain VOL:

i. For maintenance and inspection:

A. The date and time each cover is opened [35 IAC 218.489(c)(1)(A)];

B. The length of time the cover remains open [35 IAC 218.489(c)(1)(B)]; and

C. The reason why the cover is opened [35 IAC 218.489(c)(1)(C)].

ii. For production and sampling, detailed written procedures or manufacturing directions specifying the circumstances under which covers may be opened and the procedures for opening covers [35 IAC 218.489(c)(2)].

b. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in 35 IAC 218.480(a), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in 35 IAC 218.480(a) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in 35 IAC 218.480(a) are ever exceeded [35 IAC 218.489(d)(2)].

c. Copies of these records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

5.6.7 Retention and Availability of Records

a. All records and logs required by this permit shall be retained for at least five years from the date of entry (unless a longer retention period is specified by the particular recordkeeping provision herein), shall be kept at a location at the source that is readily accessible to the Illinois EPA or USEPA, and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request.

b. The Permittee shall retrieve and print, on paper during normal source office hours, any records retained in an electronic format (e.g., computer) in response to an Illinois EPA or USEPA request for records during the course of a source inspection.

5.7 General Reporting Requirements

5.7.1 General Source-Wide Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

5.7.2 Annual Emissions Report

The annual emissions report required pursuant to Condition 9.7 shall contain emissions information for the previous calendar year.

5.7.3 NESHAP Reporting Requirements

a. The owner or operator of an affected source shall comply with the reporting requirements of Conditions 5.7.3(b) through (j) (see also 40 CFR 63.1260(b) through (l)). Applicable reporting requirements of 40 CFR 63.9 and 63.10 are also summarized in Table 1 of 40 CFR 63 Subpart GGG [40 CFR 63.1260(a)].

b. Notification of CMS performance evaluation. An owner or operator who is required by the Illinois EPA and/or USEPA to conduct a performance evaluation for a continuous monitoring system shall notify the Illinois EPA and/or USEPA of the date of the performance evaluation as specified in 40 CFR 63.8(e)(2) [40 CFR 63.1260(d)].

c. Precompliance report. Pursuant to 40 CFR 63.1260(e), the Precompliance report shall be submitted at least 6 months prior to the compliance date of 40 CFR 63 Subpart GGG. The Illinois EPA and/or USEPA shall have 90 days to approve or disapprove the plan. The plan shall be considered approved if the Illinois EPA and/or USEPA either approves the plan in writing, or fails to disapprove the plan in writing. The 90 day period shall begin when the Illinois EPA and/or USEPA receives the request. If the request is denied, the owner or operator must still be in compliance with the standard by the compliance date. To change any of the information submitted in the report, the owner or operator shall notify the Illinois EPA and/or USEPA 90 days before the planned change is to be implemented; the change shall be considered approved if the Illinois EPA and/or USEPA either approves the change in writing, or fails to disapprove the change in writing. The Precompliance report shall include:

i. Requests for approval to use alternative monitoring parameters or requests to set

monitoring parameters according to 40 CFR 63.1258(b)(4) [40 CFR 63.1260(e)(1)].

ii. Descriptions of the daily or per batch demonstrations to verify that control devices subject to 40 CFR 63.1258(b)(1)(i) are operating as designed [40 CFR 63.1260(e)(2)].

iii. A description of test conditions, and the corresponding monitoring parameter values for parameters that are set according to 40 CFR 63.1258(b)(3)(ii)(C) [40 CFR 63.1260(e)(3)].

iv. For owners and operators complying with the requirements of Condition 5.4.1(e) (see also 40 CFR 63.1252(e)), the P2 demonstration summary required in Condition 5.9.2 (see also 40 CFR 63.1257(f)) [40 CFR 63.1260(e)(4)].

v. Data and rationale used to support an engineering assessment to calculate uncontrolled emissions from process vents as required in 40 CFR 63.1257(d)(2)(ii) [40 CFR 63.1260(e)(5)].

d. Notification of Compliance Status report. Pursuant to 40 CFR 63.1260(f), the Notification of Compliance Status report required under 40 CFR 63.9 shall be submitted no later than 150 days after the compliance date and shall include:

i. The results of any applicability determinations, emission calculations, or analyses used to identify and quantify HAP emissions from the affected source [40 CFR 63.1260(f)(1)].

ii. The results of emissions profiles, performance tests, engineering analyses, design evaluations, or calculations used to demonstrate compliance. For performance tests, results should include descriptions of sampling and analysis procedures and quality assurance procedures [40 CFR 63.1260 (f)(2)].

iii. Descriptions of monitoring devices, monitoring frequencies, and the values of monitored parameters established during the initial compliance determinations, including data and calculations to support the levels established [40 CFR 63.1260(f)(3)].

iv. Listing of all operating scenarios [40 CFR 63.1260(f)(4)].

v. Descriptions of worst-case operating and/or testing conditions for control devices [40 CFR 63.1260(f)(5)].

vi. Identification of emission points subject to overlapping requirements described in 40 CFR 63.1250(h) and the authority under which the owner or operator will comply [40 CFR 63.1260 (f)(6)].

e. Periodic reports. Pursuant to 40 CFR 63.1260(g), an owner or operator shall prepare Periodic reports in accordance with Conditions 5.7.3(e)(i) and (ii) (see also 40 CFR 63.1260(g)(1) and (2)) and submit them to the Illinois EPA and/or USEPA.

i. Submittal schedule. Pursuant to 40 CFR 63.1260 (g)(1), except as provided in Conditions 5.7.3 (e)(i)(A), (B), and (C) (see also 40 CFR 63.1260 (g)(1)(i), (ii) and (iii)), an owner or operator shall submit Periodic reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due.

A. When the Illinois EPA and/or USEPA determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source [40 CFR 63.1260 (g)(1)(i)]; or

B. When the monitoring data are used directly for compliance determination and the source experience excess emissions, in which case quarterly reports shall be submitted. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in 40 CFR 63.10(e)(3)(ii) and (iii) shall apply, except that the term "excess emissions and continuous monitoring system performance report and/or summary report" shall mean

"Periodic report" for the purposes of Condition 5.7.3 (see also 40 CFR 63.1260 [40 CFR 63.1260(g)(1)(ii)].

C. When a new operating scenario has been operated since the last report, in which case quarterly reports shall be submitted [40 CFR 63.1260(g)(1)(iii)].

ii Content of Periodic report. Pursuant to 40 CFR 63.1260(g)(2), the owner or operator shall include the information in Conditions 5.7.3 (e)(ii)(A) through (G) (see also 40 CFR 63.1260 (g)(2)(i) through (vii)), as applicable.

A. Each Periodic report must include the information in 40 CFR 63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the information in 40 CFR 63.10(e)(3)(vi)(J) [40 CFR 63.1260(g)(2)(i)].

B. Pursuant to 40 CFR 63.1260(g)(2)(ii), if the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in Conditions 5.7.3(e)(ii)(B)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(ii)(A) through (D)).

I. Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(A)].

II. Duration of excursions, as defined in 40 CFR 63.1258(b)(7) [40 CFR 63.1260(g)(2)(ii)(B)].

III. Operating logs and operating scenarios for all operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(C)].

IV. When a continuous monitoring system is used, the information required in 40 CFR 63.10(c)(5) through (13) [40 CFR 63.1260(g)(2)(ii)(D)].

C. For each inspection conducted in accordance with 40 CFR 63.1258(h)(2) or (3) during which a leak is detected, the records specified in Condition 5.6.2 (i)(vii) (see also 40 CFR 63.1259(i)(7)) must be included in the next Periodic report [40 CFR 63.1260(g)(2)(iii)].

D. For each vapor collection system or closed vent system with a bypass line subject to Condition 5.4.1(b)(i) (see also 40 CFR 63.1252(b)(1)), records required under Condition 5.6.2(i)(vi)(A) (see also 40 CFR 63.1259(i)(6)(i)) of all periods when the vent stream is diverted from the control device through a bypass line. For each vapor collection system or closed vent system with a bypass line subject to Condition 5.4.1(b)(ii) (see also 40 CFR 63.1252(b)(2)), records required under Condition 5.6.2(i)(vi)(B) (see also 40 CFR 63.1259(i)(6)(ii)) of all periods in which the seal mechanism is broken, the bypass valve position has changed, or the key to unlock the bypass line valve was checked out [40 CFR 63.1260(g)(2)(iv)].

E. Pursuant to 40 CFR 63.1260(g)(2)(v), the information in Conditions 5.7.3 (e)(ii)(E)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(v)(A) through (D)) shall be stated in the Periodic report, when applicable.

I. No excess emissions [40 CFR 63.1260 (g)(2)(v)(A)].

II. No exceedances of a parameter [40 CFR 63.1260(g)(2)(v)(B)].

III. No excursions [40 CFR 63.1260 (g)(2)(v)(C)].

IV. No continuous monitoring system has been inoperative, out of control, repaired, or adjusted [40 CFR 63.1260(g)(2)(v)(D)].

F. For each tank subject to control requirements, periods of planned routine maintenance during which the control device does not meet the specifications of 40 CFR 63.1253(b) through (d) [40 CFR 63.1260(g)(2)(vi)].

G. Each new operating scenario which has been operated since the time period covered by the last Periodic report. For the initial Periodic report, each operating scenario for each process operated since the compliance date shall be submitted [40 CFR 63.1260(g)(2)(vii)].

f. Notification of process change.

i. Pursuant to 40 CFR 63.1260(h)(1), except as specified in Condition 5.7.3(f)(ii) (see also 40 CFR 63.1260(h)(2)), whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report quarterly. The report may be submitted as part of the next Periodic report required under Condition 5.7.3(e) (see also 40 CFR 63.1260(g)). The report shall include:

A. A brief description of the process change [40 CFR 63.1260(h)(1)(i)].

B. A description of any modifications to standard procedures or quality assurance procedures [40 CFR 63.1260(h)(1)(ii)].

C. Revisions to any of the information reported in the original Notification of Compliance Status Report under Condition 5.7.3(d) (see also 40 CFR 63.1260(f)) [40 CFR 63.1260(h)(1)(iii)].

D. Information required by the Notification of Compliance Status Report under Condition 5.7.3(d) (see also 40 CFR

63.1260(f)) for changes involving the addition of processes or equipment [40 CFR 63.1260(h)(1)(iv)].

ii. Pursuant to 40 CFR 63.1260(h)(2), an owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

A. Any change in the activity covered by the Precompliance report [40 CFR 63.1260 (h)(2)(i)].

B. A change in the status of a control device from small to large [40 CFR 63.1260 (h)(2)(ii)].

g. Reports of startup, shutdown, and malfunction. For the purposes of 40 CFR 63 Subpart GGG, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the periodic reports required under Condition 5.7.3(e) (see also 40 CFR 63.1260(g)) instead of the schedule specified in 40 CFR 63.10 (d)(5)(i). These reports shall include the information specified in Conditions 5.6.2(a)(iii)(A) through (C) (see also 40 CFR 63.1259(a)(3)(i) through (iii)) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in 40 CFR 63.10 (d)(4)(ii) [40 CFR 63.1260(i)].

h. Reports of LDAR programs. The owner or operator of any affected source implementing the LDAR program specified in Condition 5.4.2 (see also 40 CFR 63.1255) shall implement the reporting requirements in Condition 5.7.3(n) (see also 40 CFR 63.1255). Copies of all reports shall be retained as records for a period of 5 years, in accordance with the requirements of 40 CFR 63.10(b)(1) [40 CFR 63.1260(j)].

i. Reports of emissions averaging. Pursuant to 40 CFR 63.1260(k), the owner or operator of any affected source that chooses to comply with the requirements of Condition 5.4.1(d) (see also 40 CFR 63.1252(d)) shall submit the implementation plan described in

Condition 5.6.2(e) (see also 40 CFR 63.1259(e)) 6 months prior to the compliance date of the standard and the following information in the periodic reports:

i. The records specified in Condition 5.6.2(e) (see also 40 CFR 63.1259(e)) for each process or storage tank included in the emissions average [40 CFR 63.1260(k)(1)];

ii. All information as specified in Condition 5.7.3(e) (see also 40 CFR 63.1260(g)) for each process or storage tank included in the emissions average [40 CFR 63.1260(k)(2)];

iii. Any changes of the processes or storage tanks included in the average [40 CFR 63.1260(k)(3)].

iv. The calculation of the overall percent reduction efficiency for the reporting period [40 CFR 63.1260(k)(4)].

v. Changes to the Implementation Plan which affect the calculation methodology of uncontrolled or controlled emissions or the hazard or risk equivalency determination [40 CFR 63.1260 (k)(5)].

vi. Every second semiannual or fourth quarterly report, as appropriate, shall include the results according to Condition 5.6.2(e)(iv) (see also 40 CFR 63.1259(e)(4)) to demonstrate the emissions averaging provisions of Condition 5.4.1(d) (see also 40 CFR 63.1252(d)), 40 CFR 63.1257(g) and (h), 63.1258(f), and Condition 5.6.2(f) (see also 40 CFR 63.1259(f)) are satisfied [40 CFR 63.1260(k)(6)].

j. Notification of performance test and test plan. The owner or operator of an affected source shall notify the Illinois EPA and/or USEPA of the planned date of a performance test at least 60 days before the test in accordance with 40 CFR 63.7(b). The owner or operator also must submit the test plan required by 40 CFR 63.7(c) and the emission profile required by 40 CFR 63.1257(b)(8)(ii) with the notification of the performance test [40 CFR 63.1260(l)].

k. Request for extension of compliance. An owner or operator may submit to the Illinois EPA and/or USEPA a request for an extension of compliance in

accordance with 40 CFR 63.1250(f)(4) [40 CFR 63.1260(m)].

l. The owner or operator shall notify the Illinois EPA and/or USEPA no later than 30 days prior to the beginning of the next monitoring period of the decision to subgroup valves. The notification shall identify the participating processes and the valves assigned to each subgroup [40 CFR 63.1255(e)(5)(v)].

m. Semiannual reports. In addition to the information required by Condition 5.7.3(n)(iii) (see also 40 CFR 63.1255(h)(3)), the owner or operator shall submit in the periodic reports the information specified in Conditions 5.7.3(m)(i) and (ii) (see also 40 CFR 63.1255(e)(5)(vi)(A) and (B)) [40 CFR 63.1255 (e)(5)(vi)].

i. Valve reassignments occurring during the reporting period [40 CFR 63.1255(e)(5)(vi)(A)], and

ii. Results of the semiannual overall performance calculation required by Condition 5.9.1(b)(iii) (see also 40 CFR 63.1255(e)(5)(iii)) [40 CFR 63.1255(e)(5)(vi)(B)].

n. Reporting Requirements for Equipment Leaks.

i. Pursuant to 40 CFR 63.1255(h)(1), each owner or operator of a source subject to Condition 5.4.2 (see also 40 CFR 63.1255) shall submit the reports listed in Conditions 5.7.3(n)(i)(A) through (B) (see also 40 CFR 63.1255(h)(1)(i) through (ii)).

A. A Notification of Compliance Status Report described in Condition 5.7.3(n)(ii) (see also 40 CFR 63.1255(h)(2)) [40 CFR 63.1255 (h)(1)(i)],

B. Periodic Reports described in Condition 5.7.3(n)(iii) (see also 40 CFR 63.1255 (h)(3)) [40 CFR 63.1255(h)(1)(ii)], and

ii. Notification of compliance report. Pursuant to 40 CFR 63.1255(h)(2), each owner or operator of a source subject to Condition 5.4.2 (see also 40 CFR 63.1255) shall submit the information specified in Conditions 5.7.3(n)(ii)(A) through (C) (see also 40 CFR 63.1255(h)(2)(i) through (iii)) in the

Notification of Compliance Status Report described in Condition 5.7.3(d) (see also 40 CFR 63.1260(f)).

A. Pursuant to 40 CFR 63.1255(h)(2)(i), the notification shall provide the information listed in Conditions 5.7.3(n)(ii)(A)(I) through (III) (see also 40 CFR 63.1255 (h)(2)(i)(A) through (C)) for each process subject to the requirements of Conditions 5.4.2(b) through (f) and 5.6.2(k) (see also 40 CFR 63.1255(b) through (g)).

   I. Process group identification [40 CFR 63.1255(h)(2)(i)(A)].

   II. Approximate number of each equipment type (e.g., valves, pumps) in organic HAP service, excluding equipment in vacuum service [40 CFR 63.1255(h)(2)(i)(B)].

   III. Method of compliance with the standard (for example, "monthly leak detection and repair" or "equipped with dual mechanical seals") [40 CFR 63.1255(h)(2)(i)(C)].

B. Pursuant to 40 CFR 63.1255(h)(2)(ii), the notification shall provide the information listed in Conditions 5.7.3(n)(ii)(B)(I) and (II) (see also 40 CFR 63.1255 (h)(2)(ii)(A) and (B)) for each process subject to the requirements of Condition 5.4.2(b)(ix) (see also 40 CFR 63.1255 (b)(1)(ix)) and 40 CFR 63.178(b).

   I. Products or product codes subject to the provisions of Condition 5.4.2 (see also 40 CFR 63.1255) [40 CFR 63.1255(h)(2)(ii)(A)], and

   II. Planned schedule for pressure testing when equipment is configured for production of products subject to the provisions of Condition 5.4.2 (see also 40 CFR 63.1255) [40 CFR 63.1255(h)(2)(ii)(B)].

C. Pursuant to 40 CFR 63.1255(h)(2)(iii), the notification shall provide the information listed in Conditions 5.7.3(n)(ii)(C)(I) and (II) (see also 40 CFR 63.1255 (h)(2)(iii)(A) and (B)) for each process subject to the requirements in 40 CFR 63.179.

I. Process identification [40 CFR 63.1255(h)(2)(iii)(A)].

II. A description of the system used to create a negative pressure in the enclosure and the control device used to comply with the requirements of Condition 5.4.2(b)(vi) (see also 40 CFR 63.1255(b)(1)(vi)) [40 CFR 63.1255(h)(2)(iii)(B)].

D. Any change in the information submitted under Condition 5.7.3(n) (see also 40 CFR 63.1255(h)) shall be provided to the Illinois EPA and/or USEPA as a part of subsequent Periodic Reports. 40 CFR 63.9(j) shall not apply to the Notification of Compliance Status Report described in Condition 5.7.3(n)(ii) (see also 40 CFR 63.1255(h)(2)) [40 CFR 63.1255 (h)(2)(iv)].

iii. Periodic reports. Pursuant to 40 CFR 63.1255 (h)(3), the owner or operator of a source subject to Condition 5.4.2 (see also 40 CFR 63.1255) shall submit Periodic Reports.

A. A report containing the information in Conditions 5.7.3(n)(iii)(B), (n)(iii)(C), and (n)(iii)(D) (see also 40 CFR 63.1255 (h)(3)(ii), (h)(3)(iii), and (h)(3)(iv)) shall be submitted semiannually starting 6 months after the Notification of Compliance Status Report, as required in Condition 5.7.3(n)(ii) (see also 40 CFR 63.1255(h)(2)). The first periodic report shall cover the first 6 months after the compliance date specified in Condition 5.2.4(d) (see also 40 CFR 63.1250(f)). Each subsequent periodic report shall cover the 6 month period following the preceding period [40 CFR 63.1255 (h)(3)(i)].

B. Pursuant to 40 CFR 63.1255(h)(3)(ii), for equipment complying with the provisions of Conditions 5.4.2(b) through (f) and 5.6.2(k) (see also 40 CFR 63.1255(b) through (g)), the summary information listed in Conditions 5.7.3(n)(iii)(B)(I) through (XII) (see also 40 CFR 63.1255 (h)(3)(ii)(A) through (L)) for each monitoring period during the 6-month period.

I. The number of valves for which leaks were detected as described in Condition 5.4.2(e)(iii) (see also 40 CFR 63.1255(e)(3)), the percent leakers, and the total number of valves monitored [40 CFR 63.1255 (h)(3)(ii)(A)];

II. The number of valves for which leaks were not repaired as required in Condition 5.4.2(e)(v) (see also 40 CFR 63.1255(e)(7)), identifying the number of those that are determined nonrepairable [40 CFR 63.1255 (h)(3)(ii)(B)];

III. The number of pumps and agitators for which leaks were detected as described in Condition 5.4.2(c)(ii) (see also 40 CFR 63.1255(c)(2)), the percent leakers, and the total number of pumps and agitators monitored [40 CFR 63.1255 (h)(3)(ii)(C)];

IV. The number of pumps and agitators for which leaks were not repaired as required in Condition 5.4.2(c)(iii) (see also 40 CFR 63.1255(c)(3)) [40 CFR 63.1255(h)(3)(ii)(D)];

V. The number of compressors for which leaks were detected as described in 40 CFR 63.164(f) [40 CFR 63.1255 (h)(3)(ii)(E)];

VI. The number of compressors for which leaks were not repaired as required in 40 CFR 63.164(g) [40 CFR 63.1255 (h)(3)(ii)(F)];

VII. The number of connectors for which leaks were detected as described in 40 CFR 63.174(a), the percent of connectors leaking, and the total number of connectors monitored [40 CFR 63.1255(h)(3)(ii)(G)];

VIII. The number of connectors for which leaks were not repaired as required in 40 CFR 63.174(d), identifying the number of those that are determined nonrepairable [40 CFR 63.1255 (h)(3)(ii)(H)];

IX. The facts that explain any delay of repairs and, where appropriate, why a process shutdown was technically infeasible [40 CFR 63.1255 (h)(3)(ii)(I)].

X. The results of all monitoring to show compliance with 40 CFR 63.164(i), 63.165(a), and 63.172(f) conducted within the semiannual reporting period [40 CFR 63.1255 (h)(3)(ii)(J)].

XI. If applicable, the initiation of a monthly monitoring program under either Condition 5.9.1(a)(ii) or (e)(iv)(A) (see also 40 CFR 63.1255 (c)(4)(ii) or (e)(4)(i)) [40 CFR 63.1255(h)(3)(ii)(K)].

XII. If applicable, notification of a change in connector monitoring alternatives as described in 40 CFR 63.174(c)(1) [40 CFR 63.1255 (h)(3)(ii)(L)].

C. Pursuant to 40 CFR 63.1255(h)(3)(iii), for owners or operators electing to meet the requirements of 40 CFR 63.178(b), the report shall include the information listed in Conditions 5.7.3(n)(iii)(C)(I) through (V) (see also 40 CFR 63.1255 (h)(3)(iii)(A) through (E)) for each process.

I. Product process equipment train identification [40 CFR 63.1255 (h)(3)(iii)(A)];

II. The number of pressure tests conducted [40 CFR 63.1255 (h)(3)(iii)(B)]

III. The number of pressure tests where the equipment train failed either the retest or two consecutive pressure tests [40 CFR 63.1255 (h)(3)(iii)(C)];

IV. The facts that explain any delay of repairs [40 CFR 63.1255 (h)(3)(iii)(D)]; and

V. The results of all monitoring to determine compliance with 40 CFR 63.172(f) [40 CFR 63.1255 (h)(3)(iii)(E)].

D. Any revisions to items reported in earlier Notification of Compliance Status Report, if the method of compliance has changed since the last report or any other changes to the information reported has occurred [40 CFR 63.1255(h)(3)(iv)].

5.7.4 NSPS Reporting Requirements

Pursuant to 40 CFR 60.7(a)(1), the Permittee shall furnish the Illinois EPA written notification of the date of reconstruction of an existing facility is commenced so that it will become an affected facility subject to the provisions of 40 CFR Part 60 postmarked no later than 30 days after such date [40 CFR 60.7(a)(1)].

5.7.5 Pharmaceutical Manufacturing Reporting Requirements

For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in 35 IAC 218.480(a), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in 35 IAC 218.480(a) [35 IAC 218.489(d)(3)].

5.8 General Operational Flexibility/Anticipated Operating Scenarios

N/A

5.9 General Compliance Procedures

5.9.1 Pharmaceutical Manufacturing NESHAP Compliance Procedures for Equipment Leaks

a. Calculation of percent leakers (Pumps in Light Liquid Service and Agitators in Gas/Vapor Service and in Light Liquid Service).

i. The owner or operator shall decide no later than the end of the first monitoring period what groups of processes will be developed. Once the owner or operator has decided, all subsequent percent calculations shall be made on the same basis [40 CFR 63.1255(c)(4)(i)].

ii. If, calculated on a 1 year rolling average, the greater of either 10 percent or three of the pumps in a group of processes leak, the owner or operator shall monitor each pump once per month [40 CFR 63.1255(c)(4)(ii)].

iii. The number of pumps in a group of processes shall be the sum of all the pumps in organic HAP service, except that pumps found leaking in a continuous process within 1 quarter after startup of the pump shall not count in the percent leaking pumps calculation for that one monitoring period only [40 CFR 63.1255 (c)(4)(iii)].

iv. Pursuant to 40 CFR 63.1255(c)(4)(iv), percent leaking pumps shall be determined by the following Equation 3:

$$\%P_L = [(P_L - P_S)/(P_T - P_S)] \times 100 \qquad \text{Equation 3}$$

Where:

$\%P_L$ = Percent leaking pumps

P_L = Number of pumps found leaking as determined through quarterly monitoring as required in Conditions 5.4.2(c)(ii)(A) and (c)(ii)(B) (see also 40 CFR 63.1255 (c)(2)(i) and (c)(2)(ii)).

P_T = Total pumps in organic HAP service, including those meeting the criteria in Conditions 5.4.2(c)(v) and (c)(vi) (see also 40 CFR 63.1255(c)(5) and (c)(6)).

P_S = Number of pumps in a continuous process leaking within 1 quarter of startup during the current monitoring period

b. Calculation of percent leakers (Valves in Gas/Vapor Service and in Light Liquid Serve). Pursuant to 40 CFR 63.1255(e)(5), for a group of processes to which 40 CFR 63 Subpart GGG applies, an owner or operator may choose to subdivide the valves in the applicable group of processes and apply the provisions of Condition 5.4.2(e)(iv) (see also 40 CFR 63.1255(e)(4)) to each subgroup. If the owner or operator elects to subdivide the valves in the applicable group of processes, then the provisions of Conditions 5.9.1(b)(i) through (b)(viii) (see also 40 CFR 63.1255(e)(5)(i) through (e)(5)(viii)) apply.

i. The overall performance of total valves in the applicable group of processes must be less than 2 percent leaking valves, as detected according to Conditions 5.4.2(e)(iii)(A) and (B) (see also 40 CFR 63.1255(e)(3)(i) and (ii)) and as calculated according to Conditions 5.4.2 (e)(vi)(B) and (C) (see also 40 CFR 63.1255 (e)(6)(ii) and (iii)) [40 CFR 63.1255(e)(5)(i)].

ii. Pursuant to 40 CFR 63.1255(e)(5)(ii), the initial assignment or subsequent reassignment of valves to subgroups shall be governed by the provisions of Conditions 5.9.1(b)(ii)(A) through (C) (see also 40 CFR 63.1255(e)(5)(ii)(A) through (C)).

A. The owner or operator shall determine which valves are assigned to each subgroup. Valves with less than 1 year of monitoring data or valves not monitored within the last 12 months must be placed initially into the most frequently monitored subgroup until at least 1 year of monitoring data has been obtained [40 CFR 63.1255(e)(5)(ii)(A)].

B. Any valve or group of valves can be reassigned from a less frequently monitored subgroup to a more frequently monitored subgroup provided that the valves to be reassigned were monitored during the most recent monitoring period for the less frequently monitored subgroup. The monitoring results must be included with the less frequently

monitored subgroup's monitoring event and associated next percent leaking valves calculation for that group [40 CFR 63.1255 (e)(5)(ii)(B)].

C. Any valve or group of valves can be reassigned from a more frequently monitored subgroup to a less frequently monitored subgroup provided that the valves to be reassigned have not leaked for the period of the less frequently monitored subgroup (e.g., for the last 12 months, if the valve or group of valves is to be reassigned to a subgroup being monitored annually). Nonrepairable valves may not be reassigned to a less frequently monitored subgroup [40 CFR 63.1255 (e)(5)(ii)(C)].

iii. Pursuant to 40 CFR 63.1255(e)(5)(iii), the owner or operator shall determine every 6 months if the overall performance of total valves in the applicable group of processes is less than 2 percent leaking valves and so indicate the performance in the next periodic report. If the overall performance of total valves in the applicable group of processes is 2 percent leaking valves or greater, the owner or operator shall revert to the program required in Conditions 5.4.2(e)(ii) through (e)(iv) (see also 40 CFR 63.1255(e)(2) through (e)(4)). The overall performance of total valves in the applicable group of processes shall be calculated as a weighted average of the percent leaking valves of each subgroup according to the following Equation 4:

$$\%V_{LO} = \frac{\sum_{i=1}^{n} \left(\%V_{Li} \times V_i\right)}{\sum_{i=1}^{n} V_i}$$

Equation 4

Where:

$\%V_{LO}$ = Overall performance of total valves in the applicable process or group of processes

$\%V_{Li}$ = Percent leaking valves in subgroup I, most recent value calculated according to the procedures in Conditions 5.4.2(e)(vi)(B) and (C)

(see also 40 CFR 63.1255(e)(6)(ii) and (iii))

V_i = Number of valves in subgroup I

n = Number of subgroups

iv. To determine the monitoring frequency for each subgroup, the calculation procedures of Condition 5.9.1(c)(iii) (see also 40 CFR 63.1255 (e)(6)(iii)) shall be used [40 CFR 63.1255 (e)(5)(vii)].

v. Except for the overall performance calculations required by Conditions 5.9.1(b)(i) and (iii) (see also 40 CFR 63.1255(e)(5)(i) and (e)(5)(iii)), each subgroup shall be treated as if it were a process for the purposes of applying the provisions of Condition 5.4.2 (see also 40 CFR 63.1255) [40 CFR 63.1255 (e)(5)(viii)].

c. i. The owner or operator shall decide no later than the implementation date of 40 CFR 63 Subpart GGG or upon revision of an operating permit how to group the processes. Once the owner or operator has decided, all subsequent percentage calculations shall be made on the same basis [40 CFR 63.1255(e)(6)(i)].

ii. Pursuant to 40 CFR 63.1255(e)(6)(ii), percent leaking valves for each group of processes or subgroup shall be determined by the following Equation 5:

$$\%V_L = [V_L/V_T] \times 100 \qquad \text{Equation 5}$$

Where:

$\%V_L$ = Percent leaking valves

V_L = Number of valves found leaking excluding nonrepairables as provided in Condition 5.9.1(c)(iv)(A) (see also 40 CFR 63.1255 (e)(6)(iv)(A)).

V_T = Total valves monitored, in a monitoring period excluding valves monitored as required by Condition 5.4.2(e)(v)(C) (see also 40 CFR 63.1255(e)(7)(iii)).

iii. When determining monitoring frequency for each group of processes or subgroup subject to monthly, quarterly, or semiannual monitoring frequencies, the percent leaking valves shall be the arithmetic average of the percent leaking valves from the last two monitoring periods. When determining monitoring frequency for each group of processes or subgroup subject to annual or biennial (once every 2 years) monitoring frequencies, the percent leaking valves shall be the arithmetic average of the percent leaking valves from the last three monitoring periods [40 CFR 63.1255(e)(6)(iii)].

iv. A. Nonrepairable valves shall be included in the calculation of percent leaking valves the first time the valve is identified as leaking and nonrepairable and as required to comply with Condition 5.9.1(c)(iv)(B) (see also 40 CFR 63.1255(e)(6)(iv)(B)). Otherwise, a number of nonrepairable valves (identified and included in the percent leaking calculation in a previous period) up to a maximum of 1 percent of the total number of valves in organic HAP service at a process may be excluded from calculation of percent leaking valves for subsequent monitoring periods [40 CFR 63.1255(e)(6)(iv)(A)].

B. If the number of nonrepairable valves exceeds 1 percent of the total number of valves in organic HAP service at a process, the number of nonrepairable valves exceeding 1 percent of the total number of valves in organic HAP service shall be included in the calculation of percent leaking valves [40 CFR 63.1255 (e)(6)(iv)(B)].

5.9.2 Pollution prevention alternative standard. The owner or operator shall demonstrate compliance with Condition 5.4.1 (e)(ii) (see also 40 CFR 63.1252(e)(2)) using the procedures described in Conditions 5.9.2(a) and (c) (see also 40 CFR 63.1257(f)(1) and (f)(3)). The owner or operator shall demonstrate compliance with Condition 5.4.1(e)(iii) (see also 40 CFR 63.1252(e)(3)) using the procedures described in Conditions 5.9.2(b) and (c) (see also 40 CFR 63.1257(f)(2) and (f)(3)) [40 CFR 63.1257(f)].

a. Pursuant to 40 CFR 63.1257(f)(1), compliance is demonstrated when the annual kg/kg factor, calculated according to the procedure in Conditions 5.9.2(a)(i)

and (iii) (see also 40 CFR 63.1257(f)(1)(i) and (iii)), is reduced by at least 75 percent as calculated according to the procedure in Condition 5.9.2(a)(i) and (ii) (see also 40 CFR 63.1257(f)(1)(i) and (ii)).

i. The production-indexed HAP consumption factors shall be calculated by dividing annual consumption of total HAP by the annual production rate, per process. The production-indexed total VOC consumption factor shall be calculated by dividing annual consumption of total VOC by the annual production rate, per process [40 CFR 63.1257(f)(1)(i)].

ii. The baseline factor is calculated from yearly production and consumption data for the first 3-year period in which the PMPU was operational, beginning no earlier than the 1987 calendar year, or for a minimum period of 12 months from startup of the process until the present in which the PMPU was operational and data are available, beginning no earlier than the 1987 calendar year [40 CFR 63.1257(f)(1)(ii)].

iii. Pursuant to 40 CFR 63.1257(f)(1)(iii), the annual factor is calculated on the following bases:

A. For continuous processes, the annual factor shall be calculated every 30 days for the 12-month period preceding the 30th day (30-day rolling average) [40 CFR 63.1257(f)(1)(iii)(A)].

B. For batch processes, the annual factor shall be calculated every 10 batches for the 12-month period preceding the 10th batch (10-batch rolling average). The annual factor shall be calculated every 5 batches if the number of batches is less than 10 for the 12-month period preceding the 10th batch and shall be calculated every year if the number of batches is less than 5 for the 12-month period preceding the 5th batch [40 CFR 63.1257 (f)(1)(iii)(B)].

b. Pursuant to 40 CFR 63.1257(f)(2), compliance is demonstrated when the requirements of Conditions 5.9.2 (b)(i) through (iii) (see also 40 CFR 63.1257(f)(2)(i) through (iv)) are met.

i. The annual kg/kg factor, calculated according to the procedure in Conditions 5.9.2(a)(i) and (iii) (see also 40 CFR 63.1257(f)(1)(i) and (f)(1)(iii)), is reduced to a value equal to or less than 50 percent of the baseline factor calculated according to the procedure in Conditions 5.9.2(a)(i) and (ii) (see also 40 CFR 63.1257(f)(1)(i) and (ii)) [40 CFR 63.1257 (f)(2)(i)].

ii. Pursuant to 40 CFR 63.1257(f)(2)(ii), the yearly reductions associated with add-on controls that meet the criteria of Conditions 5.4.1 (e)(iii)(B)(I) through (IV) (see also 40 CFR 63.1252(e)(3)(ii)(A) through (D)) must be equal to or greater than the amounts calculated in Conditions 5.9.2(b)(ii)(A) and (B) (see also 40 CFR 63.1257(f)(2)(ii)(A) and (B)):

A. Pursuant to 40 CFR 63.1257(f)(2)(ii)(A), the mass of HAP calculated using Equation 55 of 40 CFR 63 Subpart GGG:

$$[\text{kg reduced}]_a = [\text{kg/kg}]_b \ (0.75-P_R) \ [\text{kg produced}]_a \qquad \text{Equation 55}$$

Where:

$[\text{kg/kg}]_b$ = The baseline production-indexed HAP consumption factor, in kg/kg

$[\text{kg produced}]_a$ = The annual HAP production rate, in kg/yr

$[\text{kg reduced}]_a$ = The annual reduction required by add-on controls, in kg/yr

P_R = The fractional reduction in the annual kg/kg factor achieved using pollution prevention where PR is $\geq$ 0.5

B. Pursuant to 40 CFR 63.1257(f)(2)(ii)(B), the mass of VOC calculated using Equation 56 of 40 CFR 63 Subpart GGG:

$$VOC_{reduced} = (VF_{base} - VF_P - VF_{annual}) \times M_{prod} \qquad \text{Equation 56}$$

Where:

$VOC_{reduced}$ = Required VOC emission reduction from add-on controls, kg/yr

VF_{base} = Baseline VOC factor, kg VOC emitted/kg production

VF_p = Reduction in VOC factor achieved by pollution prevention, kg VOC emitted/kg production

VF_{annual} = Target annual VOC factor, kg VOC emitted/kg production

M_{prod} = Production rate, kg/yr

iii. Demonstration that the criteria in Conditions 5.4.1(e)(iii)(B)(I) through (IV) (see also 40 CFR 63.1252(e)(3)(ii)(A) through (D)) are met shall be accomplished through a description of the control device and of the material streams entering and exiting the control device [40 CFR 63.1257(f)(2)(iii)].

c. Pursuant to 40 CFR 63.1257(f)(3), each owner or operator of a PMPU complying with the P2 standard shall prepare a P2 demonstration summary that shall contain, at a minimum, the following information:

i. Descriptions of the methodologies and forms used to measure and record daily consumption of HAP compounds reduced as part of the P2 standard [40 CFR 63.1257(f)(3)(i)].

ii. Descriptions of the methodologies and forms used to measure and record daily production of products which are included in the P2 standard [40 CFR 63.1257(f)(3)(ii)].

iii. Supporting documentation for the descriptions provided in Conditions 5.9.2(c)(i) and (ii) (see also 40 CFR 63.1257(f)(3)(i) and (ii)) including, but not limited to, operator log sheets and copies of daily, monthly, and annual inventories of materials and products [40 CFR 63.1257(f)(3)(iii)].

5.9.3 Pursuant to 40 CFR 63.174(i) and 63.1255(b)(1)(vii), for use in determining the monitoring frequency, as specified in Conditions 5.4.2(b)(vii)(C) through (E) and 5.4.9(b) (see also 40 CFR 63.174(b) and 63.1255(b)(1)(vii)(C) through (F)), the percent leaking connectors shall be calculated as specified in Conditions 5.9.3(a) and (b) (see also 40 CFR 63.174(i)(1) and (i)(2)).

a. Pursuant to 40 CFR 63.174(i)(1), for the first monitoring period, use the following equation:

$$\%C_L = C_L/(C_t + C_C) \times 100$$

Where:

$\%C_L$ = Percent leaking connectors as determined through periodic monitoring required in Conditions 5.4.2 (b)(vii)(C) through (E) and 5.4.9(a) and (b) (see also 40 CFR 63.174(a) and (b) and 63.1255 (b)(1)(vii)(C) through (F)).

C_L = Number of connectors measured at 500 parts per million or greater, by the method specified in Condition 5.9.4(b) (see also 40 CFR 63.180(b)).

C_t = Total number of monitored connectors in the process unit.

C_C = Optional credit for removed connectors = 0.67 x net (i.e., total removed - total added) number of connectors in organic hazardous air pollutants service removed from the process unit after the compliance date set forth in 40 CFR 63 Subpart GGG for existing process units. If credits are not taken, then $C_C = 0$.

b. Pursuant to 40 CFR 63.174(i)(1), for subsequent monitoring periods, use the following equation:

$$\%C_L = [(C_L - C_{AN})/(C_t + C_C)] \times 100$$

Where:

$\%C_L$ = Percent leaking connectors as determined through periodic monitoring required in Conditions 5.4.2 (b)(vii)(C) through (E) and 5.4.9(a) and (b) (see also 40 CFR 63.174(a) and (b) and 63.1255 (b)(1)(vii)(C) through (F)).

C_L = Number of connectors, including nonrepairables, measured at 500 parts per million or greater, by the method specified in Condition 5.9.4(b) (see also 40 CFR 63.180(b)).

C_{AN} = Number of allowable nonrepairable connectors, as determined by monitoring required in Conditions 5.4.2(b)(vii)(C) through (E) and 5.4.9(b)(iii) and (c) (see also 40 CFR

63.174(b)(3) and (c) and 63.1255(b)(1)(vii)(C) through (F)), not to exceed 2 percent of the total connector population, C_t.

C_t = Total number of monitored connectors, including nonrepairables, in the process unit.

C_C = Optional credit for removed connectors = 0.67 x net number (i.e., total removed - total added) of connectors in organic hazardous air pollutants service removed from the process unit after the compliance date set forth in 40 CFR 63 Subpart GGG for existing process units. If credits are not taken, then C_C = 0.

5.9.4 Test Methods and Procedures (Equipment Leaks)

a. Each owner or operator subject to the provisions of 40 CFR 63 Subpart GGG shall comply with the test methods and procedures requirements provided in this Condition (see also 40 CFR 63.180(a)) [40 CFR 63.180(a) and 63.1255(b)(1)(xi)].

b. Pursuant to 40 CFR 63.180(b), monitoring, as required under 40 CFR 63 Subpart GGG, shall comply with the following requirements:

i. Monitoring shall comply with Method 21 of 40 CFR part 60, appendix A [40 CFR 63.180(b)(1)].

ii. A. Except as provided for in Condition 5.9.4 (b)(ii)(B) (see also 40 CFR 63.180 (b)(2)(ii)), the detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in Section 3.1.2(a) of Method 21 shall be for the average composition of the process fluid not each individual VOC in the stream. For process streams that contain nitrogen, water, air, or other inerts which are not organic HAP's or VOC's, the average stream response factor may be calculated on an inert-free basis. The response factor may be determined at any concentration for which monitoring for leaks will be conducted [40 CFR 63.180 (b)(2)(i)].

B. If no instrument is available at the plant site that will meet the performance criteria specified in Condition 5.9.4 (b)(ii)(A) (see also 40 CFR 63.180 (b)(2)(i)), the instrument readings may

be adjusted by multiplying by the average response factor of the process fluid, calculated on an inert-free basis as described in Condition 5.9.4(b)(ii)(A) (see also 40 CFR 63.180(b)(2)(i)) [40 CFR 63.180(b)(2)(ii)].

iii. The instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A [40 CFR 63.180(b)(3)].

iv. Pursuant to 40 CFR 63.180(b)(4), calibration gases shall be:

A. Zero air (less than 10 parts per million of hydrocarbon in air) [40 CFR 63.180 (b)(4)(i)]; and

B. Mixtures of methane in air at the concentrations specified in Condition 5.4.2(b)(xi) (see also 40 CFR 63.1255 (b)(1)(xi)). A calibration gas other than methane in air may be used if the instrument does not respond to methane or if the instrument does not meet the performance criteria specified in Condition 5.9.4(b)(ii)(A) (see also 40 CFR 63.180(b)(2)(i)). In such cases, the calibration gas may be a mixture of one or more of the compounds to be measured in air [40 CFR 63.180(b)(4)(ii) and 63.1255 (b)(1)(xi.)].

C. The instrument may be calibrated at a higher methane concentration than the concentration specified for that piece of equipment. The concentration of the calibration gas may exceed the concentration specified as a leak by no more than 2,000 parts per million. If the monitoring instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 parts per million above the concentration specified as a leak and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 parts per million. If only one scale on an instrument will be used during monitoring, the owner or operator need not calibrate the scales

that will not be used during that day's monitoring [40 CFR 63.180(b)(4)(iii)].

v. Monitoring shall be performed when the equipment is in organic HAP service, in use with an acceptable surrogate volatile organic compound which is not an organic HAP, or is in use with any other detectable gas or vapor [40 CFR 63.180 (b)(5)].

c. Pursuant to 40 CFR 63.180(c), when equipment is monitored for compliance as required in Conditions 5.4.3(i), 5.4.4(a), and 5.4.8(f) (see also 40 CFR 63.164(i), 63.165(a), and 63.172(f)) or when equipment subject to a leak definition of 500 ppm is monitored for leaks as required by 40 CFR 63 Subpart GGG, the owner or operator may elect to adjust or not to adjust the instrument readings for background. If an owner or operator elects to not adjust instrument readings for background, the owner or operator shall monitor the equipment according to the procedures specified in Conditions 5.9.4(b)(i) through (b)(iv) (see also 40 CFR 63.180(b)(1) through (b)(4)). In such case, all instrument readings shall be compared directly to the applicable leak definition to determine whether there is a leak. If an owner or operator elects to adjust instrument readings for background, the owner or operator shall monitor the equipment according to the procedures specified in Conditions 5.9.4(c)(i) through (c)(iv) (see also 40 CFR 63.180(c)(1) through (c)(4)).

i. The requirements of Conditions 5.9.4(b)(i) through (iv) (see also 40 CFR 63.180(b)(1) through (4)) of shall apply [40 CFR 63.180 (c)(1)].

ii. The background level shall be determined, using the same procedures that will be used to determine whether the equipment is leaking [40 CFR 63.180(c)(2)].

iii. The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Method 21 of 40 CFR part 60, appendix A [40 CFR 63.180 (c)(3)].

iv. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 parts per million for determining compliance [40 CFR 63.180(c)(4)].

d. i. Each piece of equipment within a process unit that can reasonably be expected to contain equipment in organic HAP service is presumed to be in organic HAP service unless an owner or operator demonstrates that the piece of equipment is not in organic HAP service. For a piece of equipment to be considered not in organic HAP service, it must be determined that the percent organic HAP content can be reasonably expected not to exceed 5 percent by weight on an annual average basis. For purposes of determining the percent organic HAP content of the process fluid that is contained in or contacts equipment, Method 18 of 40 CFR part 60, appendix A shall be used [40 CFR 63.180(d)(1)].

ii. A. An owner or operator may use good engineering judgment rather than the procedures in Condition 5.9.4(d)(i) (see also 40 CFR 63.180(d)(1)) to determine that the percent organic HAP content does not exceed 5 percent by weight. When an owner or operator and the Illinois EPA and/or USEPA do not agree on whether a piece of equipment is not in organic HAP service, however, the procedures in Condition 5.9.4(d)(i) (see also 40 CFR 63.180(d)(1) shall be used to resolve the disagreement [40 CFR 63.180(d)(2)(i)].

B. Conversely, the owner or operator may determine that the organic HAP content of the process fluid does not exceed 5 percent by weight by, for example, accounting for 98 percent of the content and showing that organic HAP is less than 3 percent [40 CFR 63.180(d)(2)(ii)].

iii. If an owner or operator determines that a piece of equipment is in organic HAP service, the determination can be revised after following the procedures in Condition 5.9.4(d)(i) (see also 40 CFR 63.180(d)(1)), or by documenting that a change in the process or raw materials no longer causes the equipment to be in organic HAP service [40 CFR 63.180(d)(3)].

iv. Samples used in determining the percent organic HAP content shall be representative of the process fluid that is contained in or contacts the equipment [40 CFR 63.180(d)(4)].

e. When a flare is used to comply with Condition 5.4.8(d) (see also 40 CFR 63.172(d)), the compliance determination shall be conducted using Method 22 of 40 CFR part 60, appendix A to determine visible emissions [40 CFR 63.180(e)].

f. Pursuant to 40 CFR 63.180(f), the following procedures shall be used to pressure test batch product-process equipment for pressure or vacuum loss to demonstrate compliance with the requirements of Condition 5.4.11 (b)(iii)(A) (see also 40 CFR 63.178(b)(3)(i)).

i. The batch product-process equipment train shall be pressurized with a gas to a pressure less than the set pressure of any safety relief devices or valves or to a pressure slightly above the operating pressure of the equipment, or alternatively, the equipment shall be placed under a vacuum [40 CFR 63.180(f)(1)].

ii. Once the test pressure is obtained, the gas source or vacuum source shall be shut off [40 CFR 63.180(f)(2)].

iii. Pursuant to 40 CFR 63.180(f)(3), the test shall continue for not less than 15 minutes unless it can be determined in a shorter period of time that the allowable rate of pressure drop or of pressure rise was exceeded. The pressure in the batch product-process equipment shall be measured after the gas or vacuum source is shut off and at the end of the test period. The rate of change in pressure in the batch product-process equipment shall be calculated using the following equation:

$$\Delta \frac{P}{t} = \frac{\left(\left|P_f - P_i\right|\right)}{\left(t_f - t_i\right)}$$

Where:

$\Delta P/t$ = Change in pressure, psig/hr.

P_f = Final pressure, psig.

P_i = Initial pressure, psig.

$t_f - t_i$ = Elapsed time, hours.

iv. The pressure shall be measured using a pressure measurement device (gauge, manometer, or equivalent) which has a precision of ±2.5 millimeter mercury in the range of test pressure and is capable of measuring pressures up to the relief set pressure of the pressure relief device. If such a pressure measurement device is not reasonably available, the owner or operator shall use a pressure measurement device with a precision of at least +10 percent of the test pressure of the equipment and shall extend the duration of the test for the time necessary to detect a pressure loss or rise that equals a rate of one psig per hour [40 CFR 63.180(f)(4)].

v. An alternative procedure may be used for leak testing the equipment if the owner or operator demonstrates the alternative procedure is capable of detecting a pressure loss or rise [40 CFR 63.180(f)(5)].

g. Pursuant to 40 CFR 63.180(g), the following procedures shall be used to pressure-test batch product-process equipment using a liquid to demonstrate compliance with the requirements of Condition 5.4.11(b)(iii)(B) (see also 40 CFR 63.178(b)(3)(ii)).

i. The batch product-process equipment train, or section of the train, shall be filled with the test liquid (e.g., water, alcohol) until normal operating pressure is obtained. Once the equipment is filled, the liquid source shall be shut off [40 CFR 63.180(g)(1)].

ii. The test shall be conducted for a period of at least 60 minutes, unless it can be determined in a shorter period of time that the test is a failure [40 CFR 63.180(g)(2)].

iii. Each seal in the equipment being tested shall be inspected for indications of liquid dripping or other indications of fluid loss. If there are any indications of liquids dripping or of fluid loss, a leak is detected [40 CFR 63.180(g)(3)].

iv. An alternative procedure may be used for leak testing the equipment, if the owner or operator demonstrates the alternative procedure is capable of detecting losses of fluid [40 CFR 63.180(g)(4)].

5.9.5 General Procedures for Calculating Fugitive Emissions from Roadways and Parking Areas

a. For the purpose of estimating fugitive PM emissions from the paved roadways at the source, the emission factors and formulas in Sections 13.2.1 of the AP-42, Supplement D, October, 1997 are acceptable.

b. For the purpose of estimating fugitive PM emissions from the unpaved roadways at the source, the emission factors and formulas in Sections 13.2.2 of the AP-42, Supplement E, September, 1998 are acceptable.

5.9.6 General Procedures for Calculating Fugitive Emissions from Coal Piles

For the purpose of estimating fugitive PM emissions from the coal piles at the source, the emission factors and formulas in Sections 13.2.4 of the AP-42, Volume I, January, 1995 are acceptable.

5.9.7 Testing Requirements for Fugitive Particulate Matter

a. Upon reasonable request by the Illinois EPA, pursuant to Section 39.5(7)(d) of the Act and 35 IAC 212.107, for both fugitive and non-fugitive particulate matter emissions, a determination as to the presence or absence of visible emissions from emission units shall be conducted in accordance with Method 22, 40 CFR part 60, Appendix A, except that the length of the observing period shall be at the discretion of the observer, but not less than one minute. This test method shall be used to determine compliance with 35 IAC 212.123 [35 IAC 212.107].

b. Upon reasonable request by the Illinois EPA, pursuant to Section 39.5(7)(d) of the Act, measurements of opacity shall be conducted in accordance with Method 9, 40 CFR part 60, Appendix A, except that for roadways and parking areas the number of readings required for each vehicle pass will be three taken at 5-second intervals. The first reading shall be at the point of maximum opacity and second and third readings shall be made at the same point, the observer standing at right angles to the plume at least 15 feet away from the plume and observing 4 feet above the surface of the roadway or parking area. After four vehicles have passed, the 12 readings will be averaged. This test method shall be used to determine compliance with 35 IAC 212.301 [35 IAC 212.109].

6.0 EMISSION REDUCTION MARKET SYSTEM (ERMS)

6.1 Description of ERMS

The ERMS is a "cap and trade" market system for major stationary sources located in the Chicago ozone nonattainment area. It is designed to reduce VOM emissions from stationary sources to contribute to reasonable further progress toward attainment, as required by Section 182(c) of the CAA.

The ERMS addresses VOM emissions during a seasonal allotment period from May 1 through September 30. Participating sources must hold "allotment trading units" (ATUs) for their actual seasonal VOM emissions. Each year participating sources are issued ATUs based on allotments set in the sources' CAAPP permits. These allotments are established from historical VOM emissions or "baseline emissions" lowered to provide the emissions reductions from stationary sources required for reasonable further progress.

By December 31 of each year, the end of the reconciliation period following the seasonal allotment period, each source shall have sufficient ATUs in its transaction account to cover its actual VOM emissions during the preceding season. A transaction account’s balance as of December 31 will include any valid ATU transfer agreements entered into as of December 31 of the given year, provided such agreements are promptly submitted to the Illinois EPA for entry into the transaction account database. The Illinois EPA will then retire ATUs in sources’ transaction accounts in amounts equivalent to their seasonal emissions. When a source does not appear to have sufficient ATUs in its transaction account, the Illinois EPA will issue a notice to the source to begin the process for Emissions Excursion Compensation.

In addition to receiving ATUs pursuant to their allotments, participating sources may also obtain ATUs from the market, including ATUs bought from other participating sources and general participants in the ERMS that hold ATUs (35 IAC 205.630) and ATUs issued by the Illinois EPA as a consequence of VOM emissions reductions from an Emissions Reduction Generator or an Intersector Transaction (35 IAC 205.500 and 35 IAC 205.510). During the reconciliation period, sources may also buy ATUs from a secondary reserve of ATUs managed by the Illinois EPA, the “Alternative Compliance Market Account” (ACMA) (35 IAC 205.710). Sources may also transfer or sell the ATUs that they hold to other sources or participants (35 IAC 205.630).

6.2 Applicability

This source is considered a “participating source” for purposes of the ERMS, 35 IAC Part 205.

6.3 Obligation to Hold Allotment Trading Units (ATUs)

a. Pursuant to 35 IAC 205.150(c)(1) and 35 IAC 205.720, and as further addressed by Condition 6.8, as of December 31 of each year, this source shall hold ATUs in its account in an amount not less than the ATU equivalent of its VOM emissions during the preceding seasonal allotment period (May 1 - September 30), not including VOM emissions from the following, or the source shall be subject to "emissions excursion compensation," as described in Condition 6.5.

   i. VOM emissions from insignificant emission units and activities as identified in Section 3 of this permit, in accordance with 35 IAC 205.220;

   ii. Excess VOM emissions associated with startup, malfunction, or breakdown of an emission unit as authorized in Section 7.0 of this permit, in accordance with 35 IAC 205.225;

   iii. Excess VOM emissions to the extent allowed by a Variance, Consent Order, or Compliance Schedule, in accordance with 35 IAC 205.320(e)(3);

   iv. Excess VOM emissions that are a consequence of an emergency as approved by the Illinois EPA, pursuant to 35 IAC 205.750; and

   v. VOM emissions from certain new and modified emission units as addressed by Condition 6.8(b), if applicable, in accordance with 35 IAC 205.320(f).

b. Notwithstanding the above condition, in accordance with 35 IAC 205.150(c)(2), if a source commences operation of a major modification, pursuant to 35 IAC Part 203, the source shall hold ATUs in an amount not less than 1.3 times its seasonal VOM emissions attributable to such major modification during the seasonal allotment period, determined in accordance with the construction permit for such major modification or applicable provisions in Section 7.0 of this permit.

6.4 Market Transaction

a. The source shall apply to the Illinois EPA for and obtain authorization for a Transaction Account prior to conducting any market transactions, as specified at 35 IAC 205.610(a).

b. The Permittee shall promptly submit to the Illinois EPA any revisions to the information submitted for its Transaction Account, pursuant to 35 IAC 205.610(b).

c. The source shall have at least one account officer designated for its Transaction Account, pursuant to 35 IAC 205.620(a).

d. Any transfer of ATUs to or from the source from another source or general participant must be authorized by a qualified Account Officer designated by the source and approved by the Illinois EPA, in accordance with 35 IAC 205.620, and the transfer must be submitted to the Illinois EPA for entry into the Transaction Account database.

6.5 Emission Excursion Compensation

Pursuant to 35 IAC 205.720, if the source fails to hold ATUs in accordance with Condition 6.3, it shall provide emissions excursion compensation in accordance with the following:

a. Upon receipt of an Excursion Compensation Notice issued by the Illinois EPA, the source shall purchase ATUs from the ACMA in the amount specified by the notice, as follows:

   i. The purchase of ATUs shall be in an amount equivalent to 1.2 times the emissions excursion; or

   ii. If the source had an emissions excursion for the seasonal allotment period immediately before the period for the present emissions excursion, the source shall purchase ATUs in an amount equivalent to 1.5 times the emissions excursion.

b. If requested in accordance with paragraph (c) below or in the event that the ACMA balance is not adequate to cover the total emissions excursion amount, the Illinois EPA will deduct ATUs equivalent to the specified amount or any remaining portion thereof from the ATUs to be issued to the source for the next seasonal allotment period.

c. Pursuant to 35 IAC 205.720(c), within 15 days after receipt of an Excursion Compensation Notice, the owner or operator may request that ATUs equivalent to the amount specified be deducted from the source’s next seasonal allotment by the Illinois EPA, rather than purchased from the ACMA.

6.6 Quantification of Seasonal VOM Emissions

a. The methods and procedures specified in Sections 5 and 7 of this permit for determining VOM emissions and compliance with VOM emission limitations shall be used for determining seasonal VOM emissions for purposes of the ERMS, with the following exceptions [35 IAC 205.315(b)]:

   No exceptions

b. The Permittee shall report emergency conditions at the source to the Illinois EPA, in accordance with 35 IAC 205.750, if the Permittee intends to deduct VOM emissions in excess of the technology-based emission rates normally

achieved that are attributable to the emergency from the source's seasonal VOM emissions for purposes of the ERMS. These reports shall include the information specified by 35 IAC 205.750(a), and shall be submitted in accordance with the following:

i. An initial emergency conditions report within two days after the time when such excess emissions occurred due to the emergency; and

ii. A final emergency conditions report, if needed to supplement the initial report, within 10 days after the conclusion of the emergency.

6.7 Annual Account Reporting

a. For each year in which the source is operational, the Permittee shall submit, as a component of its Annual Emissions Report, seasonal VOM emissions information to the Illinois EPA for the seasonal allotment period. This report shall include the following information [35 IAC 205.300]:

i. Actual seasonal emissions of VOM from the source;

ii. A description of the methods and practices used to determine VOM emissions, as required by this permit, including any supporting documentation and calculations;

iii. A detailed description of any monitoring methods that differ from the methods specified in this permit, as provided in 35 IAC 205.337;

iv. If a source has experienced an emergency, as provided in 35 IAC 205.750, the report shall reference the associated emergency conditions report that has been approved by the Illinois EPA;

v. If a source's baseline emissions have been adjusted due to a Variance, Consent Order, or CAAPP permit Compliance Schedule, as provided for in 35 IAC 205.320(e)(3), the report shall provide documentation quantifying the excess VOM emissions during the season that were allowed by the Variance, Consent Order, or Compliance Schedule, in accordance with 35 IAC 205.320(e)(3); and

vi. If a source is operating a new or modified emission unit for which three years of operational data is not yet available, as specified in 35 IAC 205.320(f), the report shall specify seasonal VOM emissions attributable to the new emission unit or the modification of the emission unit.

b. This report shall be submitted by November 30 of each year, for the preceding seasonal allotment period.

6.8 Allotment of ATUs to the Source

a. i. The allotment of ATUs to this source is 356 ATUs per seasonal allotment period.

ii. This allotment of ATUs reflects the Illinois EPA's determination that the source's baseline emissions were 39.4210 tons per season.

iii. The source's allotment reflects 88% of the baseline emissions (12% reduction), except for the VOM emissions from specific emission units excluded from such reduction, pursuant to 35 IAC 205.405, including units complying with MACT or using BAT, as identified in Condition 6.11 of this permit.

iv. ATUs will be issued to the source's Transaction Account by the Illinois EPA annually. These ATUs will be valid for the seasonal allotment period during issuance and, if not retired in this season, the next seasonal allotment period.

v. Condition 6.3(a) becomes effective beginning in the seasonal allotment period during the initial issuance of ATUs by the Illinois EPA into the Transaction Account for the source.

b. Contingent Allotments for New or Modified Emission Units

The source was issued construction permits prior to January 1, 1998 for new or modified emission units for which three years of operational data is not yet available. In accordance with 35 IAC 205.310(h) and 35 IAC 205.320(f), the source shall submit a written request for, or an application for, a revised emissions baseline and allotment which address these emission units by December 1 of the year of the third complete seasonal allotment period in which each such newly constructed or modified emission unit is operational. Such submittal shall include information from the affected emission units on the seasonal emissions for these first three seasonal allotment periods.

The source also was <u>not</u> issued construction permits prior to January 1, 1998 for new or modified emission units. In accordance with 35 IAC Part 205, for the above referenced emission units, the source is required to hold the appropriate amount of ATUs for these emission units.

c. Notwithstanding the above, part or all of the above ATUs will not be issued to the source in circumstances as set forth in 35 IAC Part 205, including:

i. Transfer of ATUs by the source to another participant or the ACMA, in accordance with 35 IAC 205.630;

ii. Deduction of ATUs as a consequence of emissions excursion compensation, in accordance with 35 IAC 205.720; and

iii. Transfer of ATUs to the ACMA, as a consequence of shutdown of the source, in accordance with 35 IAC 205.410.

6.9 Recordkeeping for ERMS

The Permittee shall maintain copies of the following documents as its Compliance Master File for purposes of the ERMS [35 IAC 205.700(a)]:

a. Seasonal component of the Annual Emissions Report;

b. Information on actual VOM emissions, as specified in detail in Sections 5 and 7 of this permit and Condition 6.6(a); and

c. Any transfer agreements for the purchase or sale of ATUs and other documentation associated with the transfer of ATUs.

6.10 Exclusions from Further Reductions

a. VOM emissions from the following emission units shall be excluded from the VOM emissions reductions requirements specified in 35 IAC 205.400(c) and (e) as long as such emission units continue to satisfy the following [35 IAC 205.405(a)]:

i. Emission units that comply with any NESHAP or MACT standard promulgated pursuant to the CAA;

ii. Direct combustion emission units designed and used for comfort heating purposes, fuel combustion emission units, and internal combustion engines; and

iii. An emission unit for which a LAER demonstration has been approved by the Illinois EPA on or after November 15, 1990.

The source has demonstrated in its ERMS application and the Illinois EPA has determined that the following emission units qualify for exclusion from further

reductions because they meet the criteria as indicated above [35 IAC 205.405(a) and (c)]:

Boiler 5
Boiler 6
Boiler 7
Boiler 8
Temporary Boiler 1
Gas Turbine/Boiler 9

b. VOM emissions from emission units using BAT for controlling VOM emissions shall not be subject to the VOM emissions reductions requirement specified in 35 IAC 205.400(c) or (e) as long as such emission unit continues to use such BAT [35 IAC 205.405(b)].

The source has demonstrated in its ERMS application and the Illinois EPA has determined that the following emission units qualify for exclusion from further reductions because these emission units use BAT for controlling VOM emissions as indicated above [35 IAC 205.405(b) and (c)]:

Ferm. Tanks 977 & 978
Seed Tank 971
700, 800, & 900 Series Fermentors

7.0 UNIT SPECIFIC CONDITIONS

7.1 Units CAPD F-1 & F-2 — Fermentation Operations Manufacturing Buildings F-1 and F-2

Controls CAPD F-1 & F-2 — Rotoclones, Cyclone Scrubbers and Ozone System

7.1.1 Description

The Chemical and Agricultural Products Division fermentation operations involve the use of specialized microorganisms to generate the needed pharmaceutical or pharmaceutical-like bulk chemicals. The largest operations in this area produce various specialized fermentation broth's containing unique microorganisms which contain needed pharmaceutical and pharmaceutical-like chemicals within their cell mass. The fermentation process starts with test-tube cultures of the microorganisms which are then used to inoculate sterilized fermentors, where they are grown in increasingly larger batch sizes. The fermentation vessels, which contain the aqueous media of microbes and their needed food, are aerated and agitated under carefully controlled process conditions to allow growth of only the desired microbe. The fermentation process is complete once a sufficient quantity and quality of the microbes has been generated. The aqueous fermentation broth is then pumped to other process buildings for extraction from the microbial cell mass, isolation and purification to produce the bulk pharmaceutical and agricultural products.

A food source for the fermentation process includes soy grits and flour, which are received in bulk tank trucks and stored in silos near the process building. These dry materials are mixed with purified water in a preparation or mixing area of the building. The aqueous food mixture is then pumped into the fermentors and mixed with the specialized microbes for the microorganism growth/propagation (fermentation) process.

In general, the fermentation process is aqueous. The broth aeration from the fermentation operations tanks are typically vented into cyclone scrubbers to knock out water droplets, other entrained liquids, and suspended particulates in the exhaust air stream. The fermentors are agitated and receive large air-flows, which when coupled with foaming can cause significant entrained water droplet carryover into the exhaust air and requires the need for the cyclones. The cyclone exhaust air stream is then vented into one of three ozone treatment vessels (the Ozone Room, North Ozone Retention Tank, or South Ozone Retention Tank). The exhaust is treated with ozone to control odors generated by the fermentation process.

A variety of portable equipment is used in Buildings F-1 and F-2 for batch process manufacturing. Portable equipment means single pieces of equipment that are mounted on wheels or skids so as to enable them to be moved from one process to another within a manufacturing building and from one manufacturing building to another. Portable equipment is divided into three categories: 1) vessels, including reactors, receivers, and tanks; 2) solid/liquid separation equipment, including dryers, centrifuges, and filters; 3) miscellaneous, including dust collectors, emission control equipment, oscillators, and sifters. Whenever a piece of portable equipment is used in a process, its emissions are calculated and included with the emissions for that process.

7.1.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
FJ-1902	31,000 Liter Media Mix Tank (CS#4 Tank 43, Building F-2)	Rotoclone
FJ-1903	31,000 Liter Media Mix Tank (CS#4, Tank 42, Building F-2)	Rotoclone
FJ-5138	1,000 lb Solids Hopper (Hopper, Building F-2)	None
FJ-5140	7,000 Liter Media Mix Tank (CS#6, Tank 100, Building F-2)	None
FJ-5141	7,000 Liter Media Mix Tank (CS#6, Tank 200, Building F-2)	None
LC060451	35,000 Gallon Ferm. (Tank 912, Building F-1)	Ozone System
LC060456	35,000 Gallon Ferm. (Tank 913, Building F-1)	Ozone System
LC918576	35,000 Gallon Ferm. (Tank 911, Building F-1)	Ozone System
Q-0726	10,000 Gallon Reactor (Tank 718, PC-611, Building F-1)	Ozone System
Q-1028	10,000 Gallon Reactor (Tank 719, PC-611, Building F-1)	Ozone System
Q1580	20,000 Gallon Reactor (Tank 803, PC-737, Building F-1)	Ozone System
Q1581	20,000 Gallon Reactor (Tank 802, PC-737, Building F-1)	Ozone System
Q1582	20,000 Gallon Reactor (Tank 801, PC-737, Building F-1)	Ozone System
Q1670	30,000 Gallon Reactor (Tank 904, PC-737, Building F-1)	Ozone System
Q-1782	35,000 Gallon Reactor (Tank 960, PC-709, Building F-2)	Ozone System
Q-1784	35,000 Gallon Reactor (Tank 962, PC-709, Building F-2)	Ozone System
Q-1785	35,000 Gallon Reactor (Tank 957, PC-709, Building F-2)	Ozone System

Emission Unit	Description	Emission Control Equipment
Q-1811	35,000 Gallon Reactor (Tank 959, PC-709, Building F-2)	Ozone System
Q-1812	35,000 Gallon Reactor (Tank 961, PC-709, Building F-2)	Ozone System
Q-1845	35,000 Gallon Reactor (Tank 964, PC-709, Building F-2)	Ozone System
Q-1846	35,000 Gallon Reactor (Tank 965, PC-709, Building F-2)	Ozone System
Q-1847	35,000 Gallon Reactor (Tank 966, PC-709, Building F-2)	Ozone System
Q-2144	35,000 Gallon Reactor (Tank 967, PC-709, Building F-2)	Ozone System
Q-2145	35,000 Gallon Reactor (Tank 968, PC-709, Building F-2)	Ozone System
Q-2934	35,000 Gallon Reactor (Tank 972, PC-709, Building F-2)	Ozone System
Q-2935	35,000 Gallon Reactor (Tank 972, PC-709, Building F-2)	Ozone System
Q-2947	35,000 Gallon Reactor (Tank 970, PC-709, Building F-2)	Ozone System
Q-2948	35,000 Gallon Reactor (Tank 969, PC-709, Building F-2)	Ozone System
Q-3114	3,000 Gallon Reactor (Tank 973, PC-709, Building F-2)	Ozone System
Q-3115	35,000 Gallon Reactor (Tank 974, PC-709, Building F-2)	Ozone System
Q-3388	35,000 Gallon Reactor (Tank 954, PC-709, Building F-2)	Ozone System
Q-3389	35,000 Gallon Reactor (Tank 956, PC-709, Building F-2)	Ozone System
Q-3390	35,000 Gallon Reactor (Tank 958, PC-709, Building F-2)	Ozone System
Q-3789	3,000 Gallon Reactor (Tank 975, PC-709, Building F-2)	Ozone System
Q-3790	35,000 Gallon Reactor (Tank 976, PC-709, Building F-2)	Ozone System
Q-3796	14,000 Gallon Reactor (Tank 751, PC-751, Building F-1)	Ozone System
Q-3843	35,000 Gallon Reactor (Tank 951, PC-709, Building F-2)	Ozone System
Q-3844	35,000 Gallon Reactor (Tank 952, PC-709, Building F-2)	Ozone System
Q-3845	35,000 Gallon Reactor (Tank 953, PC-709, Building F-2)	Ozone System
Q-3846	35,000 Gallon Reactor (Tank 955, PC-709, Building F-2)	Ozone System
Q-4184	35,000 Gallon Reactor (Tank 963, PC-709, Building F-2)	Ozone System
Tank 3	31,000 Liter Media Mix Tank (CS#3, Tank 3, Building F-2)	Rotoclone

Emission Unit	Description	Emission Control Equipment
Tank 3/4 Hopper	Hopper (Tank 3/4 Hopper, Building F-2)	None
Tank 4	31,000 Liter Media Mix Tank (CS#3 Tank 4, Building F-2)	Rotoclone
Tank 42/43 Hopper	Solids Hopper (Tank 42/43 Solids Hopper, Building F-2)	None
Tank 501	3,000 Gallon Reactor (Tank 501, PC-733, Building F-1)	Ozone System
Tank 503	3,000 Gallon Reactor (Tank 503, PC-733, Building F-1)	Ozone System
Tank 571	3,000 Gallon Reactor (Tank 571, PC-708, Building F-2)	Ozone System
Tank 572	3,000 Gallon Reactor (Tank 572, PC-708, Building F-2)	Ozone System
Tank 714	10,000 Gallon Reactor (Tank 714, PC-611, Building F-1)	Ozone System
Tank 716	10,000 Gallon Reactor (Tank 716, PC-611, Building F-1)	Ozone System
Tank 720	10,000 Gallon Reactor (Tank 720, PC-611, Building F-1)	Ozone System
Tank 752	14,000 Gallon Tank (Tank 752, Building F-1)	Ozone System
Tank 977	3,000 Gallon Reactor (Tank 977, PC-709, Building F-2)	Ozone System
Tank 978	35,000 Gallon Reactor (Tank 978, PC-709, Building F-2)	Ozone System
Portable Equipment	Portable Vessels, Reactors, Receivers, Tanks, Solid/Liquid Separators, Filters, Centrifuges, Dryers, Mills, Sifters, and Oscillators	Scrubbers, Condensers, or Baghouses (as configured for the process)

7.1.3 Applicability Provisions and Applicable Regulations

a. The Buildings F-1, and F-2 Media Mix Tanks, Hoppers, and Reactor Tanks are "affected fermentation manufacturing units" for the purpose of these unit-specific conditions.

b. Each affected fermentation manufacturing unit is subject to the emission limits identified in Condition 5.2.2.

c. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates

specified in subsection (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

d. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit for which construction or modification commenced prior to April 14, 1972, which, either alone or in combination with the emission of particulate matter from all other similar process emission at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 (see also Attachment 2) [35 IAC 212.322(a)].

e. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

7.1.4 Non-Applicability of Regulations of Concern

a. The process vents associated with the affected fermentation manufacturing units are not subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1254(a) for Process Vents at Existing Sources pursuant to 40 CFR 63.1250(a)(3) because the affected manufacturing units do not process, use or produce HAP.

b. The affected fermentation manufacturing units are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

c. The affected fermentation manufacturing units are not subject to the control requirements of 35 IAC

218.501, Control Requirements for Batch Operations, pursuant to 35 IAC 218.501(b)(2), which excludes any emission unit included within the category specified in 35 IAC 218 Subpart T.

d. The affected fermentation manufacturing units are not subject to 35 IAC 212.324, Process Emission Units In Certain Areas, because the source is not located in a non-attainment area for PM_{10}, as identified in 35 IAC 212.324(a)(1).

7.1.5 Operational and Production Limits and Work Practices

a. The owner or operator shall install covers on all in-process tanks used to manufacture pharmaceuticals and containing a VOL at any time. These covers must remain closed, except as production, sampling, maintenance or inspection procedures require operator access [35 IAC 218.484].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The Permittee shall follow good operating practices for the rotoclones and ozone system including periodic inspection, routine maintenance and prompt repair of defects.

7.1.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected fermentation manufacturing units are subject to the following:

a. i. Emissions of particulate matter from each new run fermentor (954, 956, and 958) shall not exceed 3.0 tons/year. This limit is based on the maximum emission rate (0.69 lb/hr) and the maximum hour of operation (8,736 hours/yr).

ii. The above limitations were established in Permit 90110081, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a

new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21. [T1]

b. i. Emissions of particulate matter from each new run fermentor (975 and 976) shall not exceed 3.0 tons/year. This limit is based on the maximum emission rate (0.69 lb/hr) and the maximum hour of operation (8,736 hours/yr).

ii. The above limitations were established in Permit 92020057, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21. [T1]

c. i. Emissions and operation of equipment shall not exceed the following limits:

Item of Equipment	Operating Hours (Hr/Yr)	Process Rate (lb/hr)	Particulate Matter Emissions (lb/hr)	Particulate Matter Emissions (T/yr)
Fermentor T-751	6,000	14,000	7.18	21.54

These limits are based on 35 IAC 212.321 and the maximum process weight rate.

ii. The above limitations were established in Permit 93010039, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21. [T1]

d. i. Emissions and operation of equipment shall not exceed the following limits:

Item of	Process Rate	Operating Hours	Particulate Matter Emissions

Equipment	(lb/hr)	(Hrs/Yr)	(lb/hr)	(T/yr)
Fermentors 951, 952, 953, 955, and 963 (Each)	1,522	8,760	0.69	3.03
			Total	15.15

These limits are based on representations of the maximum actual emissions based on the maximum actual process rate and the maximum hours of operation.

ii. The above limitations were established in Permit 95020119, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21. [T1]

e. i. Emissions and operation of equipment shall not exceed the following limits:

Item of Equipment	Process Rate (lb/hr)	Operating Hours (Hrs/Yr)	Particulate Matter Emissions (lb/hr)	(T/yr)
Fermentor 957	1,522	8,760	0.69	3.03

These limits are based on representations of the maximum actual emissions based on the maximum actual process rate and the maximum hours of operation.

ii. The above limitations were established in Permit 95050072, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21. [T1]

f. i. This permit is issued based on negligible emissions of particulate matter from Fermentors 977 and 978 and Seed Tank 571. For this purpose emissions from each emission unit

shall not exceed nominal emission rates of 0.1 lb/hr and 0.44 ton/yr.

ii. The above limitations were established in Permit 95110030, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21.[T1]

iii. Emissions of VOM from Fermentors 977 and 978 and Seed Tank 571 shall not exceed 0.93 ton/year, combined.

iv. The above limitations were established in Permit 98070020, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 (see Attachment 4) [T1].

g. i. This permit is issued based on negligible emissions of particulate matter and volatile organic material from Fermentor 911. For this purpose emissions of each contaminant shall not exceed nominal emission rates of 0.1 lb/hr and 0.44 ton/yr.

ii. The above limitations were established in Permit 96070062, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD) and 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 and 35 IAC Part 203.[T1]

h. i. This permit is issued based on negligible emissions of particulate matter from Seed Tank No. 572. For this purpose shall not exceed nominal emission rates of 0.1 lb/hr and 0.44 ton/yr.

ii. The above limitations were established in Permit 96100066, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21. [T1]

iii. Emissions of VOM from Seed Tank 572 shall not exceed 0.10 ton/year.

iv. The above limitations were established in Permit 98070020, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 (see Attachment 4) [T1].

i. i. This permit is issued based on negligible emissions of particulate matter from Seed Tanks 501 and 503. For this purpose emissions from each emission unit shall not exceed nominal emission rates of 0.1 lb/hr and 0.44 ton/yr.

ii. The above limitations were established in Permit 97010014, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21. [T1]

iii. Emissions of VOM from Seed Tanks 501 and 503 shall not exceed 0.088 ton/year, combined.

iv. The above limitations were established in Permit 98070020, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 (see Attachment 4) [T1].

j. i. This permit is issued based on negligible emissions of particulate matter and volatile organic material from Fermentors 912 and 913. For this purpose emissions of each contaminant from each emission unit shall not exceed nominal emission rates of 0.1 lb/hr and 0.44 ton/yr.

ii. The above limitations were established in Permit 97030101, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD) and 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 and 35 IAC Part 203. [T1]

k. i. This permit is issued based on negligible emissions of particulate matter and volatile organic material from new Fermentors 959, 960, 961, 962, 964, 965, 966, 967, and 968, which were constructed after November 5, 1997. For this purpose emissions of each contaminant from each emission unit shall not exceed nominal emission rates of 0.1 lb/hr and 0.44 ton/yr.

ii. The above limitations were established in Permit 97100015, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD) and 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 and 35 IAC Part 203. [T1]

l. i. Emissions and operation of equipment shall not exceed the following limits:

	E M I S S I O N S			
	NO_x	PM	SO_2	VOM
Item of Equipment	Ton/yr	Ton/yr	Ton/yr	Ton/yr
10 Seed Tanks	0.13	0.44	0.61	0.44
3-700 Series Fermentors	0.20	0.66	0.92	0.66
3-800 Series Fermentors	0.27	0.87	1.23	0.87

3-900 Series Fermentors	0.39	1.32	1.83	1.32
Total	0.99	3.29	4.59	3.29

These limits are based on representatives of maximum operation and maximum actual emission rates.

ii. Existing fermentors 959, 960, 961, 962, 964, 965, 967, and 968 (which were constructed prior to October, 1997) shall permanently cease operation within 180 days of initial startup of any of the above-listed equipment.

iii. As a consequence of the above conditions, this permit is issued based on the replacement of 10 existing seed tanks, three existing 700 series fermentors, three existing 800 series fermentors, and three existing 900 series fermentors not constituting a new major source or major modification subject to 40 CFR 52.21, Prevention of Significant Deterioration (PSD) and 35 IAC Part 203.

iv. The emission units with contemporaneous VOM emissions are described in Attachment 3. The emission units or activities used to decrease emissions are as follows:

Emission Units	Permit	(Ton/yr)**
10 Seed Tanks	721005740	0.13
3-700 Series Fermentors	721005740	0.24
3-800 Series Fermentors	721005740	0.495
3-900 Series Fermentors	721005740	0.45
Fermentors 959, 960, 961, 962, 964, 965, 966, 967, and 968	721005740	3.735
	Total Decreases =	5.050

** Based on the actual VOM emissions from the fermentors and seed tanks averaged over two years (December 1, 1995 - November 30, 1997).

v. The net change in VOM emissions are as follows:

	(Ton/yr)
Fermentor and Seed Tank Replacements (Condition 7.1.6(l)(i))	+ 3.29
Contemporaneous Increase (Attachment 3)	+23.7681
Contemporaneous Decrease (Condition 7.1.6(l)(iv))	- 5.050

vi. The above limitations were established in Permit 97120079, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD) and 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 and 35 IAC Part 203. [T1]

m. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.1.7 Testing Requirements

a. Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.1.4(b) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in Condition 7.1.7 (b)(i)(A) (see also 35 IAC 218.105(f)(1)) [35 IAC 218.487].

b. Pursuant to 35 IAC 218.105(d)(1) and Section 39.5(7)(b) of the Act, the control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified below (see also 35 IAC 218.105(f)):

i. Volatile Organic Material Gas Phase Source Test Methods The methods in 40 CFR Part 60, Appendix A, delineated below shall be used to determine control device efficiencies [35 IAC 218.105(f)].

A. CFR Part 60, Appendix A, Method 18, 25 or 25A, as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. The test shall consist of three

separate runs, each lasting a minimum of 60 min, unless the Illinois EPA and the USEPA determine that process variables dictate shorter sampling times [35 IAC 218.105(f)(1)].

B. 40 CFR Part 60, Appendix A, Method 1 or 1A shall be used for sample and velocity traverses [35 IAC 218.105(f)(2)].

C. 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D shall be used for velocity and volumetric flow rates [35 IAC 218.105(f)(3)].

D. 40 CFR Part 60, Appendix A, Method 3 shall be used for gas analysis [35 IAC 218.105(f)(4)].

E. 40 CFR Part 60, Appendix A, Method 4 shall be used for stack gas moisture [35 IAC 218.105(f)(5)].

F. 40 CFR Part 60, Appendix A, Methods 2, 2A, 2C, 2D, 3 and 4 shall be performed, as applicable, at least twice during each test run [35 IAC 218.105(f)(6)].

G. Use of an adaptation to any of the test methods specified in Conditions 7.1.7 (b)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) may not be used unless approved by the Illinois EPA and the USEPA on a case by case basis. An owner or operator must submit sufficient documentation for the Illinois EPA and the USEPA to find that the test methods specified in Conditions 7.1.7(b)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) will yield inaccurate results and that the proposed adaptation is appropriate [35 IAC 218.105(f)(7)].

ii. Notwithstanding other requirements of 35 IAC Part 218, upon request of the Illinois EPA where it is necessary to demonstrate compliance, an owner or operator of an emission unit which is subject to 35 IAC Part 218 shall, at his own expense, conduct tests in accordance with the applicable test methods and procedures specific in 35 IAC Part 218. Nothing in this Condition (see also 35 IAC

218.105) shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing [35 IAC 218.105(i)].

7.1.8 Monitoring Requirements

None

7.1.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected fermentation manufacturing unit to demonstrate compliance with Conditions 5.5.1, 5.5.3(a), 7.1.3, 7.1.4(b), 7.1.5, and 7.1.6, pursuant to Section 39.5(7)(b) of the Act:

a. Records of the testing of the efficiency of each capture system and control device pursuant to Condition 7.1.7, which include the following [Section 39.5(7)(e) of the Act]:

   i. The date, place and time of sampling or measurements;

   ii. The date(s) analyses were performed;

   iii. The company or entity that performed the analyses;

   iv. The analytical techniques or methods used;

   v. The results of such analyses; and

   vi. The operating conditions as existing at the time of sampling or measurement.

b. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.1.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

   i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

   ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

   iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

   iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

c. Pursuant to 35 IAC 218.489(c), the following records shall be kept for emission units subject to Condition 7.1.5(a) (see also 35 IAC 218.484) which contain VOL:

i. For maintenance and inspection:

A. The date and time each cover is opened [35 IAC 218.489(c)(1)(A)];

B. The length of time the cover remains open [35 IAC 218.489(c)(1)(B)]; and

C. The reason why the cover is opened [35 IAC 218.489(c)(1)(C)].

ii. For production and sampling, detailed written procedures or manufacturing directions specifying the circumstances under which covers may be opened and the procedures for opening covers [35 IAC 218.489(c)(2)].

d. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.1.4(b) (see also 35 IAC 218.480(a)), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.1.4(b) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.1.4(b) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

e. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

f. Records addressing use of good operating practices for the rotoclones and ozone system:

i. Records for periodic inspection of the rotoclones, cyclone scrubbers and ozone system

with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

g. Types and quantities of raw materials, excluding water, used for each affected fermentation manufacturing unit, lb/batch, lb/mo, and ton/yr;

h. The operating schedule of the affected fermentation manufacturing units or number of hours the affected fermentation manufacturing units have been operated; and

i. The monthly and aggregate annual PM and VOM emissions from the affected fermentation manufacturing units based on the material and solvent usage and air pollution control equipment efficiencies, with supporting calculations.

7.1.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected fermentation manufacturing unit with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

b. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.1.4(b) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.1.4(b) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

c. Emissions of PM and/or VOM, in excess of the limits in Conditions 5.5.3(a), 7.1.3, and/or 7.1.6 based on

the current month's records plus the preceding 11 months within 30 days of such an occurrence.

d. The Permittee shall notify the Illinois EPA in writing of the actual dates of the following events within 15 days after each such event:

i. The date that each existing fermentor (959, 960, 961, 962, 964, 965, 966, 967 or 968) ceases operation;

ii. The date in which each existing seed to be replace pursuant to Construction Permit 97120079 ceases operation;

iii. The date in which each existing 700 series fermentor to be replaced pursuant to Construction Permit 97120079 ceases operation;

iv. The date in which each existing 800 series fermentor to be replaced pursuant to Construction Permit 97120079 ceases operation; and

v. The date that each of the emission units constructed pursuant to Construction Permit 97120079 initially begins operation and emits VOM.

7.1.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.1.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.1.9 and the emission factors and formulas listed below:

a. Determinations of daily and annual emissions for purposes of Condition 7.1.4(b) (see also 35 IAC 218.480) shall be made using both data on the hourly emission rate (or the emissions per unit of throughput) and appropriate daily and annual data from records of emission unit operation (or material throughput or material consumption data). In the absence of representative test data pursuant to Condition 7.1.7(a) (see also 35 IAC 218.487) for the hourly emission rate (or the emissions per unit of throughput) such items shall be calculated using engineering calculations, including the methods described in Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/2-78-029). This

Condition shall not affect the Illinois EPA's or the USEPA's authority to require emission tests to be performed pursuant to Condition 7.1.7(a) (see also 35 IAC 218.487)) [35 IAC 218.480(h)].

b. Compliance with Conditions 7.1.3(b), (c) and (d) is assumed by proper operation of the rotoclones and ozone system, as addressed by Condition 7.1.5(c).

c. To determine compliance with Conditions 5.5.1, 5.5.3(a), 7.1.3(e), and 7.1.6, VOM emissions from each affected fermentation manufacturing unit shall be calculated based on the following:

VOM Emissions (ton) = (Volume Ratio) x (Operating Hours of Fermentor, hr) x (37.0×10^{-6} ton/hr)

Where:

Volume Ratio = (Volume of Fermentor, gal/35,000 gal)

37.0×10^{-6} = The controlled emissions of VOM from the Ozone Room based on the most recent stack test (ton/hr).

d. To determine compliance with Conditions 5.5.1 and 7.1.6, PM emissions from the affected fermentation manufacturing units shall be calculated based on the following:

i. Mix Tanks:

ER = (PR) x (PRL) x (1 - e)

Where:

ER = emission rate (lb/hr)

PR = production rate (lb/hr)

PRL = % of material lost to the control device

e = efficiency of the control device

ii. Fermentors:

PM Emissions (lb) = (Volume Ratio) x (Operating Hours of Fermentor, hr) x (0.05 lb/hr)

Where:

Volume Ratio = (Volume of Fermentor, gal/35,000 gal)

0.05 = The controlled emissions of PM from the Ozone Room based on the most recent stack test (lb/hr).

7.2 Unit CAPD R-2B Fermentation Operations Manufacturing Building R-2B

7.2.1 Description

The operations in Building R-2B extract and purifies pharmaceutical and pharmaceutical-like products from biological fermentation broth. The fermentation broth is an aqueous solution of specified bacteria which contains a pharmaceutical or pharmaceutical-like raw material. The fermentation broth is generated in the fermentation operations in another building, and is transported to the R-2B process area in tanks. Solvents are used to extract the desired raw material, which is then purified and dried to form the final pharmaceutical or pharmaceutical-like product powder.

A variety of portable equipment is used in Building R-2B for batch process manufacturing. Portable equipment means single pieces of equipment that are mounted on wheels or skids so as to enable them to be moved from one process to another within a manufacturing building and from one manufacturing building to another. Portable equipment is divided into three categories: 1) vessels, including reactors, receivers, and tanks; 2) solid/liquid separation equipment, including dryers, centrifuges, and filters; 3) miscellaneous, including dust collectors, emission control equipment, oscillators, and sifters. Whenever a piece of portable equipment is used in a process, its emissions are calculated and included with the emissions for that process.

7.2.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
A-1068	Tolhurst Centrifuge (Centrifuge D-102)	None
D-1403	Patterson-Kelly Blender (PK Blender)	None
FJ-3436	800 Liter Separation Tank (Separation Tank #1)	None
FJ-3437	800 Liter Separation Tank (Separation Tank #2)	None
FK-2136	1,500 Liter Column (XAD Column)	None
II-0344	1,000 Liter Column (Amicon Column)	None
II-1163	Virtis Freeze Dryer (Dryer #2 (lypohilizer))	None
LC909269	2,000 Liter Tank (Tank 70)	None
LC909270	3,000 Liter Tank (Tank 80)	None
LC918033	Centrifuge (Heinkel Centrifuge)	None

Emission Unit	Description	Emission Control Equipment
LC918339	5,700 Liter Tank (DW Tank-TK400)	None
Q-0598	2,000 Liter Tank (Tank 41)	None
Q-0749	2,000 Liter Tank (Tank 42)	None
Q-1489	4,000 Liter Tank (Tank 45)	None
Q-2866	4,000 Liter Tank (Tank 40	None
Q-3059	200 Liter Tank (Tank 31)	None
Q-3076	2,000 Liter Tank (Tank 111)	None
Q-3077	2,000 Liter Tank (Tank 112)	None
Q-3140	2,000 Liter Crystallizer (Crystallizer D-100 Crxxr)	None
Q-3142	10,000 Liter Tank (Tank 50)	None
Q-3183	1,500 Liter Crystallizer (Crystallizer D-200 Crxxr)	None
Q-3362	1,800 Liter Crystallizer (Crystallizer D-101A Crxxr)	None
Q-3930	4,000 Liter Tank (Tank 60)	None
Q-4065	1,000 Liter Tank (Carbon Tank)	None
T-1798	7,500 Liter Tank (Tank 44)	None
T-7457	7,500 Liter Tank (Tank 43, Building R-2B)	None
Portable Equipment	Portable Vessels, Reactors, Receivers, Tanks, Solid/Liquid Separators, Filters, Centrifuges, Dryers, Mills, Sifters, and Oscillators	Scrubbers, Condensers, or Baghouses (as configured for the process)

7.2.3 Applicability Provisions and Applicable Regulations

a. The Building R-2B centrifuges, blenders, separation tanks, columns, dryers, tanks, RO units, crystallizers, and portable equipment are an "affected fermentation manufacturing units" for the purpose of these unit-specific conditions.

b. Each affected fermentation manufacturing unit is subject to the emission limits identified in Condition 5.2.2.

c. The affected fermentation manufacturing units are subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1254(a) for Process Vents at Existing Sources. The Illinois EPA is administering the NESHAP in Illinois on behalf of the USEPA under a delegation agreement. Pursuant to 40 CFR 63.1250(f)(1), an owner or operator of an existing affected source must comply with the provisions of 40 CFR 63 Subpart GGG within 3 years after September 21, 1998.

d. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

e. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, or 218.304 and the following exemption: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall only apply to photochemically reactive material [35 IAC 218.301].

7.2.4 Non-Applicability of Regulations of Concern

a. The affected fermentation manufacturing units are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

b. The affected fermentation manufacturing units are not subject to the control requirements of 35 IAC 218.501, Control Requirements for Batch Operations, pursuant to 35 IAC 218.501(b)(2), which excludes any emission unit included within the category specified in 35 IAC 218 Subpart T.

c. The affected fermentation manufacturing units are not subject to 35 IAC 212.324, Process Emission Units In Certain Areas, because the source is not located in a non-attainment area for PM_{10}, as identified in 35 IAC 212.324(a)(1).

7.2.5 Operational and Production Limits and Work Practices

a. The owner or operator shall install covers on all in-process tanks used to manufacture pharmaceuticals and containing a VOL at any time. These covers must remain closed, except as production, sampling, maintenance or inspection procedures require operator access [35 IAC 218.484].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

7.2.6 Emission Limitations

There are no specific emission limitations for these units, however, there are source wide emission limitations in Condition 5.5 that include these units.

7.2.7 Testing Requirements

a. *General*. Except as specified in 40 CFR 63.1257(a)(5), the procedures specified in 40 CFR 63.1257(d) and (f) are required to demonstrate initial compliance with 40 CFR 63.1254 and 63.1252(e), respectively. The provisions in 40 CFR 63.1257(a)(2) apply to performance tests that are specified in 40 CFR 63.1257(d). The provisions in 40 CFR 63.1257(a)(5) are used to demonstrate initial compliance with the alternative standards specified in 40 CFR 63.1254(c). The provisions in 40 CFR 63.1257(a)(6) are used to comply with the outlet concentration requirements specified in 40 CFR 63.1254(a)(2)(i) and (a)(3)(ii)(B) [40 CFR 63.1257(a)].

b. *Test methods*. When testing is conducted to measure emissions from an affected source, the test methods specified in 40 CFR 63.1257(b)(1) through (10) shall be used [40 CFR 63.1257(b)].

c. Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.2.4(a) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the

methods or procedures listed in 35 IAC 218.105(f)(1) [35 IAC 218.487].

7.2.8 Monitoring Requirements

a. The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard as specified in 40 CFR 63.1258. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish the operating parameter level [40 CFR 63.1258(a)].

b. *Monitoring for control devices*.

i. *Parameters to monitor*. Except as specified in 40 CFR 63.1258(b)(1)(i), for each control device, the owner or operator shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4 of 40 CFR 63 Subpart GGG and in 40 CFR 63.1258(b)(1)(ii) through (xi) [40 CFR 63.1258(b)(1)].

ii. *Averaging periods*. Averaging periods for parametric monitoring levels shall be established according to 40 CFR 63.1258(b)(2)(i) through (iii) [40 CFR 63.1258(b)(2)].

iii. *Monitoring for the alternative standards*. For control devices that are used to comply with the provisions of 40 CFR 63.1254(c), the owner or operator shall monitor and record the outlet TOC concentration and the outlet hydrogen halide and halogen concentration every 15 minutes during the period in which the device is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG. A TOC monitor meeting the requirements of Performance Specification 8 or 9 of appendix B of 40 CFR Part 60 shall be installed, calibrated, and maintained, according to 40 CFR 63.8. The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the

emission stream does not contain hydrogen halides or halogens [40 CFR 63.1258(b)(5)].

iv. *Exceedances of operating parameters*. Pursuant to 40 CFR 63.1258(b)(6), an exceedance of an operating parameter is defined as one of the following:

A. If the parameter, averaged over the operating day or block, is below a minimum value established during the initial compliance demonstration [40 CFR 63.1258 (b)(6)(i)].

B. If the parameter, averaged over the operating day or block, is above the maximum value established during the initial compliance demonstration [40 CFR 63.1258(b)(6)(ii)].

C. Each loss of pilot flame for flares [40 CFR 63.1258(b)(6)(iii)].

v. *Excursions*. Pursuant to 40 CFR 63.1258(b)(7), excursions are defined by either of the two cases listed in Conditions 7.2.8(b)(v)(A) or (B) (see also 40 CFR 63.1258(b)(7)(i) or (ii)).

A. When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in Condition 7.2.8 (b)(v)(C) (see also 40 CFR 63.1258 (b)(7)(iii)), for at least 75 percent of the operating hours [40 CFR 63.1258 (b)(7)(i)].

B. When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data [40 CFR 63.1258(b)(7)(ii)].

C. Monitoring data are insufficient to constitute a valid hour of data, as used in Conditions 7.2.8(b)(v)(A) and (B) (see also 40 CFR 63.1258(b)(7)(i) and (ii)), if measured values are unavailable for any of the required 15-minute periods

within the hour [40 CFR 63.1258(b)(7)(iii)].

vi. *Violations*. Pursuant to 40 CFR 63.1258(b)(8), exceedances of parameters monitored according to the provisions of 40 CFR 63.1258(b)(1)(ii) and (iv) through (ix) or excursions as defined by Conditions 7.2.8(b)(v)(A) through (C) (see also 40 CFR 63.1258(b)(7)(i) through (iii)) constitute violations of the operating limit according to Conditions 7.2.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of 40 CFR 63.1258(b)(1)(x) constitute violations of the emission limit according to Conditions 7.2.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of Condition 7.2.8(b)(iii) (see also 40 CFR 63.1258 (b)(5)) constitute violations of the emission limit according to the provisions of Conditions 7.2.8(b)(vi)(C) and (D) (see also 40 CFR 63.1258 (b)(8)(iii) and (iv)).

A. Except as provided in Condition 7.2.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process [40 CFR 63.1258(b)(8)(i)].

B. Except as provided in Condition 7.2.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device, for each process for which the control device is in service [40 CFR 63.1258(b)(8)(ii)].

C. Except as provided in Condition 7.2.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control

device. Except as provided in Condition 7.2.8(b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv hydrogen halide or halogen outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device [40 CFR 63.1258 (b)(8)(iii)].

D. Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur during a startup, shutdown, or malfunction, and the facility follows its startup, shutdown, and malfunction plan [40 CFR 63.1258 (b)(8)(iv)].

c. *Monitoring for emission limits*. The owner or operator of any affected source complying with the provisions of 40 CFR 63.1254(a)(1) shall demonstrate continuous compliance with the 2,000 lb/yr emission limits by calculating daily a 365-day rolling summation of emissions. For owners and operators opting to switch compliance strategy from the 93 percent control requirement to the 2,000 lb/yr compliance method, as described in 40 CFR 63.1254(a), the rolling average must include emissions from the past 365 days. Each day that the total emissions per process exceeds 2,000 lb/yr will be considered a violation of the emission limit [40 CFR 63.1258(c)].

7.2.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected fermentation manufacturing unit to demonstrate compliance with Conditions 5.5.1, 7.2.3, and 7.2.5, pursuant to Section 39.5(7)(b) of the Act:

a. *Records of equipment operation*. Pursuant to 40 CFR 63.1259(b), the owner or operator must keep the following records up-to-date and readily accessible:

i. Each measurement of a control device operating parameter monitored in accordance with Condition 7.2.8 (see also 40 CFR 63.1258) [40 CFR 63.1259 (b)(1)].

ii. For each continuous monitoring system used to comply with 40 CFR 63 Subpart GGG, records documenting the completion of calibration

checks and maintenance of continuous monitoring systems [40 CFR 63.1259(b)(3)].

iii. For processes in compliance with the 2,000 lb/yr emission limit of 40 CFR 63.1254(a)(1), records of the rolling annual total emissions [40 CFR 63.1259(b)(4)].

iv. Pursuant to 40 CFR 63.1259(a)(5), records of the following, as appropriate:

A. The number of batches per year for each batch process [40 CFR 63.1259(a)(5)(i)].

B. The operating hours per year for continuous processes [40 CFR 63.1259 (a)(5)(ii)].

v. Uncontrolled and controlled emissions per batch for each process [40 CFR 63.1259(b)(6)].

vi. Wastewater concentration per POD or process [40 CFR 63.1259(b)(7)].

vii. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].

viii. Description of worst-case operating conditions as determined using the procedures described in 40 CFR 63.1257(b)(8) for control devices [40 CFR 63.1259(b)(10)].

b. *Records of operating scenarios*. The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with 40 CFR 63 Subpart GGG [40 CFR 63.1259(c)].

c. Records of the testing pursuant to Condition 7.2.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

d. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.2.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

e. Pursuant to 35 IAC 218.489(c), the following records shall be kept for emission units subject to Condition 7.2.5(a) (see also 35 IAC 218.484) which contain VOL:

i. For maintenance and inspection:

A. The date and time each cover is opened [35 IAC 218.489(c)(1)(A)];

B. The length of time the cover remains open [35 IAC 218.489(c)(1)(B)]; and

C. The reason why the cover is opened [35 IAC 218.489(c)(1)(C)].

ii. For production and sampling, detailed written procedures or manufacturing directions specifying the circumstances under which covers may be opened and the procedures for opening covers [35 IAC 218.489(c)(2)].

f. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.2.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.2.4(a)

(see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.2.4(a) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

g. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

h. Types and quantities of raw materials, excluding water, used for each affected fermentation manufacturing unit, lb/batch, lb/mo, and ton/yr;

i. The operating schedule of the affected fermentation manufacturing units or number of hours the affected fermentation manufacturing units have been operated; and

j. The monthly and aggregate annual PM, VOM, and HAP emissions from the affected fermentation manufacturing units based on the material and solvent usage and air pollution control equipment efficiencies, with supporting calculations.

7.2.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected fermentation manufacturing unit with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. *Periodic reports*. Pursuant to 40 CFR 63.1260(g), an owner or operator shall prepare Periodic reports in accordance with Conditions 7.2.10(a)(i) and (ii) (see also 40 CFR 63.1260(g)(1) and (2)) and submit them to the Illinois EPA and/or USEPA.

i. *Submittal schedule*. Pursuant to 40 CFR 63.1260 (g)(1), Except as provided in Conditions 7.2.10 (a)(i)(A), (B), and (C) (see also 40 CFR 63.1260 (g)(1)(i), (ii) and (iii)), an owner or operator shall submit Periodic reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the

date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due.

A. When the Illinois EPA and/or USEPA determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source [40 CFR 63.1260 (g)(1)(i)]; or

B. When the monitoring data are used directly for compliance determination and the source experience excess emissions, in which case quarterly reports shall be submitted. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in 40 CFR 63.10(e)(3)(ii) and (iii) shall apply, except that the term "excess emissions and continuous monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of Condition 7.2.10 (see also 40 CFR 63.1260) [40 CFR 63.1260(g)(1)(ii)].

C. When a new operating scenario has been operated since the last report, in which case quarterly reports shall be submitted [40 CFR 63.1260(g)(1)(iii)].

ii. *Content of Periodic report*. Pursuant to 40 CFR 63.1260(g)(2), the owner or operator shall include the information in Conditions 7.2.10 (a)(ii)(A) through (D) (see also 40 CFR 63.1260 (g)(2)(i) through (vii)), as applicable.

A. Each Periodic report must include the information in 40 CFR 63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the information in 40 CFR 63.10(e)(3)(vi)(J) [40 CFR 63.1260(g)(2)(i)].

B. Pursuant to 40 CFR 63.1260(g)(2)(ii), if the total duration of excess emissions,

parameter exceedances, or excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in Conditions 7.2.10(a)(ii)(B)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(ii)(A) through (D)).

I. Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(A)].

II. Duration of excursions, as defined in Condition 7.2.8(b)(v) (see also 40 CFR 63.1258(b)(7)) [40 CFR 63.1260(g)(2)(ii)(B)].

III. Operating logs and operating scenarios for all operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(C)].

IV. When a continuous monitoring system is used, the information required in 40 CFR 63.10(c)(5) through (13) [40 CFR 63.1260(g)(2)(ii)(D)].

C. Pursuant to 40 CFR 63.1260(g)(2)(v), the information in Conditions 7.2.10 (a)(ii)(C)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(v)(A) through (D)) shall be stated in the Periodic report, when applicable.

I. No excess emissions [40 CFR 63.1260 (g)(2)(v)(A)].

II. No exceedances of a parameter [40 CFR 63.1260(g)(2)(v)(B)].

III. No excursions [40 CFR 63.1260 (g)(2)(v)(C)].

IV. No continuous monitoring system has been inoperative, out of control, repaired, or adjusted [40 CFR 63.1260(g)(2)(v)(D)].

D. Each new operating scenario which has been operated since the time period covered by the last Periodic report. For the initial Periodic report, each operating scenario for each process operated since the compliance date shall be submitted [40 CFR 63.1260(g)(2)(vii)].

b. *Notification of process change*.

i. Pursuant to 40 CFR 63.1260(h)(1), except as specified in Condition 7.2.10(b)(ii) (see also 40 CFR 63.1260(h)(2)), whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report quarterly. The report may be submitted as part of the next Periodic report required under Condition 7.2.10(a) (see also 40 CFR 63.1260(g)). The report shall include:

A. A brief description of the process change [40 CFR 63.1260(h)(1)(i)].

B. A description of any modifications to standard procedures or quality assurance procedures [40 CFR 63.1260(h)(1)(ii)].

C. Revisions to any of the information reported in the original Notification of Compliance Status Report under Condition 5.7.2(k) (see also 40 CFR 63.1260(f)) [40 CFR 63.1260(h)(1)(iii)].

D. Information required by the Notification of Compliance Status Report under Condition 5.7.2(k) (see also 40 CFR 63.1260(f)) for changes involving the addition of processes or equipment [40 CFR 63.1260(h)(1)(iv)].

ii. Pursuant to 40 CFR 63.1260(h)(2), an owner or operator must submit a report 60 days before

the scheduled implementation date of either of the following:

A. Any change in the activity covered by the Precompliance report [40 CFR 63.1260 (h)(2)(i)].

B. A change in the status of a control device from small to large [40 CFR 63.1260 (h)(2)(ii)].

c. *Reports of startup, shutdown, and malfunction*. For the purposes of 40 CFR 63 Subpart GGG, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the periodic reports required under Condition 7.2.10(a) (see also 40 CFR 63.1260(g)) instead of the schedule specified in 40 CFR 63.10 (d)(5)(i). These reports shall include the information specified in Condition 5.6.2(n)(iii)(A) through (C) (see also 40 CFR 63.1259(a)(3)(i) through (iii)) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in 40 CFR 63.10 (d)(4)(ii) [40 CFR 63.1260(i)].

d. *Notification of performance test and test plan*. The owner or operator of an affected source shall notify the Illinois EPA and/or USEPA of the planned date of a performance test at least 60 days before the test in accordance with 40 CFR 63.7(b). The owner or operator also must submit the test plan required by 40 CFR 63.7(c) and the emission profile required by 40 CFR 63.1257(b)(8)(ii) with the notification of the performance test [40 CFR 63.1260(l)].

e. *Request for extension of compliance*. An owner or operator may submit to the Illinois EPA and/or USEPA a request for an extension of compliance in accordance with 40 CFR 63.1250(f)(4) [40 CFR 63.1260(m)].

f. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

g. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.2.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.2.4(a) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

h. Emissions of PM or VOM in excess of the limits in Conditions 7.2.3 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.2.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following changes with respect to the affected fermentation manufacturing units without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification pursuant to regulations promulgated pursuant to Title I of the CAA (i.e., 40 CFR 52.21 and 35 IAC Part 203):

This permit is issued for production of pharmaceuticals, chemical intermediates for pharmaceutical products and pharmaceutical-like products such as hormones, enzymes and antibiotics. In addition to varying the quantities of such materials produced, the Permittee may change the types of such materials produced, making products not previously made in the affected fermentation pilot-plant units, or changing the process by which such materials are made, provided that Conditions 5.5 or 7.2.3 are not violated.

7.2.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.2.9 and the emission factors and formulas listed below:

a. Determinations of daily and annual emissions for purposes of Condition 7.2.4(a) (see also 35 IAC 218.480) shall be made using both data on the hourly emission rate (or the emissions per unit of throughput) and appropriate daily and annual data from records of emission unit operation (or material

throughput or material consumption data). In the absence of representative test data pursuant to Condition 7.2.7(c) (see also 35 IAC 218.487) for the hourly emission rate (or the emissions per unit of throughput) such items shall be calculated using engineering calculations, including the methods described in Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/2-78-029). This Condition shall not affect the Illinois EPA's or the USEPA's authority to require emission tests to be performed pursuant to Condition 7.2.7(c) (see also 35 IAC 218.487)) [35 IAC 218.480(h)].

b. To determine compliance with Conditions 5.5.1 and 7.2.3(f), VOM emissions from the affected fermentation manufacturing units, calculations based on the formulas and procedures listed in either Appendix B of "Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products" (EPA-450/2-78-029) or "Control of Volatile Organic Compound Emissions from Batch Processes-Alternative Control Techniques Information Document" (EPA-450/R-94-020) are acceptable.

c. To determine compliance with Conditions 5.5.1 and 7.2.3(d), PM emissions from the affected fermentation manufacturing units shall be calculated based on the following:

$$ER = (PR) \times ((PRL) \times (100 - e))/100$$

Where:

ER = Emission rate (lb/hr)

PR = Production rate (lb/hr)

PRL = Material lost to the control device, %

e = Efficiency of the control device, %

7.3 Units CAPD R-3 Fermentation Operations Manufacturing Building R-3
Controls CAPD R-3 Scrubbers, Condensers, Dust Collectors, Liquid-Ring Vacuum Pumps

7.3.1 Description

Building R-3 is used to recover pharmaceutical and pharmaceutical-like products from fermentation processes. The aqueous fermentor broth, or harvest, is pumped into Building R-3. After the product is extracted from the harvest, the harvest, which is now known as "spent beer," is either sent to stripping columns to remove the organic solvent from the beer, or it is sent to the source's waste treatment facility for treatment. Spent beer from the processes may be sent to other building at the source for further processing. After the recovered product is further purified by filtering or by additional extraction process steps, it is either sent on for further processing, or it is concentrated, crystallized, and centrifuged in Building R-3. After centrifuging, the wet cake product is sent to other buildings at the source for drying.

A variety of portable equipment is used in Building R-3 for batch process manufacturing. Portable equipment means single pieces of equipment that are mounted on wheels or skids so as to enable them to be moved from one process to another within a manufacturing building and from one manufacturing building to another. Portable equipment is divided into three categories: 1) vessels, including reactors, receivers, and tanks; 2) solid/liquid separation equipment, including dryers, centrifuges, and filters; 3) miscellaneous, including dust collectors, emission control equipment, oscillators, and sifters. Whenever a piece of portable equipment is used in a process, its emissions are calculated and included with the emissions for that process.

7.3.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
A0169	Centrifuge (Tolhurst Centrifuge, Spectam, PC-740)	Scrubber SC-3
A0257	Centrifuge (Pusher Centrifuge (spectam), PC-740)	None
A0340	Centrifuge (Tolhurst Centrifuge (gibb), PC-754)	None
A1020	Centrifuge (Heinkel Centrifuge (Spectam), PC-740)	Scrubber SC-2 (Asset #U2187)

Emission Unit	Description	Emission Control Equipment
B1775	Process Condenser (Condenser #1, HX-104, PC-754)	Gibb Still Scavenger Condenser LC002853
B1777	Process Condenser (Condenser #2, HX-105, PC-754)	Gibb Still Scavenger Condenser LC002853
B1915	Process Condenser (TK40 Condenser, PC-754)	None
B1916	Process Condenser (TK#41 Condenser, PC-754)	None
B1917	Process Condenser (TK#39 Condenser, PC-754)	None
FJ4777	Still Decanter (Ery Still Decanter, PC-704)	None
FK5719	Carbon Doser Kinetic Air 2DB11	Dust Collector CDKA
H5658	Stripping Column (Gibb Column #1, PC-754)	Gibb Still Scavenger Condenser LC002853
H5659	Stripping Column (Gibb Column #2, PC-754)	Gibb Still Scavenger Condenser LC002853
LC909435	Process Condenser (Ery Column #2 Condenser, PC-704)	Scavenger Condenser B2459
LC918140	Spent Beer Tank (Tank 47, PC-704)	None
NA6504	100 Gallon Process Tank (Tank #37, PC-754)	None
Q1665	1,710 Gallon Crystallizer (Tank 41, PC-754)	Liquid Ring Vacuum Pump KK2491 (Asset #KK3811)
Q1739	Stripping Column (Ery Still Column #2, West, PC-704)	Scavenger Condenser B2459
Q1740	Stripping Column (Ery Still Column #1, East, PC-704)	Scavenger Condenser B2459
Q1761	1,710 Gallon Process Tank (Tank 42, PC-754)	None
Q1899	Process Decanter (Gibb Still Decanter, PC-754)	None
Q2108	100 Gallon Process Tank (Tank 7, PC-740, Building R-3)	None
Q2159	520 Gallon Trace Amyl Alcohol Process Tank (Tank 20C, PC-754)	None
Q2167	790 Gallon Surge Tank (Tank 21, PC-704)	None
Q2677	1,000 Gallon Mix Tank (Tank 13, PC-740)	None

Emission Unit	Description	Emission Control Equipment
Q2689	1,500 Gallon Process Tank (Tank 25, PC-754)	None
Q2690	1,500 Gallon Process Tank (Tank 26, PC-754)	None
Q2792	990 Gallon Process Tank (Tank 43, PC-754)	None
Q2846	200 Liter Receiver (Tank 40R, PC-754)	Liquid Ring Vacuum Pump KK4689
Q2847	200 Liter Receiver (Tank 41R, PC-754)	Liquid Ring Vacuum Pump KK2491 (Asset #KK3811)
Q2855	290 Gallon Crystallizer (Tank 39, PC-754)	Liquid Ring Vacuum Pump KK3118
Q2859	200 Liter Receiver (Tank 39R, PC-754)	Liquid Ring Vacuum Pump KK3118
Q2860	1,820 Gallon Surge Tank (Tank 28, PC-704)	None
Q2861	1,820 Gallon Surge Tank (Tank 27, PC-704)	None
Q2953	10,580 Gallon Water with Amyl Alcohol Feed Tank (Tank 20B, PC-754)	None
Q3001	5,600 Liter Process Tank (Tank #99, PC-754)	None
Q3052	1,000 Gallon Process Tank (Tank 11, PC-740)	None
Q3347	1,210 Gallon Crystallizer (Tank 40, PC-754, Building R-3)	Liquid Ring Vacuum Pump KK4689
Q3484	500 Gallon Process Tank (Tank 9, PC-740)	None
Q3795	790 Gallon Surge Tank (Tank 22, PC-704)	None
Q4079	Makeup Tank (Tank 35, PC-704)	None
Portable Equipment	Portable Vessels, Reactors, Receivers, Tanks, Solid/Liquid Separators, Filters, Centrifuges, Dryers, Mills, Sifters, and Oscillators	Scrubbers, Condensers, or Baghouses (as configured for the process)

7.3.3 Applicability Provisions and Applicable Regulations

a. The Building R-3 centrifuges, extractor pods, clarifiers, process condensers, decanters, carbon dosers, stripping columns, tanks, crystallizers, receivers, filter presses, and portable equipment are

"affected fermentation manufacturing units" for the purpose of these unit-specific conditions.

b. Each affected fermentation manufacturing unit is subject to the emission limits identified in Condition 5.2.2.

c. The affected fermentation manufacturing units are subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1254(a) for Process Vents at Existing Sources. The Illinois EPA is administering the NESHAP in Illinois on behalf of the USEPA under a delegation agreement. Pursuant to 40 CFR 63.1250(f)(1), an owner or operator of an existing affected source must comply with the provisions of 40 CFR 63 Subpart GGG within 3 years after September 21, 1998.

d. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit for which construction or modification commenced prior to April 14, 1972, which, either alone or in combination with the emission of particulate matter from all other similar process emission at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 (see also Attachment 2) [35 IAC 212.322(a)].

e. The affected fermentation manufacturing units are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.3.3 (e)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

ii. Pursuant to 35 IAC 218.302, emissions of organic material in excess of those permitted by Condition 7.3.3(e)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by one of the following methods:

A. A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)]; or

B. Any other air pollution control equipment approved by the Illinois EPA and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere [35 IAC 218.302(c)].

7.3.4 Non-Applicability of Regulations of Concern

a. The affected fermentation manufacturing units are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

b. The affected fermentation manufacturing units are not subject to the control requirements of 35 IAC 218.501, Control Requirements for Batch Operations, pursuant to 35 IAC 218.501(b)(2), which excludes any emission unit included within the category specified in 35 IAC 218 Subpart T.

c. The affected fermentation manufacturing units are not subject to 35 IAC 212.324, Process Emission Units In Certain Areas, because the source is not located in a non-attainment area for PM_{10}, as identified in 35 IAC 212.324(a)(1).

7.3.5 Operational and Production Limits and Work Practices

a. The owner or operator shall install covers on all in-process tanks used to manufacture pharmaceuticals and containing a VOL at any time. These covers must remain closed, except as production, sampling, maintenance or inspection procedures require operator access [35 IAC 218.484].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The Permittee shall follow good operating practices for the scrubbers, condensers, dust collectors, and liquid-ring vacuum pumps including periodic inspection, routine maintenance and prompt repair of defects.

d. The affected fermentation manufacturing units are not restricted to using the specific air control equipment listed in Condition 7.3.2, so long as emissions are kept below the applicable limits specified in Conditions 5.5, 7.3.3, and 7.3.6.

7.3.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected fermentation manufacturing units are subject to the following:

a. Emissions and operation of equipment shall not exceed the following limits:

Item of Equipment	Process Rate (Batches/yr)	EMISSIONS VOM lb/Batch	VOM Ton/yr	PM lb/Batch	PM Ton/yr
Erythromycin Extraction	1,716	1.90	1.63	0.37	0.32

i. These limits are based on the maximum number of batches produced each year and the maximum emissions.

ii. The above limitations were established in Permit 83050001, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

b. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the

current month plus the preceding 11 months (running 12 month total).

7.3.7 Testing Requirements

a. *General*. Except as specified in 40 CFR 63.1257(a)(5), the procedures specified in 40 CFR 63.1257(d) and (f) are required to demonstrate initial compliance with 40 CFR 63.1254 and 63.1252(e), respectively. The provisions in 40 CFR 63.1257(a)(2) apply to performance tests that are specified in 40 CFR 63.1257(d). The provisions in 40 CFR 63.1257(a)(5) are used to demonstrate initial compliance with the alternative standards specified in 40 CFR 63.1254(c). The provisions in 40 CFR 63.1257(a)(6) are used to comply with the outlet concentration requirements specified in 40 CFR 63.1254(a)(2)(i) and (a)(3)(ii)(B) [40 CFR 63.1257(a)].

b. *Test methods*. When testing is conducted to measure emissions from an affected source, the test methods specified in 40 CFR 63.1257(b)(1) through (10) shall be used [40 CFR 63.1257(b)].

c. Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.3.4(a) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in Condition 7.3.7 (d)(i)(A) (see also 35 IAC 218.105(f)(1)) [35 IAC 218.487].

d. Pursuant to 35 IAC 218.105(d)(1) and Section 39.5(7)(b) of the Act, the control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified below (see also 35 IAC 218.105(f)):

i. Volatile Organic Material Gas Phase Source Test Methods The methods in 40 CFR Part 60, Appendix A, delineated below shall be used to determine control device efficiencies [35 IAC 218.105(f)].

A. CFR Part 60, Appendix A, Method 18, 25 or 25A, as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be based on consideration of the diversity

of organic species present and their total concentration and on consideration of the potential presence of interfering gases. The test shall consist of three separate runs, each lasting a minimum of 60 min, unless the Illinois EPA and the USEPA determine that process variables dictate shorter sampling times [35 IAC 218.105(f)(1)].

B. 40 CFR Part 60, Appendix A, Method 1 or 1A shall be used for sample and velocity traverses [35 IAC 218.105(f)(2)].

C. 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D shall be used for velocity and volumetric flow rates [35 IAC 218.105(f)(3)].

D. 40 CFR Part 60, Appendix A, Method 3 shall be used for gas analysis [35 IAC 218.105(f)(4)].

E. 40 CFR Part 60, Appendix A, Method 4 shall be used for stack gas moisture [35 IAC 218.105(f)(5)].

F. 40 CFR Part 60, Appendix A, Methods 2, 2A, 2C, 2D, 3 and 4 shall be performed, as applicable, at least twice during each test run [35 IAC 218.105(f)(6)].

G. Use of an adaptation to any of the test methods specified in Conditions 7.3.7 (d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) may not be used unless approved by the Illinois EPA and the USEPA on a case by case basis. An owner or operator must submit sufficient documentation for the Illinois EPA and the USEPA to find that the test methods specified in Conditions 7.3.7(d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) will yield inaccurate results and that the proposed adaptation is appropriate [35 IAC 218.105(f)(7)].

ii. Notwithstanding other requirements of 35 IAC Part 218, upon request of the Illinois EPA where it is necessary to demonstrate compliance, an owner or operator of an emission unit which is subject to 35 IAC Part

218 shall, at his own expense, conduct tests in accordance with the applicable test methods and procedures specific in 35 IAC Part 218. Nothing in this Condition (see also 35 IAC 218.105) shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing [35 IAC 218.105(i)].

7.3.8 Monitoring Requirements

a. The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard as specified in 40 CFR 63.1258. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish the operating parameter level [40 CFR 63.1258(a)].

b. *Monitoring for control devices*.

i. *Parameters to monitor*. Except as specified in 40 CFR 63.1258(b)(1)(i), for each control device, the owner or operator shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4 of 40 CFR 63 Subpart GGG and in 40 CFR 63.1258(b)(1)(ii) through (xi) [40 CFR 63.1258(b)(1)].

ii. *Averaging periods*. Averaging periods for parametric monitoring levels shall be established according to 40 CFR 63.1258(b)(2)(i) through (iii) [40 CFR 63.1258(b)(2)].

iii. *Monitoring for the alternative standards*. For control devices that are used to comply with the provisions of 40 CFR 63.1254(c), the owner or operator shall monitor and record the outlet TOC concentration and the outlet hydrogen halide and halogen concentration every 15 minutes during the period in which the device is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG. A TOC monitor meeting the requirements of Performance Specification 8 or 9 of appendix B of 40 CFR Part 60 shall be installed,

calibrated, and maintained, according to 40 CFR 63.8. The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens [40 CFR 63.1258(b)(5)].

iv. *Exceedances of operating parameters*. Pursuant to 40 CFR 63.1258(b)(6), an exceedance of an operating parameter is defined as one of the following:

A. If the parameter, averaged over the operating day or block, is below a minimum value established during the initial compliance demonstration [40 CFR 63.1258 (b)(6)(i)].

B. If the parameter, averaged over the operating day or block, is above the maximum value established during the initial compliance demonstration [40 CFR 63.1258(b)(6)(ii)].

C. Each loss of pilot flame for flares [40 CFR 63.1258(b)(6)(iii)].

v. *Excursions*. Pursuant to 40 CFR 63.1258(b)(7), excursions are defined by either of the two cases listed in Conditions 7.3.8(b)(v)(A) or (B) (see also 40 CFR 63.1258(b)(7)(i) or (ii)).

A. When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in Condition 7.3.8 (b)(v)(C) (see also 40 CFR 63.1258 (b)(7)(iii)), for at least 75 percent of the operating hours [40 CFR 63.1258 (b)(7)(i)].

B. When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data [40 CFR 63.1258(b)(7)(ii)].

C. Monitoring data are insufficient to constitute a valid hour of data, as used

in Conditions 7.3.8(b)(v)(A) and (B) (see also 40 CFR 63.1258(b)(7)(i) and (ii)), if measured values are unavailable for any of the required 15-minute periods within the hour [40 CFR 63.1258(b)(7)(iii)].

vi. *Violations*. Pursuant to 40 CFR 63.1258(b)(8), exceedances of parameters monitored according to the provisions of 40 CFR 63.1258(b)(1)(ii) and (iv) through (ix) or excursions as defined by Conditions 7.3.8(b)(v)(A) through (C) (see also 40 CFR 63.1258(b)(7)(i) through (iii)) constitute violations of the operating limit according to Conditions 7.3.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of 40 CFR 63.1258(b)(1)(x) constitute violations of the emission limit according to Conditions 7.3.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of Condition 7.3.8(b)(iii) (see also 40 CFR 63.1258 (b)(5)) constitute violations of the emission limit according to the provisions of Conditions 7.3.8(b)(vi)(C) and (D) (see also 40 CFR 63.1258 (b)(8)(iii) and (iv)).

A. Except as provided in Condition 7.3.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process [40 CFR 63.1258(b)(8)(i)].

B. Except as provided in Condition 7.3.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device, for each process for which the control device is in service [40 CFR 63.1258(b)(8)(ii)].

C. Except as provided in Condition 7.3.8 (b)(vi)(D) (see also 40 CFR 63.1258

(b)(8)(iv)), exceedances of the 20 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device. Except as provided in Condition 7.3.8(b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv hydrogen halide or halogen outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device [40 CFR 63.1258 (b)(8)(iii)].

D. Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur during a startup, shutdown, or malfunction, and the facility follows its startup, shutdown, and malfunction plan [40 CFR 63.1258 (b)(8)(iv)].

c. *Monitoring for emission limits*. The owner or operator of any affected source complying with the provisions of 40 CFR 63.1254(a)(1) shall demonstrate continuous compliance with the 2,000 lb/yr emission limits by calculating daily a 365-day rolling summation of emissions. For owners and operators opting to switch compliance strategy from the 93 percent control requirement to the 2,000 lb/yr compliance method, as described in 40 CFR 63.1254(a), the rolling average must include emissions from the past 365 days. Each day that the total emissions per process exceeds 2,000 lb/yr will be considered a violation of the emission limit [40 CFR 63.1258(c)].

7.3.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected fermentation manufacturing unit to demonstrate compliance with Conditions 5.5.1, 7.3.3, 7.3.5, and 7.3.6, pursuant to Section 39.5(7)(b) of the Act:

a. *Records of equipment operation*. Pursuant to 40 CFR 63.1259(b), the owner or operator must keep the following records up-to-date and readily accessible:

i. Each measurement of a control device operating parameter monitored in accordance with Condition 7.3.8 (see also 40 CFR 63.1258) [40 CFR 63.1259 (b)(1)].

ii. For each continuous monitoring system used to comply with 40 CFR 63 Subpart GGG, records documenting the completion of calibration checks and maintenance of continuous monitoring systems [40 CFR 63.1259(b)(3)].

iii. For processes in compliance with the 2,000 lb/yr emission limit of 40 CFR 63.1254(a)(1), records of the rolling annual total emissions [40 CFR 63.1259(b)(4)].

iv. Pursuant to 40 CFR 63.1259(a)(5), records of the following, as appropriate:

A. The number of batches per year for each batch process [40 CFR 63.1259(a)(5)(i)].

B. The operating hours per year for continuous processes [40 CFR 63.1259 (a)(5)(ii)].

v. Uncontrolled and controlled emissions per batch for each process [40 CFR 63.1259(b)(6)].

vi. Wastewater concentration per POD or process [40 CFR 63.1259(b)(7)].

vii. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].

viii. Description of worst-case operating conditions as determined using the procedures described in 40 CFR 63.1257(b)(8) for control devices [40 CFR 63.1259(b)(10)].

b. *Records of operating scenarios*. The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with 40 CFR 63 Subpart GGG [40 CFR 63.1259(c)].

c. Records of the testing of the efficiency of each capture system and control device pursuant to Condition 7.3.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

d. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.3.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

e. Pursuant to 35 IAC 218.489(c), the following records shall be kept for emission units subject to Condition 7.3.5(a) (see also 35 IAC 218.484) which contain VOL:

i. For maintenance and inspection:

A. The date and time each cover is opened [35 IAC 218.489(c)(1)(A)];

B. The length of time the cover remains open [35 IAC 218.489(c)(1)(B)]; and

C. The reason why the cover is opened [35 IAC 218.489(c)(1)(C)].

ii. For production and sampling, detailed written procedures or manufacturing directions specifying the circumstances under which covers may be opened and the procedures for opening covers [35 IAC 218.489(c)(2)].

f. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.3.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.3.4(a) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.3.4(a) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

g. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

h. Records addressing use of good operating practices for the scrubbers, condensers, dust collectors, and liquid-ring vacuum pumps:

i. Records for periodic inspection of the scrubbers, condensers, dust collectors, and liquid-ring vacuum pumps with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

i. Types and quantities of raw materials, excluding water, used for each affected fermentation manufacturing unit, lb/batch, lb/mo, and ton/yr;

j. The operating schedule of the affected fermentation manufacturing units or number of hours the affected fermentation manufacturing units have been operated; and

k. The monthly and aggregate annual PM and VOM emissions from the affected fermentation manufacturing units based on the material and solvent usage and air pollution control equipment efficiencies, with supporting calculations.

7.3.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected fermentation manufacturing unit with the permit

requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. *Periodic reports*. Pursuant to 40 CFR 63.1260(g), an owner or operator shall prepare Periodic reports in accordance with Conditions 7.3.10(a)(i) and (ii) (see also 40 CFR 63.1260(g)(1) and (2)) and submit them to the Illinois EPA and/or USEPA.

i. *Submittal schedule*. Pursuant to 40 CFR 63.1260 (g)(1), Except as provided in Conditions 7.3.10 (a)(i)(A), (B), and (C) (see also 40 CFR 63.1260 (g)(1)(i), (ii) and (iii)), an owner or operator shall submit Periodic reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due.

A. When the Illinois EPA and/or USEPA determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source [40 CFR 63.1260 (g)(1)(i)]; or

B. When the monitoring data are used directly for compliance determination and the source experience excess emissions, in which case quarterly reports shall be submitted. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in 40 CFR 63.10(e)(3)(ii) and (iii) shall apply, except that the term "excess emissions and continuous monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of Condition 7.3.10 (see also 40 CFR 63.1260) [40 CFR 63.1260(g)(1)(ii)].

C. When a new operating scenario has been operated since the last report, in which

case quarterly reports shall be submitted [40 CFR 63.1260(g)(1)(iii)].

ii. *Content of Periodic report*. Pursuant to 40 CFR 63.1260(g)(2), the owner or operator shall include the information in Conditions 7.3.10 (a)(ii)(A) through (D) (see also 40 CFR 63.1260 (g)(2)(i) through (vii)), as applicable.

A. Each Periodic report must include the information in 40 CFR 63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the information in 40 CFR 63.10(e)(3)(vi)(J) [40 CFR 63.1260(g)(2)(i)].

B. Pursuant to 40 CFR 63.1260(g)(2)(ii), if the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in Conditions 7.3.10(a)(ii)(B)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(ii)(A) through (D)).

I. Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(A)].

II. Duration of excursions, as defined in Condition 7.3.8(b)(v) (see also 40 CFR 63.1258(b)(7)) [40 CFR 63.1260(g)(2)(ii)(B)].

III. Operating logs and operating scenarios for all operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status

report or operating permit [40 CFR 63.1260(g)(2)(ii)(C)].

IV. When a continuous monitoring system is used, the information required in 40 CFR 63.10(c)(5) through (13) [40 CFR 63.1260(g)(2)(ii)(D)].

C. Pursuant to 40 CFR 63.1260(g)(2)(v), the information in Conditions 7.3.10 (a)(ii)(C)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(v)(A) through (D)) shall be stated in the Periodic report, when applicable.

I. No excess emissions [40 CFR 63.1260 (g)(2)(v)(A)].

II. No exceedances of a parameter [40 CFR 63.1260(g)(2)(v)(B)].

III. No excursions [40 CFR 63.1260 (g)(2)(v)(C)].

IV. No continuous monitoring system has been inoperative, out of control, repaired, or adjusted [40 CFR 63.1260(g)(2)(v)(D)].

D. Each new operating scenario which has been operated since the time period covered by the last Periodic report. For the initial Periodic report, each operating scenario for each process operated since the compliance date shall be submitted [40 CFR 63.1260(g)(2)(vii)].

b. *Notification of process change.*

i. Pursuant to 40 CFR 63.1260(h)(1), except as specified in Condition 7.3.10(b)(ii) (see also 40 CFR 63.1260(h)(2)), whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report quarterly. The report may be submitted as part of the next Periodic report required under Condition 7.3.10(a) (see also 40 CFR 63.1260(g)). The report shall include:

A. A brief description of the process change [40 CFR 63.1260(h)(1)(i)].

B. A description of any modifications to standard procedures or quality assurance procedures [40 CFR 63.1260(h)(1)(ii)].

C. Revisions to any of the information reported in the original Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) [40 CFR 63.1260(h)(1)(iii)].

D. Information required by the Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) for changes involving the addition of processes or equipment [40 CFR 63.1260(h)(1)(iv)].

ii. Pursuant to 40 CFR 63.1260(h)(2), an owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

A. Any change in the activity covered by the Precompliance report [40 CFR 63.1260 (h)(2)(i)].

B. A change in the status of a control device from small to large [40 CFR 63.1260 (h)(2)(ii)].

c. *Reports of startup, shutdown, and malfunction*. For the purposes of 40 CFR 63 Subpart GGG, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the periodic reports required under Condition 7.3.10(a) (see also 40 CFR 63.1260(g)) instead of the schedule specified in 40 CFR 63.10 (d)(5)(i). These reports shall include the information specified in Condition 5.6.2(n)(iii)(A) through (C) (see also 40 CFR 63.1259(a)(3)(i) through (iii)) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in 40 CFR 63.10 (d)(4)(ii) [40 CFR 63.1260(i)].

d. *Notification of performance test and test plan*. The owner or operator of an affected source shall notify

the Illinois EPA and/or USEPA of the planned date of a performance test at least 60 days before the test in accordance with 40 CFR 63.7(b). The owner or operator also must submit the test plan required by 40 CFR 63.7(c) and the emission profile required by 40 CFR 63.1257(b)(8)(ii) with the notification of the performance test [40 CFR 63.1260(l)].

e. *Request for extension of compliance*. An owner or operator may submit to the Illinois EPA and/or USEPA a request for an extension of compliance in accordance with 40 CFR 63.1250(f)(4) [40 CFR 63.1260(m)].

f. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

g. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.3.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.3.4(a) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

h. Emissions of PM and/or VOM in excess of the limits in Conditions 7.3.3 and/or 7.3.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.3.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following changes with respect to the affected fermentation manufacturing units without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee’s obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification pursuant to regulations promulgated pursuant to Title I of the CAA (i.e., 40 CFR 52.21 and 35 IAC Part 203):

This permit is issued for production of pharmaceuticals, chemical intermediates for pharmaceutical products and pharmaceutical-like products such as hormones, enzymes and antibiotics. In addition to varying the quantities of such

materials produced, the Permittee may change the types of such materials produced, making products not previously made in the affected fermentation pilot-plant units, or changing the process by which such materials are made, provided that Conditions 5.5, 7.3.3, or 7.3.6 are not violated.

7.3.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.3.9 and the emission factors and formulas listed below:

a. Determinations of daily and annual emissions for purposes of Condition 7.3.4(a) (see also 35 IAC 218.480) shall be made using both data on the hourly emission rate (or the emissions per unit of throughput) and appropriate daily and annual data from records of emission unit operation (or material throughput or material consumption data). In the absence of representative test data pursuant to Condition 7.3.7(c) (see also 35 IAC 218.487) for the hourly emission rate (or the emissions per unit of throughput) such items shall be calculated using engineering calculations, including the methods described in Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/2-78-029). This Condition shall not affect the Illinois EPA's or the USEPA's authority to require emission tests to be performed pursuant to Condition 7.3.7(c) (see also 35 IAC 218.487)) [35 IAC 218.480(h)].

b. Compliance with Conditions 7.3.3(b), (d), and (e) is assumed by proper operation of the scrubbers, condensers, dust collectors, and liquid-ring vacuum pumps, as addressed by Condition 7.3.5(c).

c. To determine compliance with Conditions 5.5.1, 7.3.3(e), and 7.3.6, VOM emissions from the affected fermentation manufacturing units, calculations based on the formulas and procedures listed in either Appendix B of "Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products" (EPA-450/2-78-029) or "Control of Volatile Organic Compound Emissions from Batch Processes-Alternative Control Techniques Information Document" (EPA-450/R-94-020) are acceptable.

d. To determine compliance with Conditions 5.5.1, 7.3.3(d), and 7.3.6, PM emissions from the affected fermentation manufacturing units shall be calculated based on the following:

$$ER = (PR) \times ((PRL) \times (100 - e))/100$$

Where:

ER = Emission rate (lb/hr)

PR = Production rate (lb/hr)

PRL = Material lost to the control device, %

e = Efficiency of the control device

7.4 Units CAPD R-5 & R-6 Fermentation Operations Manufacturing Buildings R-5 and R-6

Controls CAPD R-5& R-6 Scrubbers, Liquid Ring Vacuum Pumps, Dust Collectors, Dry Vacuum Pump System, Carbon Bed, Filters, Dry Vacuum Pump Condensers, and Process Heat Exchanger

7.4.1 Description

The equipment in Buildings R-5 and R-6 are used to manufacture pharmaceutical products. Typically, the first part of the process is receiving an aqueous erythromycin acetate salt solution from Building R-3. The salt solution is filtered and sent to a reactor where the molecule may be reacted with an acid, base, or other chemical to produce the final form. It may also be extracted into a solvent to increase the product purity. After the final product form reaction step takes place, the product is concentrated, crystallized, centrifuged, dried, milled if necessary, and blended. Products that are manufactured to a "wet cake" form are also dried in equipment housed in Buildings R-5 and R-6.

Manufacturing waste streams may also be processed in Buildings R-5 and R-6. Mother liquors from centrifugation steps are either sent to a distillation column to recover the solvent, or they are sent to the source's waste treatment facility for further treatment. The bottom's streams from the distillation processes are either sent to the source's waste treatment facility or they are shipped offsite for disposal.

A variety of portable equipment is used in Buildings R-5 and R-6 for batch process manufacturing. Portable equipment means single pieces of equipment that are mounted on wheels or skids so as to enable them to be moved from one process to another within a manufacturing building and from one manufacturing building to another. Portable equipment is divided into three categories: 1) vessels, including reactors, receivers, and tanks; 2) solid/liquid separation equipment, including dryers, centrifuges, and filters; 3) miscellaneous, including dust collectors, emission control equipment, oscillators, and sifters. Whenever a piece of portable equipment is used in a process, its emissions are calculated and included with the emissions for that process.

7.4.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
A0305	Centrifuge (Tolhurst Centrifuge 1, CE-1, PC-672, Building R-6)	None

Emission Unit	Description	Emission Control Equipment
A0347	Centrifuge (Tolhurst Centrifuge 2, CE-2, PC-632, Building R-6)	None
A0355	Centrifuge (ATM Centrifuge 3, CE-3, PC-677, Building R-6)	None
A0569	Centrifuge (Tolhurst Centrifuge 4, CE-4, PC-634, Building R-6)	None
A0698	Centrifuge (Western States Centrifuge 5, CE-5, PC-635, Building R-6)	Scrubber SC-2 (Asset #J9337)
A0699	Centrifuge (Western States Centrifuge 6, CE-6, PC-635, Building R-6)	None
B1033	Process Condenser (Condenser 1R, PC-630, Building R-6)	None
B1505	Process Condenser (HE-9, PC-634, Building R-6)	None
B1509	Process Condenser (HE-3R, PC-675, Building R-6)	None
B1510	Process Condenser (to Tk 39R, HE-38, PC-632, Building R-6)	None
B1797	Process Condenser (HE-47, PC-715, Building R-6)	None
B1901	Process Condenser (Process Condenser R6C, HE-46, PC-705, Building R-6)	None
D0431	Vacuum Tumble Dryer (PK #2, PC-700, Building R-5)	Liquid Ring Vacuum Pump KK2739
D0450	Vacuum Tumble Dryer (PK #1, PC-700, Building R-5)	Liquid Ring Vacuum Pump KK2741
D0909	Fluid Bed Dryer (FBD #1, PC-634, Building R-6)	FBD-1 Baghouse; Scrubber SC-1; and S-32 Carbon Bed
D1140	Tray Dryer (Hull Tray Dryer TD#1, PC-712, Building R-5)	Liquid Ring Vacuum Pump KK2744
D1141	Tray Dryer (Hull Tray Dryer TD#2, PC-712, Building R-5)	Liquid Ring Vacuum Pumps KK2470 and K1777
D1290	Fluid Bed Dryer (FBD #2, PC-710, Building R-5)	Scrubber FJ7813
D1801	Fluid Bed Dryer (FBD #3, PC-711, Building R-5)	Scrubber FJ7813
FJ9157	Ribbon Blender (FBD #3 Blender, PC-711, Building R-5)	Dust Collector U2256
G0389	Vacuum Tumble Dryer (R6C Gemco, PC-705, Building R-6)	R6C Dry Vacuum Pump System and S-32 Carbon Bed

Emission Unit	Description	Emission Control Equipment
G0390	Ribbon Blender (FBD-1 Blender, PC-634, Building R-6)	R6C Room 117 Dust Collector
G0547	Ribbon Blender (FBD #2 Blender, PC-710, Building R-5)	Dust Collector U2065
LC909697	Ery St./Base M. Liquor Drop Tank (Tank 17, PC-634, Building R-6)	None
LC938102	Centrifuge (Centrifuge #7, CE-7, PC-713, Building R-5)	S32 Carbon Bed Adsorption System
LC938104	Fluid Bed Dryer (FBD #4, PC-713, Building R-5)	S32 Carbon Bed Adsorption System
LC938162	Ribbon Blender (FBD #4 Blender, PC-713, Building R-5)	FBD #4 Rib. Blender Cartridge Filters
LC938344	Reactor (Tank 2, PC-630, Building R-6)	None
LC942138	Crystallizer (Tank 50, PC-713, Building R-5)	S32 Carbon Bed Adsorption System
LC942139	Crystallizer (Tank 51, PC-713, Building R-5)	S32 Carbon Bed Adsorption System
LC942231	Receiver (Tank 54, PC-713, Building R-5)	S32 Carbon Bed Adsorption System
LC944924	30 Gallon Cleaning Tank (Tank 62)	None
Q1391	Acetone Vaporization Tank (Tank 47, PC-715, Building R-6)	None
Q1719	Receiver (Tank 1R, PC-630, Building R-6)	None
Q1720	Receiver (Tank 7R, PC-672, Building R-6)	S-32 Carbon Bed
Q1721	Multi-purpose Tank (Tank 44, PC-634, Building R-6)	None
Q1723	Mix Tank (Tank 4, PC-630, Building R-6)	Carbon Dust Collector U2208
Q1724	Crystallizer (Tank 8, PC-672, Building R-6)	None
Q1725	Crystallizer (Tank 7, PC-672, Building R-6)	None
Q1726	Reactor (Tank 1, PC-630, Building R-6)	None
Q1786	Mix Tank (Tank 6, PC-634, Building R-6)	None
Q1788	Centrifuge Wash Tank (Tank 43, PC-634, Building R-6)	None
Q1789	Methylene Chloride Receiver (Tank 13R, PC-636, Building R-6)	S32 Carbon Bed

Emission Unit	Description	Emission Control Equipment
Q1790	Wash Tank (Tank 24, PC-672, Building R-6)	None
Q1791	Crystallizer (Tank 10, PC-634, Building R-6)	None
Q1792	Crystallizer (Tank 9, PC-634, Building R-6)	None
Q1803	Multi-Purpose Tank (Tank 22, PC-634, Building R-6)	None
Q1804	ML Receiver Tank (Tank 26, PC-676)	None
Q1817	Methylene Chloride Still (Tank 13, PC-636, Building R-6)	None
Q1818	Multi-purpose Tank (Tank 12, PC-630, Building R-6)	None
Q2538	Crystallizer (Tank 38, PC-632, Building R-6)	S32 Carbon Bed
Q2539	Crystallizer (Tank 39, PC-632, Building R-6)	S32 Carbon Bed
Q2543	Receiver (Tank 39R, PC-632, Building R-6)	2 Dry Vacuum Pump Condensers and S32 Carbon Bed
Q2544	Acetone for Recovery Tank (Tank 3R, PC-675)	None
Q2546	Methylene Chloride Wash Tank (Tank 42, PC-632, Building R-6)	S32 Carbon Bed
Q2697	Receiver (Receiver R6C, Tank 46, PC-705, Building R-6)	Liquid Ring Vacuum Pump
Q2701	Ery Salts Tank (Tank 45, PC-630, Building R-6)	None
Q2705	Reactor (Tank 37, PC-634, Building R-6)	None
Q2706	Ery Salts Tank (Tank 18, PC-630, Building R-6)	None
Q2911	Acetone Receiver (Tank 48, PC-715, Building R-6)	Process Heat Exchanger HE-48 and Vent Condenser HD-48
Q2928	Reactor (Tank 117, PC-635, Building R-6)	None
Q2938	MLS Receiver Tank (CE-5 MLS Tank, Tank 5C, PC-635)	None
Q2939	MLS Tank Receiver (CE-6 MLS Tank, Tank 6C, PC-635)	None
Q3132	Reactor (Tank 16, PC-676, Building R-6)	None
R0624	Reactor (Tank 3, PC-675, Building R-6)	None

Emission Unit	Description	Emission Control Equipment
T2408	Receiver (Tank 10R, PC-634, Building R-6)	Liquid Ring Vacuum Pump KK2744; Dry Vacuum Pump Condenser; and S-32 Carbon Bed
Portable Equipment	Portable Vessels, Reactors, Receivers, Tanks, Solid/Liquid Separators, Filters, Centrifuges, Dryers, Mills, Sifters, and Oscillators	Scrubbers, Condensers, or Baghouses (as configured for the process)

7.4.3 Applicability Provisions and Applicable Regulations

a. The Buildings R-5 and R-6 centrifuges, process condensers, tumble dryers, fluid bed dryers, tray dryers, ribbon blenders, drop tanks, reactors, crystallizers, receivers, cleaning tanks, vaporization tanks, tanks, mix tanks, wash tanks, stills, filter presses, and portable equipment are "affected fermentation manufacturing units" for the purpose of these unit-specific conditions.

b. Each affected fermentation manufacturing unit is subject to the emission limits identified in Condition 5.2.2.

c. The affected fermentation manufacturing units are subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1254(a) for Process Vents at Existing Sources. The Illinois EPA is administering the NESHAP in Illinois on behalf of the USEPA under a delegation agreement. Pursuant to 40 CFR 63.1250(f)(1), an owner or operator of an existing affected source must comply with the provisions of 40 CFR 63 Subpart GGG within 3 years after September 21, 1998.

d. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

e. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit for which

construction or modification commenced prior to April 14, 1972, which, either alone or in combination with the emission of particulate matter from all other similar process emission at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 (see also Attachment 2) [35 IAC 212.322(a)].

f. The affected fermentation manufacturing units are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.4.3 (f)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

ii. Pursuant to 35 IAC 218.302, emissions of organic material in excess of those permitted by Condition 7.4.3(f)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by one of the following methods:

A. A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)]; or

B. Any other air pollution control equipment approved by the Illinois EPA and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere [35 IAC 218.302(c)].

7.4.4 Non-Applicability of Regulations of Concern

a. The affected fermentation manufacturing units are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations,

mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

b. The affected fermentation manufacturing units are not subject to the control requirements of 35 IAC 218.501, Control Requirements for Batch Operations, pursuant to 35 IAC 218.501(b)(2), which excludes any emission unit included within the category specified in 35 IAC 218 Subpart T.

c. The affected fermentation manufacturing units are not subject to 35 IAC 212.324, Process Emission Units In Certain Areas, because the source is not located in a non-attainment area for PM_{10}, as identified in 35 IAC 212.324(a)(1).

7.4.5 Operational and Production Limits and Work Practices

a. The owner or operator shall install covers on all in-process tanks used to manufacture pharmaceuticals and containing a VOL at any time. These covers must remain closed, except as production, sampling, maintenance or inspection procedures require operator access [35 IAC 218.484].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The Permittee shall follow good operating practices for the scrubbers, liquid ring vacuum pumps, dust collectors, dry vacuum pump system, carbon bed, filters, dry vacuum pump condensers, and process heat exchanger including periodic inspection, routine maintenance and prompt repair of defects.

d. The affected fermentation manufacturing units are not restricted to using the specific air control equipment listed in Condition 7.4.2, so long as emissions are kept below the applicable limits specified in Conditions 5.5, 7.4.3, and 7.4.6.

7.4.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected fermentation manufacturing units are subject to the following:

a. i. Emissions of VOM from the Building R-5 dryers shall not exceed 2.5 tons/yr, each. This is based on the applicability requirements in 35 IAC 218.480(a).

ii. Emissions and operation of Hull Tray Dryers #1 and #2 shall not exceed the following limits:

Product	Production Rate (Batches/yr)	Volatile Organic Material Emissions lb/Batch	Ton/yr
Vancomycin	142	1.96	0.14

These limits are based on the maximum number of batches per year and the maximum emissions per batch.

iii. The above limitations were established in Permit 83040122 pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

b. Emissions of volatile organic material from Erythromycin Processing are limited to the following:

Methanol	3.92 tons/yr
Amyl Acetate	1.19 tons/yr

i. This condition is based on representations of maximum operation and maximum actual emission rates.

ii. The above limitations were established in Permit 83050014, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

c. Emissions and operation of equipment shall not exceed the following limits:

Item of Equipment	Operating Hours (Hours/year)	Volatile Organic Material Emissions lb/hr	Ton/yr
Glatt Dryer & Scrubber	6,800	2.19	7.5

i. These limits are based on a representation of the maximum actual annual emissions as determined from the maximum hourly emissions at the maximum operating hours.

ii. The above limitations were established in Permit 88090009 pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

d. i. This permit is issued based on the drying of products and intermediates containing no volatile organic materials in fluid bed dryer #3, which will produce no volatile organic material emissions.

ii. The above limitations contain revisions to previously issued Permit 92040011. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, the restriction to processing only erythromycin thiocyanate in fluid bed dryer has been removed and replaced

with a restriction to the drying of only products and intermediates containing no volatile organic material [T1R].

e. i. This permit is issued based on no emissions of volatile organic material from Ery Tank #2.

ii. The above limitations were established in Permit 97120008, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

f. i. Emissions and operation of the ribbon blender with vacuum pump shall not exceed the following limits:

Item of Equipment	Operating Hours (hr/yr)	Production Rate (lb/hr)	PM Emissions lb/hr	PM Emissions Ton/yr
FBD #4 Ribbon Blender with Vacuum Pump	8,760	3,500	0.55	2.41

These limits are based on a representation of the maximum actual emissions resulting from the maximum production rate and the maximum hours of operation.

ii. The above limitations contain revisions to previously issued Permit 98030036. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for

the source. Specifically, the allowable production rate of ribbon blender and vacuum pump has been increased from 100 lb/hr to 3,500 lb/hr without any increase in permitted emissions of particulate matter [T1R].

g. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.4.7 Testing Requirements

a. *General*. Except as specified in 40 CFR 63.1257(a)(5), the procedures specified in 40 CFR 63.1257(d) and (f) are required to demonstrate initial compliance with 40 CFR 63.1254 and 63.1252(e), respectively. The provisions in 40 CFR 63.1257(a)(2) apply to performance tests that are specified in 40 CFR 63.1257(d). The provisions in 40 CFR 63.1257(a)(5) are used to demonstrate initial compliance with the alternative standards specified in 40 CFR 63.1254(c). The provisions in 40 CFR 63.1257(a)(6) are used to comply with the outlet concentration requirements specified in 40 CFR 63.1254(a)(2)(i) and (a)(3)(ii)(B) [40 CFR 63.1257(a)].

b. *Test methods*. When testing is conducted to measure emissions from an affected source, the test methods specified in 40 CFR 63.1257(b)(1) through (10) shall be used [40 CFR 63.1257(b)].

c. Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.4.4(a) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in Condition 7.4.7 (d)(i)(A) (see also 35 IAC 218.105(f)(1)) [35 IAC 218.487].

d. Pursuant to 35 IAC 218.105(d)(1) and Section 39.5(7)(b) of the Act, the control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified below (see also 35 IAC 218.105(f)):

i. Volatile Organic Material Gas Phase Source Test Methods The methods in 40 CFR Part 60, Appendix A, delineated below shall be used to

determine control device efficiencies [35 IAC 218.105(f)].

A. CFR Part 60, Appendix A, Method 18, 25 or 25A, as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. The test shall consist of three separate runs, each lasting a minimum of 60 min, unless the Illinois EPA and the USEPA determine that process variables dictate shorter sampling times [35 IAC 218.105(f)(1)].

B. 40 CFR Part 60, Appendix A, Method 1 or 1A shall be used for sample and velocity traverses [35 IAC 218.105(f)(2)].

C. 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D shall be used for velocity and volumetric flow rates [35 IAC 218.105(f)(3)].

D. 40 CFR Part 60, Appendix A, Method 3 shall be used for gas analysis [35 IAC 218.105(f)(4)].

E. 40 CFR Part 60, Appendix A, Method 4 shall be used for stack gas moisture [35 IAC 218.105(f)(5)].

F. 40 CFR Part 60, Appendix A, Methods 2, 2A, 2C, 2D, 3 and 4 shall be performed, as applicable, at least twice during each test run [35 IAC 218.105(f)(6)].

G. Use of an adaptation to any of the test methods specified in Conditions 7.4.7 (d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) may not be used unless approved by the Illinois EPA and the USEPA on a case by case basis. An owner or operator must submit sufficient documentation for the Illinois EPA and the USEPA to find that the test methods specified in Conditions 7.4.7(d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) will yield inaccurate results and

that the proposed adaptation is appropriate [35 IAC 218.105(f)(7)].

ii. Notwithstanding other requirements of 35 IAC Part 218, upon request of the Illinois EPA where it is necessary to demonstrate compliance, an owner or operator of an emission unit which is subject to 35 IAC Part 218 shall, at his own expense, conduct tests in accordance with the applicable test methods and procedures specific in 35 IAC Part 218. Nothing in this Condition (see also 35 IAC 218.105) shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing [35 IAC 218.105(i)].

7.4.8 Monitoring Requirements

a. The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard as specified in 40 CFR 63.1258. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish the operating parameter level [40 CFR 63.1258(a)].

b. *Monitoring for control devices*.

i. *Parameters to monitor*. Except as specified in 40 CFR 63.1258(b)(1)(i), for each control device, the owner or operator shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4 of 40 CFR 63 Subpart GGG and in 40 CFR 63.1258(b)(1)(ii) through (xi) [40 CFR 63.1258(b)(1)].

ii. *Averaging periods*. Averaging periods for parametric monitoring levels shall be established according to 40 CFR 63.1258(b)(2)(i) through (iii) [40 CFR 63.1258(b)(2)].

iii. *Monitoring for the alternative standards*. For control devices that are used to comply with the provisions of 40 CFR 63.1254(c), the owner or operator shall monitor and record the

outlet TOC concentration and the outlet hydrogen halide and halogen concentration every 15 minutes during the period in which the device is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG. A TOC monitor meeting the requirements of Performance Specification 8 or 9 of appendix B of 40 CFR Part 60 shall be installed, calibrated, and maintained, according to 40 CFR 63.8. The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens [40 CFR 63.1258(b)(5)].

iv. *Exceedances of operating parameters*. Pursuant to 40 CFR 63.1258(b)(6), an exceedance of an operating parameter is defined as one of the following:

A. If the parameter, averaged over the operating day or block, is below a minimum value established during the initial compliance demonstration [40 CFR 63.1258 (b)(6)(i)].

B. If the parameter, averaged over the operating day or block, is above the maximum value established during the initial compliance demonstration [40 CFR 63.1258(b)(6)(ii)].

C. Each loss of pilot flame for flares [40 CFR 63.1258(b)(6)(iii)].

v. *Excursions*. Pursuant to 40 CFR 63.1258(b)(7), excursions are defined by either of the two cases listed in Conditions 7.4.8(b)(v)(A) or (B) (see also 40 CFR 63.1258(b)(7)(i) or (ii)).

A. When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in Condition 7.4.8 (b)(v)(C) (see also 40 CFR 63.1258 (b)(7)(iii)), for at least 75 percent of the operating hours [40 CFR 63.1258 (b)(7)(i)].

B. When the period of control device operation is less than 4 hours in an

operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data [40 CFR 63.1258(b)(7)(ii)].

C. Monitoring data are insufficient to constitute a valid hour of data, as used in Conditions 7.4.8(b)(v)(A) and (B) (see also 40 CFR 63.1258(b)(7)(i) and (ii)), if measured values are unavailable for any of the required 15-minute periods within the hour [40 CFR 63.1258(b)(7)(iii)].

vi. *Violations*. Pursuant to 40 CFR 63.1258(b)(8), exceedances of parameters monitored according to the provisions of 40 CFR 63.1258(b)(1)(ii) and (iv) through (ix) or excursions as defined by Conditions 7.4.8(b)(v)(A) through (C) (see also 40 CFR 63.1258(b)(7)(i) through (iii)) constitute violations of the operating limit according to Conditions 7.4.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of 40 CFR 63.1258(b)(1)(x) constitute violations of the emission limit according to Conditions 7.4.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of Condition 7.4.8(b)(iii) (see also 40 CFR 63.1258 (b)(5)) constitute violations of the emission limit according to the provisions of Conditions 7.4.8(b)(vi)(C) and (D) (see also 40 CFR 63.1258 (b)(8)(iii) and (iv)).

A. Except as provided in Condition 7.4.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process [40 CFR 63.1258(b)(8)(i)].

B. Except as provided in Condition 7.4.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for control devices used for more than one process in the course of an operating day, exceedances or excursions

will result in no more than one violation per operating day, per control device, for each process for which the control device is in service [40 CFR 63.1258(b)(8)(ii)].

C. Except as provided in Condition 7.4.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device. Except as provided in Condition 7.4.8(b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv hydrogen halide or halogen outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device [40 CFR 63.1258 (b)(8)(iii)].

D. Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur during a startup, shutdown, or malfunction, and the facility follows its startup, shutdown, and malfunction plan [40 CFR 63.1258 (b)(8)(iv)].

c. *Monitoring for emission limits*. The owner or operator of any affected source complying with the provisions of 40 CFR 63.1254(a)(1) shall demonstrate continuous compliance with the 2,000 lb/yr emission limits by calculating daily a 365-day rolling summation of emissions. For owners and operators opting to switch compliance strategy from the 93 percent control requirement to the 2,000 lb/yr compliance method, as described in 40 CFR 63.1254(a), the rolling average must include emissions from the past 365 days. Each day that the total emissions per process exceeds 2,000 lb/yr will be considered a violation of the emission limit [40 CFR 63.1258(c)].

d. An owner or operator that uses a carbon adsorber to comply with any Section of 35 IAC Part 218 shall use Illinois EPA and USEPA approved continuous monitoring equipment which is installed, calibrated, maintained, and operated according to vendor specifications at all times the carbon adsorber is in use. The continuous monitoring equipment must monitor for each carbon adsorber, the VOM concentration of each carbon

adsorption bed exhaust or the exhaust of the bed next in sequence to be desorbed [35 IAC 218.105(d)(2)].

7.4.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected fermentation manufacturing unit to demonstrate compliance with Conditions 5.5.1, 7.4.3, 7.4.5, and 7.4.6, pursuant to Section 39.5(7)(b) of the Act:

a. *Records of equipment operation.* Pursuant to 40 CFR 63.1259(b), the owner or operator must keep the following records up-to-date and readily accessible:

i. Each measurement of a control device operating parameter monitored in accordance with Condition 7.4.8 (see also 40 CFR 63.1258) [40 CFR 63.1259 (b)(1)].

ii. For each continuous monitoring system used to comply with 40 CFR 63 Subpart GGG, records documenting the completion of calibration checks and maintenance of continuous monitoring systems [40 CFR 63.1259(b)(3)].

iii. For processes in compliance with the 2,000 lb/yr emission limit of 40 CFR 63.1254(a)(1), records of the rolling annual total emissions [40 CFR 63.1259(b)(4)].

iv. Pursuant to 40 CFR 63.1259(a)(5), records of the following, as appropriate:

A. The number of batches per year for each batch process [40 CFR 63.1259(a)(5)(i)].

B. The operating hours per year for continuous processes [40 CFR 63.1259 (a)(5)(ii)].

v. Uncontrolled and controlled emissions per batch for each process [40 CFR 63.1259(b)(6)].

vi. Wastewater concentration per POD or process [40 CFR 63.1259(b)(7)].

vii. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].

viii. Description of worst-case operating conditions as determined using the procedures described

in 40 CFR 63.1257(b)(8) for control devices [40 CFR 63.1259(b)(10)].

b. *Records of operating scenarios*. The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with 40 CFR 63 Subpart GGG [40 CFR 63.1259(c)].

c. Records of the testing of the efficiency of each capture system and control device pursuant to Condition 7.4.7, which include the following [Section 39.5(7)(e) of the Act]:

   i. The date, place and time of sampling or measurements;

   ii. The date(s) analyses were performed;

   iii. The company or entity that performed the analyses;

   iv. The analytical techniques or methods used;

   v. The results of such analyses; and

   vi. The operating conditions as existing at the time of sampling or measurement.

d. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.4.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

   i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

   ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

   iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

   iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

e. Pursuant to 35 IAC 218.489(c), the following records shall be kept for emission units subject to Condition 7.4.5(a) (see also 35 IAC 218.484) which contain VOL:

   i. For maintenance and inspection:

      A. The date and time each cover is opened [35 IAC 218.489(c)(1)(A)];

B. The length of time the cover remains open [35 IAC 218.489(c)(1)(B)]; and

C. The reason why the cover is opened [35 IAC 218.489(c)(1)(C)].

ii. For production and sampling, detailed written procedures or manufacturing directions specifying the circumstances under which covers may be opened and the procedures for opening covers [35 IAC 218.489(c)(2)].

f. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.4.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.4.4(a) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.4.4(a) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

g. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

h. Records addressing use of good operating practices for the scrubbers, liquid ring vacuum pumps, dust collectors, dry vacuum pump system, carbon bed, filters, dry vacuum pump condensers, and process heat exchanger:

i. Records for periodic inspection of the scrubbers, liquid ring vacuum pumps, dust collectors, dry vacuum pump system, carbon bed, filters, dry vacuum pump condensers, and process heat exchanger with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

i. Types and quantities of raw materials, excluding water, used for each affected fermentation manufacturing unit, lb/batch, lb/mo, and ton/yr;

j. The operating schedule of the affected fermentation manufacturing units or number of hours the affected fermentation manufacturing units have been operated; and

k. The monthly and aggregate annual PM and VOM emissions from the affected fermentation manufacturing units based on the material and solvent usage and air pollution control equipment efficiencies, with supporting calculations.

7.4.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected fermentation manufacturing unit with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. *Periodic reports*. Pursuant to 40 CFR 63.1260(g), an owner or operator shall prepare Periodic reports in accordance with Conditions 7.4.10(a)(i) and (ii) (see also 40 CFR 63.1260(g)(1) and (2)) and submit them to the Illinois EPA and/or USEPA.

i. *Submittal schedule*. Pursuant to 40 CFR 63.1260 (g)(1), Except as provided in Conditions 7.4.10 (a)(i)(A), (B), and (C) (see also 40 CFR 63.1260 (g)(1)(i), (ii) and (iii)), an owner or operator shall submit Periodic reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due.

A. When the Illinois EPA and/or USEPA determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status

of the affected source [40 CFR 63.1260 (g)(1)(i)]; or

B. When the monitoring data are used directly for compliance determination and the source experience excess emissions, in which case quarterly reports shall be submitted. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in 40 CFR 63.10(e)(3)(ii) and (iii) shall apply, except that the term "excess emissions and continuous monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of Condition 7.4.10 (see also 40 CFR 63.1260) [40 CFR 63.1260(g)(1)(ii)].

C. When a new operating scenario has been operated since the last report, in which case quarterly reports shall be submitted [40 CFR 63.1260(g)(1)(iii)].

ii. *Content of Periodic report.* Pursuant to 40 CFR 63.1260(g)(2), the owner or operator shall include the information in Conditions 7.4.10 (a)(ii)(A) through (D) (see also 40 CFR 63.1260 (g)(2)(i) through (vii)), as applicable.

A. Each Periodic report must include the information in 40 CFR 63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the information in 40 CFR 63.10(e)(3)(vi)(J) [40 CFR 63.1260(g)(2)(i)].

B. Pursuant to 40 CFR 63.1260(g)(2)(ii), if the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in

Conditions 7.4.10(a)(ii)(B)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(ii)(A) through (D)).

I. Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(A)].

II. Duration of excursions, as defined in Condition 7.4.8(b)(v) (see also 40 CFR 63.1258(b)(7)) [40 CFR 63.1260(g)(2)(ii)(B)].

III. Operating logs and operating scenarios for all operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(C)].

IV. When a continuous monitoring system is used, the information required in 40 CFR 63.10(c)(5) through (13) [40 CFR 63.1260(g)(2)(ii)(D)].

C. Pursuant to 40 CFR 63.1260(g)(2)(v), the information in Conditions 7.4.10 (a)(ii)(C)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(v)(A) through (D)) shall be stated in the Periodic report, when applicable.

I. No excess emissions [40 CFR 63.1260 (g)(2)(v)(A)].

II. No exceedances of a parameter [40 CFR 63.1260(g)(2)(v)(B)].

III. No excursions [40 CFR 63.1260 (g)(2)(v)(C)].

IV. No continuous monitoring system has been inoperative, out of control, repaired, or adjusted [40 CFR 63.1260(g)(2)(v)(D)].

D. Each new operating scenario which has been operated since the time period covered by the last Periodic report. For the initial Periodic report, each operating scenario for each process operated since the compliance date shall be submitted [40 CFR 63.1260(g)(2)(vii)].

b. *Notification of process change*.

i. Pursuant to 40 CFR 63.1260(h)(1), except as specified in Condition 7.4.10(b)(ii) (see also 40 CFR 63.1260(h)(2)), whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report quarterly. The report may be submitted as part of the next Periodic report required under Condition 7.4.10(a) (see also 40 CFR 63.1260(g)). The report shall include:

A. A brief description of the process change [40 CFR 63.1260(h)(1)(i)].

B. A description of any modifications to standard procedures or quality assurance procedures [40 CFR 63.1260(h)(1)(ii)].

C. Revisions to any of the information reported in the original Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) [40 CFR 63.1260(h)(1)(iii)].

D. Information required by the Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) for changes involving the addition of processes or equipment [40 CFR 63.1260(h)(1)(iv)].

ii. Pursuant to 40 CFR 63.1260(h)(2), an owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

A. Any change in the activity covered by the Precompliance report [40 CFR 63.1260 (h)(2)(i)].

B. A change in the status of a control device from small to large [40 CFR 63.1260 (h)(2)(ii)].

c. *Reports of startup, shutdown, and malfunction*. For the purposes of 40 CFR 63 Subpart GGG, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the periodic reports required under Condition 7.4.10(a) (see also 40 CFR 63.1260(g)) instead of the schedule specified in 40 CFR 63.10 (d)(5)(i). These reports shall include the information specified in Condition 5.6.2(n)(iii)(A) through (C) (see also 40 CFR 63.1259(a)(3)(i) through (iii)) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in 40 CFR 63.10 (d)(4)(ii) [40 CFR 63.1260(i)].

d. *Notification of performance test and test plan*. The owner or operator of an affected source shall notify the Illinois EPA and/or USEPA of the planned date of a performance test at least 60 days before the test in accordance with 40 CFR 63.7(b). The owner or operator also must submit the test plan required by 40 CFR 63.7(c) and the emission profile required by 40 CFR 63.1257(b)(8)(ii) with the notification of the performance test [40 CFR 63.1260(l)].

e. *Request for extension of compliance*. An owner or operator may submit to the Illinois EPA and/or USEPA a request for an extension of compliance in accordance with 40 CFR 63.1250(f)(4) [40 CFR 63.1260(m)].

f. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

g. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.4.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded

the applicability cutoffs in Condition 7.4.4(a) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

h. Emissions of PM and/or VOM in excess of the limits in Conditions 7.4.3, and/or 7.4.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.4.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical changes with respect to the affected fermentation manufacturing units without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee’s obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification pursuant to regulations promulgated pursuant to Title I of the CAA (i.e., 40 CFR 52.21 and 35 IAC Part 203):

This permit is issued for production of pharmaceuticals, chemical intermediates for pharmaceutical products and pharmaceutical-like products such as hormones, enzymes and antibiotics. In addition to varying the quantities of such materials produced, the Permittee may change the types of such materials produced, making products not previously made in the affected fermentation pilot-manufacturing units, or changing the process by which such materials are made, provided that Conditions 5.5, 7.4.3, or 7.4.6 are not violated.

7.4.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.4.9 and the emission factors and formulas listed below:

a. Determinations of daily and annual emissions for purposes of Condition 7.4.4(a) (see also 35 IAC 218.480) shall be made using both data on the hourly emission rate (or the emissions per unit of throughput) and appropriate daily and annual data from records of emission unit operation (or material throughput or material consumption data). In the absence of representative test data pursuant to Condition 7.4.7(c) (see also 35 IAC 218.487) for the hourly emission rate (or the emissions per unit of throughput) such items shall be calculated using engineering calculations, including the methods described in Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/2-78-029). This Condition shall not affect the Illinois EPA's or the

USEPA's authority to require emission tests to be performed pursuant to Condition 7.4.7(c) (see also 35 IAC 218.487)) [35 IAC 218.480(h)].

b. Compliance with Conditions 7.4.3(b), (d), and (e) is assumed by proper operation the scrubbers, liquid ring vacuum pumps, dust collectors, dry vacuum pump system, carbon bed, filters, dry vacuum pump condensers, and process heat exchanger as addressed by Condition 7.4.5(c).

c. To determine compliance with Conditions 5.5.1, 7.4.3(f), and 7.4.6, VOM emissions from the affected fermentation manufacturing units, calculations based on the formulas and procedures listed in either Appendix B of "Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products" (EPA-450/2-78-029) or "Control of Volatile Organic Compound Emissions from Batch Processes-Alternative Control Techniques Information Document" (EPA-450/R-94-020) are acceptable.

d. To determine compliance with Conditions 5.5.1, 7.4.3(d), and 7.4.6, PM emissions from the affected fermentation manufacturing units shall be calculated based on the following:

i. Dryers:

$$ER = (PR) \times ((PRL) \times (100 - e))/100$$

Where:

ER = Emission rate (lb/hr)

PR = Production rate (lb/hr)

PRL = Material lost to the control device, %

e = Efficiency of the control device, %

ii. Distillation Column:

$$E = (M_{removed}) - (M_{recovered})$$

$$= (M_{recovered}) \times [(1/e) - 1]$$

$$= (M_{removed}) \times (1 - e)$$

Where:

E = emission rate (lb/hr)

$M_{removed}$ = Mass removed from distillation feed tank or vessel where distillation/evaporation takes place

= $(M_{recovered})/(e)$

$M_{recovered}$ = Mass recovered from distillation process

= $(e) \times (M_{removed})$

e = Efficiency of distillation operation

iii. FBD #4 Ribbon Blender

$E = (f) \times (PWR) \times (1 - e)$

Where:

E = emission rate (lb/hr)

f = estimated percentage of the process weight rate emitted to the control device (%/100)

PWR = process weight rate (lb/hr)

e = efficiency of control device (%/100)

7.5 Units CAPD S-32T Fermentation Operations Manufacturing Area S-32 Tanks
Controls CAPD S-32 Carbon Adsorption System

7.5.1 Description

Area S-32 is a tank farm and an enclosed building housing a wastewater treatment system used for production area support. The storage tanks are filled directly from manufacturing process operations. No tank truck loading or unloading is performed from these tanks.

7.5.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Q-1798	15,000 Gallon Methylene Chloride Storage Tank (Tank 30, PC-636)	S-32 Carbon Bed Adsorption System
Q-1799	10,000 Gallon Methylene Chloride Storage Tank (Tank 29, PC-636)	S-32 Carbon Bed Adsorption System
Q-1800	5,000 Gallon Methylene Chloride Storage Tank (Tank 31, PC-636)	S-32 Carbon Bed Adsorption System
Q-1801	5,000 Gallon Methylene Chloride Storage Tank (Tank 32, PC-636)	S-32 Carbon Bed Adsorption System
Q-2696	5,000 Gallon Methylene Chloride Storage Tank (Tank 33, PC-636)	S-32 Carbon Bed Adsorption System
T-1925	2,500 Gallon Methylene Chloride Storage Tank (Tank 35, PC-636)	S-32 Carbon Bed Adsorption System
T-1926	2,500 Gallon Storage Methylene Chloride Tank (Tank 34, PC-636)	S-32 Carbon Bed Adsorption System

7.5.3 Applicability Provisions and Applicable Regulations

a. The Area S-32 tanks are “affected tanks" for the purpose of these unit-specific conditions.

b. Tanks 29 and 30 are subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1253 for Storage Tanks, because each affected tank has a design capacity of greater than 38 m^3 (10,000 gallons). The Illinois EPA is administering the NESHAP in Illinois on behalf of the USEPA under a delegation agreement. Pursuant to 40 CFR 63.1250(f)(1), an owner or operator of an existing affected source must comply with the provisions of 40 CFR 63 Subpart GGG within 3 years after September 21, 1998.

c. No person shall cause or allow the loading of any organic material into any stationary tank having a storage capacity of greater than 946 l (250 gal), unless such tank is equipped with a permanent submerged loading pipe or an equivalent device approved by the Illinois EPA according to the

provisions of 35 IAC 201, and further processed consistent with 35 IAC 218.108, or unless such tank is a pressure tank as described in 35 IAC 218.121(a) or is fitted with a recovery system as described in 35 IAC 218.121(b)(2) [35 IAC 218.122(b)].

d. The affected tanks are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.5.3 (d)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

ii. Pursuant to 35 IAC 218.302, emissions of organic material in excess of those permitted by Condition 7.5.3(d)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by one of the following methods:

A. A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)]; or

B. Any other air pollution control equipment approved by the Illinois EPA and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere [35 IAC 218.302(c)].

7.5.4 Non-Applicability of Regulations of Concern

a. Tanks 31, 32, 33, 34, and 35 are not subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1253 for Storage Tanks, because Tanks 31, 32, 33, 34, and 35 each has a design capacity of less than 38 m^3 (10,000 gallons).

b. The affected tanks are not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subparts A and Ka, because each affected tank was constructed after July 23, 1984 and

has a storage capacity less than 151,416 l (40,000 gal).

c. The affected tanks are not subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subparts A and Kb, because each affected tank is used for the storage of methylene chloride, which is excluded from the definition of volatile organic liquid.

d. The affected tanks are not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119, because the capacity of each affected tank is less than 151 m^3 (40,000 gal).

e. The affected tanks are not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(2), which exempts storage tanks with capacities less than 151.42 m^3 (40,000 gal) and pursuant to 35 IAC 218.123(a)(6), which exempts stationary storage tanks in which volatile petroleum liquid is not stored.

f. The affected tanks are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

7.5.5 Operational and Production Limits and Work Practices

a. The affected tanks shall only be used for the storage of methylene chloride or non-volatile organic material.

b. The Permittee shall follow good operating practices for the carbon bed adsorption system including

periodic inspection, routine maintenance and prompt repair of defects.

7.5.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected tanks are subject to the following:

a. This permit is issued based on Tank 32 being used to store methylene chloride.

b. The above limitations were established in Permit 98070020, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

7.5.7 Testing Requirements

a. *General*. Except as specified in 40 CFR 63.1257(a)(5), the procedures specified in 40 CFR 63.1257(d) and (f) are required to demonstrate initial compliance with 40 CFR 63.1254 and 63.1252(e), respectively. The provisions in 40 CFR 63.1257(a)(2) apply to performance tests that are specified in 40 CFR 63.1257(d). The provisions in 40 CFR 63.1257(a)(5) are used to demonstrate initial compliance with the alternative standards specified in 40 CFR 63.1254(c). The provisions in 40 CFR 63.1257(a)(6) are used to comply with the outlet concentration requirements specified in 40 CFR 63.1254(a)(2)(i) and (a)(3)(ii)(B) [40 CFR 63.1257(a)].

b. *Test methods*. When testing is conducted to measure emissions from an affected source, the test methods specified in 40 CFR 63.1257(b)(1) through (10) shall be used [40 CFR 63.1257(b)].

7.5.8 Monitoring Requirements

a. The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard as specified in 40 CFR 63.1258. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of

the control device design shall be used to establish the operating parameter level [40 CFR 63.1258(a)].

b. *Monitoring for control devices*.

i. *Parameters to monitor*. Except as specified in 40 CFR 63.1258(b)(1)(i), for each control device, the owner or operator shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4 of 40 CFR 63 Subpart GGG and in 40 CFR 63.1258(b)(1)(ii) through (xi) [40 CFR 63.1258(b)(1)].

ii. *Averaging periods*. Averaging periods for parametric monitoring levels shall be established according to 40 CFR 63.1258(b)(2)(i) through (iii) [40 CFR 63.1258(b)(2)].

iii. *Monitoring for the alternative standards*. For control devices that are used to comply with the provisions of 40 CFR 63.1254(c), the owner or operator shall monitor and record the outlet TOC concentration and the outlet hydrogen halide and halogen concentration every 15 minutes during the period in which the device is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG. A TOC monitor meeting the requirements of Performance Specification 8 or 9 of appendix B of 40 CFR Part 60 shall be installed, calibrated, and maintained, according to 40 CFR 63.8. The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens [40 CFR 63.1258(b)(5)].

iv. *Exceedances of operating parameters*. Pursuant to 40 CFR 63.1258(b)(6), an exceedance of an operating parameter is defined as one of the following:

A. If the parameter, averaged over the operating day or block, is below a minimum value established during the initial compliance demonstration [40 CFR 63.1258 (b)(6)(i)].

B. If the parameter, averaged over the operating day or block, is above the maximum value established during the initial compliance demonstration [40 CFR 63.1258(b)(6)(ii)].

C. Each loss of pilot flame for flares [40 CFR 63.1258(b)(6)(iii)].

v. *Excursions*. Pursuant to 40 CFR 63.1258(b)(7), excursions are defined by either of the two cases listed in Conditions 7.5.8(b)(v)(A) or (B) (see also 40 CFR 63.1258(b)(7)(i) or (ii)).

A. When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in Condition 7.5.8 (b)(v)(C) (see also 40 CFR 63.1258 (b)(7)(iii)), for at least 75 percent of the operating hours [40 CFR 63.1258 (b)(7)(i)].

B. When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data [40 CFR 63.1258(b)(7)(ii)].

C. Monitoring data are insufficient to constitute a valid hour of data, as used in Conditions 7.5.8(b)(v)(A) and (B) (see also 40 CFR 63.1258(b)(7)(i) and (ii)), if measured values are unavailable for any of the required 15-minute periods within the hour [40 CFR 63.1258(b)(7)(iii)].

vi. *Violations*. Pursuant to 40 CFR 63.1258(b)(8), exceedances of parameters monitored according to the provisions of 40 CFR 63.1258(b)(1)(ii) and (iv) through (ix) or excursions as defined by Conditions 7.5.8(b)(v)(A) through (C) (see also 40 CFR 63.1258(b)(7)(i) through (iii)) constitute violations of the operating limit according to Conditions 7.5.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of 40 CFR 63.1258(b)(1)(x)

constitute violations of the emission limit according to Conditions 7.5.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of Condition 7.5.8(b)(iii) (see also 40 CFR 63.1258 (b)(5)) constitute violations of the emission limit according to the provisions of Conditions 7.5.8(b)(vi)(C) and (D) (see also 40 CFR 63.1258 (b)(8)(iii) and (iv)).

A. Except as provided in Condition 7.5.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process [40 CFR 63.1258(b)(8)(i)].

B. Except as provided in Condition 7.5.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device, for each process for which the control device is in service [40 CFR 63.1258(b)(8)(ii)].

C. Except as provided in Condition 7.5.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device. Except as provided in Condition 7.5.8(b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv hydrogen halide or halogen outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device [40 CFR 63.1258 (b)(8)(iii)].

D. Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur during a startup, shutdown, or malfunction, and the

facility follows its startup, shutdown, and malfunction plan [40 CFR 63.1258 (b)(8)(iv)].

c. *Monitoring for emission limits*. The owner or operator of any affected source complying with the provisions of 40 CFR 63.1254(a)(1) shall demonstrate continuous compliance with the 2,000 lb/yr emission limits by calculating daily a 365-day rolling summation of emissions. For owners and operators opting to switch compliance strategy from the 93 percent control requirement to the 2,000 lb/yr compliance method, as described in 40 CFR 63.1254(a), the rolling average must include emissions from the past 365 days. Each day that the total emissions per process exceeds 2,000 lb/yr will be considered a violation of the emission limit [40 CFR 63.1258(c)].

d. An owner or operator that uses a carbon adsorber to comply with any Section of 35 IAC Part 218 shall use Illinois EPA and USEPA approved continuous monitoring equipment which is installed, calibrated, maintained, and operated according to vendor specifications at all times the carbon adsorber is in use. The continuous monitoring equipment must monitor for each carbon adsorber, the VOM concentration of each carbon adsorption bed exhaust or the exhaust of the bed next in sequence to be desorbed [35 IAC 218.105(d)(2)].

7.5.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected tank to demonstrate compliance with Conditions 5.5.1, 5.5.3(a), 7.5.3, and 7.5.5, pursuant to Section 39.5(7)(b) of the Act:

a. *Records of equipment operation*. Pursuant to 40 CFR 63.1259(b), the owner or operator must keep the following records up-to-date and readily accessible:

i. Each measurement of a control device operating parameter monitored in accordance with Condition 7.5.8 (see also 40 CFR 63.1258) [40 CFR 63.1259 (b)(1)].

ii. For each continuous monitoring system used to comply with 40 CFR 63 Subpart GGG, records documenting the completion of calibration checks and maintenance of continuous monitoring systems [40 CFR 63.1259(b)(3)].

iii. Pursuant to 40 CFR 63.1259(a)(5), records of the following, as appropriate:

A. The number of batches per year for each batch process [40 CFR 63.1259(a)(5)(i)].

B. The operating hours per year for continuous processes [40 CFR 63.1259 (a)(5)(ii)].

iv. Uncontrolled and controlled emissions per batch for each process [40 CFR 63.1259(b)(6)].

v. Wastewater concentration per POD or process [40 CFR 63.1259(b)(7)].

vi. Number of storage tank turnovers per year, if used in an emissions average [40 CFR 63.1259(b)(8)].

vii. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].

viii. Description of worst-case operating conditions as determined using the procedures described in 40 CFR 63.1257(b)(8) for control devices [40 CFR 63.1259(b)(10)].

b. *Records of operating scenarios*. The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with 40 CFR 63 Subpart GGG [40 CFR 63.1259(c)].

c. Records of the testing of the efficiency of each capture system and control device pursuant to Condition 7.5.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

d. The owner or operator of each storage vessel shall maintain readily accessible records of the dimension

of the storage vessel and an analysis of the capacity of the storage vessel [35 IAC 218.129(f)];

e. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.5.4(f) (see also 35 IAC 218.480(a)), the owner or operator shall:

   i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.5.4(f) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

   ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.5.4(f) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

f. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

g. Records addressing use of good operating practices for the carbon bed adsorption system:

   i. Records for periodic inspection of and the carbon bed adsorption system with date, individual performing the inspection, and nature of inspection; and

   ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

h. Design information for the tank showing the presence of a permanent submerged loading pipe or vapor recovery system;

i. Maintenance and repair records for the affected tanks, as related to the repair or replacement of the loading pipe or vapor recovery system;

j. The throughput of each affected tank, gal/mo and gal/yr; and

k. The monthly and aggregate annual VOM and HAP emissions from each affected tank based on the material stored, the tank throughput, and the applicable emission factors and formulas with supporting calculations.

7.5.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected tank with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. *Periodic reports*. Pursuant to 40 CFR 63.1260(g), an owner or operator shall prepare Periodic reports in accordance with Conditions 7.5.10(a)(i) and (ii) (see also 40 CFR 63.1260(g)(1) and (2)) and submit them to the Illinois EPA and/or USEPA.

i. *Submittal schedule*. Pursuant to 40 CFR 63.1260 (g)(1), Except as provided in Conditions 7.5.10 (a)(i)(A), (B), and (C) (see also 40 CFR 63.1260 (g)(1)(i), (ii) and (iii)), an owner or operator shall submit Periodic reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due.

A. When the Illinois EPA and/or USEPA determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source [40 CFR 63.1260 (g)(1)(i)]; or

B. When the monitoring data are used directly for compliance determination and the source experience excess emissions, in which case quarterly reports shall be submitted. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in 40 CFR 63.10(e)(3)(ii) and

(iii) shall apply, except that the term "excess emissions and continuous monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of Condition 7.5.10 (see also 40 CFR 63.1260) [40 CFR 63.1260(g)(1)(ii)].

C. When a new operating scenario has been operated since the last report, in which case quarterly reports shall be submitted [40 CFR 63.1260(g)(1)(iii)].

ii. *Content of Periodic report.* Pursuant to 40 CFR 63.1260(g)(2), the owner or operator shall include the information in Conditions 7.5.10 (a)(ii)(A) through (D) (see also 40 CFR 63.1260 (g)(2)(i) through (vii)), as applicable.

A. Each Periodic report must include the information in 40 CFR 63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the information in 40 CFR 63.10(e)(3)(vi)(J) [40 CFR 63.1260(g)(2)(i)].

B. Pursuant to 40 CFR 63.1260(g)(2)(ii), if the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in Conditions 7.5.10(a)(ii)(B)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(ii)(A) through (D)).

I. Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(A)].

II. Duration of excursions, as defined in Condition 7.5.8(b)(v) (see also 40 CFR 63.1258(b)(7)) [40 CFR 63.1260(g)(2)(ii)(B)].

III. Operating logs and operating scenarios for all operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(C)].

IV. When a continuous monitoring system is used, the information required in 40 CFR 63.10(c)(5) through (13) [40 CFR 63.1260(g)(2)(ii)(D)].

C. Pursuant to 40 CFR 63.1260(g)(2)(v), the information in Conditions 7.5.10 (a)(ii)(C)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(v)(A) through (D)) shall be stated in the Periodic report, when applicable.

I. No excess emissions [40 CFR 63.1260 (g)(2)(v)(A)].

II. No exceedances of a parameter [40 CFR 63.1260(g)(2)(v)(B)].

III. No excursions [40 CFR 63.1260 (g)(2)(v)(C)].

IV. No continuous monitoring system has been inoperative, out of control, repaired, or adjusted [40 CFR 63.1260(g)(2)(v)(D)].

D. Each new operating scenario which has been operated since the time period covered by the last Periodic report. For the initial Periodic report, each operating scenario for each process operated since the compliance date shall be submitted [40 CFR 63.1260(g)(2)(vii)].

b. *Notification of process change*.

i. Pursuant to 40 CFR 63.1260(h)(1), except as specified in Condition 7.5.10(b)(ii) (see also 40 CFR 63.1260(h)(2)), whenever a process change is made, or a change in any of the

information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report quarterly. The report may be submitted as part of the next Periodic report required under Condition 7.5.10(a) (see also 40 CFR 63.1260(g)). The report shall include:

A. A brief description of the process change [40 CFR 63.1260(h)(1)(i)].

B. A description of any modifications to standard procedures or quality assurance procedures [40 CFR 63.1260(h)(1)(ii)].

C. Revisions to any of the information reported in the original Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) [40 CFR 63.1260(h)(1)(iii)].

D. Information required by the Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) for changes involving the addition of processes or equipment [40 CFR 63.1260(h)(1)(iv)].

ii. Pursuant to 40 CFR 63.1260(h)(2), an owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

A. Any change in the activity covered by the Precompliance report [40 CFR 63.1260 (h)(2)(i)].

B. A change in the status of a control device from small to large [40 CFR 63.1260 (h)(2)(ii)].

c. *Reports of startup, shutdown, and malfunction*. For the purposes of 40 CFR 63 Subpart GGG, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the periodic reports required under Condition 7.5.10(a) (see also 40 CFR 63.1260(g)) instead of the schedule specified in 40 CFR 63.10 (d)(5)(i). These reports shall include the information specified in Condition 5.6.2(n)(iii)(A) through (C) (see also 40 CFR 63.1259(a)(3)(i) through (iii)) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or

malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in 40 CFR 63.10 (d)(4)(ii) [40 CFR 63.1260(i)].

d. *Notification of performance test and test plan*. The owner or operator of an affected source shall notify the Illinois EPA and/or USEPA of the planned date of a performance test at least 60 days before the test in accordance with 40 CFR 63.7(b). The owner or operator also must submit the test plan required by 40 CFR 63.7(c) and the emission profile required by 40 CFR 63.1257(b)(8)(ii) with the notification of the performance test [40 CFR 63.1260(l)].

e. *Request for extension of compliance*. An owner or operator may submit to the Illinois EPA and/or USEPA a request for an extension of compliance in accordance with 40 CFR 63.1250(f)(4) [40 CFR 63.1260(m)].

f. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.5.4(f) (see also 35 IAC 218.480(a)) the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.5.4(f) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

g. Any storage of VOL in an affected tank that is not in compliance with the requirements of Condition 7.5.3(c) (see also 35 IAC 218.122(b)), e.g., no "permanent submerged loading pipe or vapor recovery system," within five days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps taken to avoid future non-compliance.

h. The storage of any material containing VOM in Tank 32 within 30 days of such an occurrence.

i. Emissions of VOM in excess of the limits in Condition 5.5.3(a) based on the current month's records plus

the preceding 11 months within 30 days of such an occurrence.

7.5.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.5.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.5.9 and the emission factors and formulas listed below:

For the purpose of estimating VOM emissions from each affected tank to determine compliance with Conditions 5.5.1, 5.5.3(a), 7.5.3, and 7.5.4(f), Version 3.1 of the TANKS program is acceptable.

7.6 Units CAPD S-32AS Fermentation Operations Manufacturing Area S-32 Air Stripper
Controls CAPD S-32 Carbon Adsorption System

7.6.1 Description

Area S-32 is a tank farm and an enclosed building housing a wastewater treatment system used for production area support. The wastewater treatment system includes an air stripping column, activated carbon system, condensers, and associated tankage to hold the solvent removed from the wastewater. Wastewater generated from manufacturing processes in nearby buildings is pumped into some of the tanks in the S-32 area. This wastewater is then metered into an air stripping column where the organic contaminants in the wastewater are stripped from the water. The off-gas from the air stripper is then treated in a carbon bed adsorption system to remove the organics from the air stream before discharge into the atmosphere. The activated carbon bed system consists of three separate beds, each of which is operated independently. The separated organic material is collected in other tanks in the S-32 area, and is pumped to other process areas for further purification prior to recycle back to process.

7.6.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
LC903705	Methylene Chloride Air Stripper (PC-636)	S-32 Carbon Bed Adsorption System

7.6.3 Applicability Provisions and Applicable Regulations

a. The Area S-32 Air Stripper is an "affected air stripper" for the purpose of these unit-specific conditions.

b. The affected air stripper is subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1254(a) for Process Vents at Existing Sources and 40 CFR 63.1256 for Wastewater. The Illinois EPA is administering the NESHAP in Illinois on behalf of the USEPA under a delegation agreement. Pursuant to 40 CFR 63.1250(f)(1), an owner or operator of an existing affected source must comply with the provisions of 40 CFR 63 Subpart GGG within 3 years after September 21, 1998.

c. The affected air stripper is subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.6.3 (c)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

ii. Pursuant to 35 IAC 218.302, emissions of organic material in excess of those permitted by Condition 7.6.3(c)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by one of the following methods:

A. A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)]; or

B. Any other air pollution control equipment approved by the Illinois EPA and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere [35 IAC 218.302(c)].

7.6.4 Non-Applicability of Regulations of Concern

a. The affected air stripper is not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

b. The affected air stripper is not subject to the requirements of 35 IAC 218.484, In-Process Tanks, and35 IAC 218.485, Leaks, because the affected air

stripper is used to remove methylene chloride from the air steam from wastewater.

c. The affected air stripper is not subject to the control requirements of 35 IAC 218.501, Control Requirements for Batch Operations, pursuant to 35 IAC 218.501(b)(2), which excludes any emission unit included within the category specified in 35 IAC 218 Subpart T.

7.6.5 Operational And Production Limits And Work Practices

The Permittee shall follow good operating practices for the carbon bed adsorption system including periodic inspection, routine maintenance and prompt repair of defects.

7.6.6 Emission Limitations

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.6.7 Testing Requirements

a. *General*. Except as specified in 40 CFR 63.1257(a)(5), the procedures specified in 40 CFR 63.1257(d) and (f) are required to demonstrate initial compliance with 40 CFR 63.1254 and 63.1252(e), respectively. The provisions in 40 CFR 63.1257(a)(2) apply to performance tests that are specified in 40 CFR 63.1257(d). The provisions in 40 CFR 63.1257(a)(5) are used to demonstrate initial compliance with the alternative standards specified in 40 CFR 63.1254(c). The provisions in 40 CFR 63.1257(a)(6) are used to comply with the outlet concentration requirements specified in 40 CFR 63.1254(a)(2)(i) and (a)(3)(ii)(B) [40 CFR 63.1257(a)].

b. *Test methods*. When testing is conducted to measure emissions from an affected source, the test methods specified in 40 CFR 63.1257(b)(1) through (10) shall be used [40 CFR 63.1257(b)].

c. Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.6.4(a) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in Condition 7.6.7 (d)(i)(A) (see also 35 IAC 218.105(f)(1)) [35 IAC 218.487].

d. Pursuant to 35 IAC 218.105(d)(1) and Section 39.5(7)(b) of the Act, the control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified below (see also 35 IAC 218.105(f)):

i. Volatile Organic Material Gas Phase Source Test Methods The methods in 40 CFR Part 60, Appendix A, delineated below shall be used to determine control device efficiencies [35 IAC 218.105(f)].

A. CFR Part 60, Appendix A, Method 18, 25 or 25A, as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. The test shall consist of three separate runs, each lasting a minimum of 60 min, unless the Illinois EPA and the USEPA determine that process variables dictate shorter sampling times [35 IAC 218.105(f)(1)].

B. 40 CFR Part 60, Appendix A, Method 1 or 1A shall be used for sample and velocity traverses [35 IAC 218.105(f)(2)].

C. 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D shall be used for velocity and volumetric flow rates [35 IAC 218.105(f)(3)].

D. 40 CFR Part 60, Appendix A, Method 3 shall be used for gas analysis [35 IAC 218.105(f)(4)].

E. 40 CFR Part 60, Appendix A, Method 4 shall be used for stack gas moisture [35 IAC 218.105(f)(5)].

F. 40 CFR Part 60, Appendix A, Methods 2, 2A, 2C, 2D, 3 and 4 shall be performed, as applicable, at least twice during each test run [35 IAC 218.105(f)(6)].

G. Use of an adaptation to any of the test methods specified in Conditions 7.6.7

(d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) may not be used unless approved by the Illinois EPA and the USEPA on a case by case basis. An owner or operator must submit sufficient documentation for the Illinois EPA and the USEPA to find that the test methods specified in Conditions 7.6.7(d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) will yield inaccurate results and that the proposed adaptation is appropriate [35 IAC 218.105(f)(7)].

ii. Notwithstanding other requirements of 35 IAC Part 218, upon request of the Illinois EPA where it is necessary to demonstrate compliance, an owner or operator of an emission unit which is subject to 35 IAC Part 218 shall, at his own expense, conduct tests in accordance with the applicable test methods and procedures specific in 35 IAC Part 218. Nothing in this Condition (see also 35 IAC 218.105) shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing [35 IAC 218.105(i)].

7.6.8 Monitoring Requirements

a. The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard as specified in 40 CFR 63.1258. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish the operating parameter level [40 CFR 63.1258(a)].

b. *Monitoring for control devices.*

i. *Parameters to monitor.* Except as specified in 40 CFR 63.1258(b)(1)(i), for each control device, the owner or operator shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4 of 40 CFR 63

Subpart GGG and in 40 CFR 63.1258(b)(1)(ii) through (xi) [40 CFR 63.1258(b)(1)].

ii. *Averaging periods*. Averaging periods for parametric monitoring levels shall be established according to 40 CFR 63.1258(b)(2)(i) through (iii) [40 CFR 63.1258(b)(2)].

iii. *Monitoring for the alternative standards*. For control devices that are used to comply with the provisions of 40 CFR 63.1254(c), the owner or operator shall monitor and record the outlet TOC concentration and the outlet hydrogen halide and halogen concentration every 15 minutes during the period in which the device is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG. A TOC monitor meeting the requirements of Performance Specification 8 or 9 of appendix B of 40 CFR Part 60 shall be installed, calibrated, and maintained, according to 40 CFR 63.8. The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens [40 CFR 63.1258(b)(5)].

iv. *Exceedances of operating parameters*. Pursuant to 40 CFR 63.1258(b)(6), an exceedance of an operating parameter is defined as one of the following:

A. If the parameter, averaged over the operating day or block, is below a minimum value established during the initial compliance demonstration [40 CFR 63.1258 (b)(6)(i)].

B. If the parameter, averaged over the operating day or block, is above the maximum value established during the initial compliance demonstration [40 CFR 63.1258(b)(6)(ii)].

C. Each loss of pilot flame for flares [40 CFR 63.1258(b)(6)(iii)].

v. *Excursions*. Pursuant to 40 CFR 63.1258(b)(7), excursions are defined by either of the two cases listed in Conditions 7.6.8(b)(v)(A) or (B) (see also 40 CFR 63.1258(b)(7)(i) or (ii)).

A. When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in Condition 7.6.8 (b)(v)(C) (see also 40 CFR 63.1258 (b)(7)(iii)), for at least 75 percent of the operating hours [40 CFR 63.1258 (b)(7)(i)].

B. When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data [40 CFR 63.1258(b)(7)(ii)].

C. Monitoring data are insufficient to constitute a valid hour of data, as used in Conditions 7.6.8(b)(v)(A) and (B) (see also 40 CFR 63.1258(b)(7)(i) and (ii)), if measured values are unavailable for any of the required 15-minute periods within the hour [40 CFR 63.1258(b)(7)(iii)].

vi. *Violations*. Pursuant to 40 CFR 63.1258(b)(8), exceedances of parameters monitored according to the provisions of 40 CFR 63.1258(b)(1)(ii) and (iv) through (ix) or excursions as defined by Conditions 7.6.8(b)(v)(A) through (C) (see also 40 CFR 63.1258(b)(7)(i) through (iii)) constitute violations of the operating limit according to Conditions 7.6.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of 40 CFR 63.1258(b)(1)(x) constitute violations of the emission limit according to Conditions 7.6.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of Condition 7.6.8(b)(iii) (see also 40 CFR 63.1258 (b)(5)) constitute violations of the emission limit according to the provisions of Conditions 7.6.8(b)(vi)(C) and (D) (see also 40 CFR 63.1258 (b)(8)(iii) and (iv)).

A. Except as provided in Condition 7.6.8 (b)(vi)(D) (see also 40 CFR 63.1258

(b)(8)(iv)), for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process [40 CFR 63.1258(b)(8)(i)].

B. Except as provided in Condition 7.6.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device, for each process for which the control device is in service [40 CFR 63.1258(b)(8)(ii)].

C. Except as provided in Condition 7.6.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device. Except as provided in Condition 7.6.8(b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv hydrogen halide or halogen outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device [40 CFR 63.1258 (b)(8)(iii)].

D. Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur during a startup, shutdown, or malfunction, and the facility follows its startup, shutdown, and malfunction plan [40 CFR 63.1258 (b)(8)(iv)].

c. *Monitoring for emission limits*. The owner or operator of any affected source complying with the provisions of 40 CFR 63.1254(a)(1) shall demonstrate continuous compliance with the 2,000 lb/yr emission limits by calculating daily a 365-day rolling summation of emissions. For owners and operators opting to switch compliance strategy from the 93 percent control requirement to the 2,000 lb/yr compliance method, as described in 40 CFR 63.1254(a), the rolling average must include emissions from the past 365 days. Each

day that the total emissions per process exceeds 2,000 lb/yr will be considered a violation of the emission limit [40 CFR 63.1258(c)].

d. An owner or operator that uses a carbon adsorber to comply with any Section of 35 IAC Part 218 shall use Illinois EPA and USEPA approved continuous monitoring equipment which is installed, calibrated, maintained, and operated according to vendor specifications at all times the carbon adsorber is in use. The continuous monitoring equipment must monitor for each carbon adsorber, the VOM concentration of each carbon adsorption bed exhaust or the exhaust of the bed next in sequence to be desorbed [35 IAC 218.105(d)(2)].

7.6.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected air stripper to demonstrate compliance with Conditions 5.5.1, 7.6.3, and 7.6.5, pursuant to Section 39.5(7)(b) of the Act:

a. *Records of equipment operation*. Pursuant to 40 CFR 63.1259(b), the owner or operator must keep the following records up-to-date and readily accessible:

i. Each measurement of a control device operating parameter monitored in accordance with Condition 7.6.8 (see also 40 CFR 63.1258) [40 CFR 63.1259 (b)(1)].

ii. For each continuous monitoring system used to comply with 40 CFR 63 Subpart GGG, records documenting the completion of calibration checks and maintenance of continuous monitoring systems [40 CFR 63.1259(b)(3)].

iii. For processes in compliance with the 2,000 lb/yr emission limit of 40 CFR 63.1254(a)(1), records of the rolling annual total emissions [40 CFR 63.1259(b)(4)].

iv. Pursuant to 40 CFR 63.1259(a)(5), records of the following, as appropriate:

A. The number of batches per year for each batch process [40 CFR 63.1259(a)(5)(i)].

B. The operating hours per year for continuous processes [40 CFR 63.1259 (a)(5)(ii)].

v. Uncontrolled and controlled emissions per batch for each process [40 CFR 63.1259(b)(6)].

vi. Wastewater concentration per POD or process [40 CFR 63.1259(b)(7)].

vii. Number of storage tank turnovers per year, if used in an emissions average [40 CFR 63.1259(b)(8)].

viii. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].

ix. Description of worst-case operating conditions as determined using the procedures described in 40 CFR 63.1257(b)(8) for control devices [40 CFR 63.1259(b)(10)].

b. *Records of operating scenarios*. The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with 40 CFR 63 Subpart GGG [40 CFR 63.1259(c)].

c. Records of the testing of the efficiency of each capture system and control device pursuant to Condition 7.6.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

d. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.6.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

e. Pursuant to 35 IAC 218.489(c), the following records shall be kept for emission units subject to Condition 7.6.5(a) (see also 35 IAC 218.484) which contain VOL:

i. For maintenance and inspection:

A. The date and time each cover is opened [35 IAC 218.489(c)(1)(A)];

B. The length of time the cover remains open [35 IAC 218.489(c)(1)(B)]; and

C. The reason why the cover is opened [35 IAC 218.489(c)(1)(C)].

ii. For production and sampling, detailed written procedures or manufacturing directions specifying the circumstances under which covers may be opened and the procedures for opening covers [35 IAC 218.489(c)(2)].

f. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.6.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.6.4(a) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.6.4(a) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

g. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

h. Records addressing use of good operating practices for the carbon bed adsorption system:

i. Records for periodic inspection of the carbon bed adsorption system with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

i. Quantities of methylene chloride per batch fed to the affected air stripper, gal/batch, gal/mo, and gal/yr;

j. The operating schedule of the affected air stripper or number of hours the affected air stripper units has been operated; and

k. The monthly and aggregate annual VOM and HAP emissions from the affected air stripper based on the quantity of methylene chloride fed to the affected air stripper and air pollution control equipment efficiencies, with supporting calculations.

7.6.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of the affected air stripper with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. *Periodic reports*. Pursuant to 40 CFR 63.1260(g), an owner or operator shall prepare Periodic reports in accordance with Conditions 7.6.10(a)(i) and (ii) (see also 40 CFR 63.1260(g)(1) and (2)) and submit them to the Illinois EPA and/or USEPA.

i. *Submittal schedule*. Pursuant to 40 CFR 63.1260 (g)(1), Except as provided in Conditions 7.6.10 (a)(i)(A), (B), and (C) (see also 40 CFR 63.1260 (g)(1)(i), (ii) and (iii)), an owner or operator shall submit Periodic reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status is due and shall cover the 6-month period

beginning on the date the Notification of Compliance Status is due.

A. When the Illinois EPA and/or USEPA determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source [40 CFR 63.1260 (g)(1)(i)]; or

B. When the monitoring data are used directly for compliance determination and the source experience excess emissions, in which case quarterly reports shall be submitted. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in 40 CFR 63.10(e)(3)(ii) and (iii) shall apply, except that the term "excess emissions and continuous monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of Condition 7.6.10 (see also 40 CFR 63.1260) [40 CFR 63.1260(g)(1)(ii)].

C. When a new operating scenario has been operated since the last report, in which case quarterly reports shall be submitted [40 CFR 63.1260(g)(1)(iii)].

ii. *Content of Periodic report*. Pursuant to 40 CFR 63.1260(g)(2), the owner or operator shall include the information in Conditions 7.6.10 (a)(ii)(A) through (D) (see also 40 CFR 63.1260 (g)(2)(i) through (vii)), as applicable.

A. Each Periodic report must include the information in 40 CFR 63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the information in 40 CFR 63.10(e)(3)(vi)(J) [40 CFR 63.1260(g)(2)(i)].

B. Pursuant to 40 CFR 63.1260(g)(2)(ii), if the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or

greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in Conditions 7.6.10(a)(ii)(B)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(ii)(A) through (D)).

I. Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(A)].

II. Duration of excursions, as defined in Condition 7.6.8(b)(v) (see also 40 CFR 63.1258(b)(7)) [40 CFR 63.1260(g)(2)(ii)(B)].

III. Operating logs and operating scenarios for all operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(C)].

IV. When a continuous monitoring system is used, the information required in 40 CFR 63.10(c)(5) through (13) [40 CFR 63.1260(g)(2)(ii)(D)].

C. Pursuant to 40 CFR 63.1260(g)(2)(v), the information in Conditions 7.6.10 (a)(ii)(C)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(v)(A) through (D)) shall be stated in the Periodic report, when applicable.

I. No excess emissions [40 CFR 63.1260 (g)(2)(v)(A)].

II. No exceedances of a parameter [40 CFR 63.1260(g)(2)(v)(B)].

III. No excursions [40 CFR 63.1260 (g)(2)(v)(C)].

IV. No continuous monitoring system has been inoperative, out of control, repaired, or adjusted [40 CFR 63.1260(g)(2)(v)(D)].

D. Each new operating scenario which has been operated since the time period covered by the last Periodic report. For the initial Periodic report, each operating scenario for each process operated since the compliance date shall be submitted [40 CFR 63.1260(g)(2)(vii)].

b. *Notification of process change*.

i. Pursuant to 40 CFR 63.1260(h)(1), except as specified in Condition 7.6.10(b)(ii) (see also 40 CFR 63.1260(h)(2)), whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report quarterly. The report may be submitted as part of the next Periodic report required under Condition 7.6.10(a) (see also 40 CFR 63.1260(g)). The report shall include:

A. A brief description of the process change [40 CFR 63.1260(h)(1)(i)].

B. A description of any modifications to standard procedures or quality assurance procedures [40 CFR 63.1260(h)(1)(ii)].

C. Revisions to any of the information reported in the original Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) [40 CFR 63.1260(h)(1)(iii)].

D. Information required by the Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) for changes involving the addition of processes or equipment [40 CFR 63.1260(h)(1)(iv)].

ii. Pursuant to 40 CFR 63.1260(h)(2), an owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

A. Any change in the activity covered by the Precompliance report [40 CFR 63.1260 (h)(2)(i)].

B. A change in the status of a control device from small to large [40 CFR 63.1260 (h)(2)(ii)].

c. *Reports of startup, shutdown, and malfunction*. For the purposes of 40 CFR 63 Subpart GGG, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the periodic reports required under Condition 7.6.10(a) (see also 40 CFR 63.1260(g)) instead of the schedule specified in 40 CFR 63.10 (d)(5)(i). These reports shall include the information specified in Condition 5.6.2(n)(iii)(A) through (C) (see also 40 CFR 63.1259(a)(3)(i) through (iii)) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in 40 CFR 63.10 (d)(4)(ii) [40 CFR 63.1260(i)].

d. *Notification of performance test and test plan*. The owner or operator of an affected source shall notify the Illinois EPA and/or USEPA of the planned date of a performance test at least 60 days before the test in accordance with 40 CFR 63.7(b). The owner or operator also must submit the test plan required by 40 CFR 63.7(c) and the emission profile required by 40 CFR 63.1257(b)(8)(ii) with the notification of the performance test [40 CFR 63.1260(l)].

e. *Request for extension of compliance*. An owner or operator may submit to the Illinois EPA and/or USEPA a request for an extension of compliance in accordance with 40 CFR 63.1250(f)(4) [40 CFR 63.1260(m)].

f. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

g. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.6.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.6.4(a) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

h. Emissions of VOM in excess of the limits in Condition 7.6.3 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.6.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.6.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.6.9 and the emission factors and formulas listed below:

a. Determinations of daily and annual emissions for purposes of Condition 7.6.4(a) (see also 35 IAC 218.480) shall be made using both data on the hourly emission rate (or the emissions per unit of throughput) and appropriate daily and annual data from records of emission unit operation (or material throughput or material consumption data). In the absence of representative test data pursuant to Condition 7.6.7(c) (see also 35 IAC 218.487) for the hourly emission rate (or the emissions per unit of throughput) such items shall be calculated using engineering calculations, including the methods described in Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/2-78-029). This Condition shall not affect the Illinois EPA's or the USEPA's authority to require emission tests to be performed pursuant to Condition 7.6.7(c) (see also 35 IAC 218.487)) [35 IAC 218.480(h)].

b. To determine compliance with Conditions 5.5.1, and 7.6.3, VOM emissions from the affected air stripper, shall be calculated based on the following:

$$E = 121 \times (1 - e)$$

Where:

E = Emission rate (lb/hr)

121 = The uncontrolled emissions of VOM from the affected air stripper based on the most recent stack test (lb/hr)

e = Efficiency of the carbon adsorption system

7.7 Units CAPD R-10 Fermentation Recovery Pilot Plant Building R-10
Controls CAPD R-10 Thermal Oxidizer, Vent Condensers, Vacuum Pump, and Dust Collector

7.7.1 Description

Building R-10 is a pilot-plant and commercial production operation for pharmaceutical and pharmaceutical-like product development. The R-10 operations extracts pharmaceutical and agricultural projects from fermentation broth. The fermentation processes are conducted in other buildings at the source. The fermentation broth is transferred to the building into a harvest tank where it may be mixed with a solvent. One or several separation steps are usually performed, and the product stream may be concentrated and purified before it is finally crystallized. The resulting crystals of final product are then typically centrifuged to remove excess liquid and then dried, blended and packaged. The facility is a pilot plant and commercial production center, so a wide variety of agricultural and pharmaceutical products are processed for research and development as well as commercial purposes.

A variety of portable equipment is used in Building R-10 for batch process manufacturing. Portable equipment means single pieces of equipment that are mounted on wheels or skids so as to enable them to be moved from one process to another within a manufacturing building and from one manufacturing building to another. Portable equipment is divided into three categories: 1) vessels, including reactors, receivers, and tanks; 2) solid/liquid separation equipment, including dryers, centrifuges, and filters; 3) miscellaneous, including dust collectors, emission control equipment, oscillators, and sifters. Whenever a piece of portable equipment is used in a process, its emissions are calculated and included with the emissions for that process.

7.7.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
A1039	Centrifuge (CE-102)	None
A1222	Centrifuge (CE-103)	None
A1226	Basket Centrifuge (CE-107)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
B0529	Process Condenser (TA-117 Process Condenser, HX-122)	None

Emission Unit	Description	Emission Control Equipment
B2385	Process Condenser (TA-129 Process Condenser, HX-104)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
B2386	Process Condenser (DY-101/102 Process Condenser, HX-139, Building C-10)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
CE-188	Centrifuge (CE-188)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
CE-193	Centrifuge (CE-193)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
D1485	Tray Dryer (DY-102)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
DY-610	Tray Dryer (DY-610)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
EV-103	50 Liter Evaporator with Integral Condenser and Receiver (EV-103)	None
EV-185	Evaporator EV-185	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
EV-192	Evaporator EV-192	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B

Emission Unit	Description	Emission Control Equipment
FJ0460	Glass Resin Column (CL-121)	None
FJ4528	Extractor Centrifuge (CE-106)	None
FJ8236	Stainless Steel Resin Column (CL-122)	None
FK0215	Extractor Centrifuge (CE-101)	None
FK0234	Thin Film Evaporator with Integral Condenser (EV-101)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
FK5153	300 L Guard Column (CL-151)	None
FK5226	Process Condenser (TA-103A Process Condenser, HX-103A)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
FL-199	Filter Press (FL-199)	None
G0462	Blender Dryer (DY-101)	Vacuum Pump and Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
HX-103	Process Condenser (Process Condenser for TA-124, HX-103)	None
HX-186	Process Condenser HX-186	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
HX-190	Process Condenser HX-190	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
HX-605	Process Condenser (HX-605)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B

Emission Unit	Description	Emission Control Equipment
HX-610	Process Condenser (HX-610)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
HX-614	Process Condenser (HX-614)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
II3429	2,000 L Main Column (CL-150)	None
LC013648	400 L Process Receiver (TA-109)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
LC060058	Process Condenser (TA-118 Process Condenser, HX-123)	Liquid Ring Vacuum Pump VS-103 and Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
LC908029	200 L Receiver (TA-122)	None
LC926709	Process Condenser (TA-300 Process Condenser, HX-300)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
LC926781	400 L Process Tank (TA-303)	None
Emission Unit	Description	Emission Control Equipment
LC926782	600 L Process Tank (TA-302)	None
LC926783	2,000 L Crystallizer (TA-300)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
LC926784	12,000 L Multipurpose Process Tank (Tank TA-120)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
LC926785	240 L Reactor (TA-111)	None

Emission Unit	Description	Emission Control Equipment
LC926786	240 L Receiver (TA-301)	None
LC927729	Basket Centrifuge (CE-300)	None
LC949206	40,000 L Process Tank (TA-503)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
LC950570	Reverse Osmosis Unit (Rm 102 Reverse Osmosis Unit (upper), RO-144)	None
LC956427	500 L Bump Tank (TA-220)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
NG0048	400 L Process Receiver (TA-110)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
NG0281	200 L Bump Tank (TA-119B)	None
NG0446	500 L Bump Tank (TA-210)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q2699	450 L Crystallizer (TA-117)	None
Q3156	2,000 L Process Tank (TA-123)	None
Q3157	2,000 L Process Tank (TA-124)	None
Q3158	2,000 L Process Tank (TA-125)	None
Q3467	8,000 L Column (TA-119)	None
Q3734	10,000 L Process Tank (TA-101A)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3735	10,000 L Process Tank (TA-101B)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B

Emission Unit	Description	Emission Control Equipment
Q3736	5,000 L Process Tank (TA-102A)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3737	5,000 L Process Tank (TA-102B)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3738	2,500 L Pot Still (TA-103A)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3739	2,500 L Process Tank (TA-103B)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3740	1,500 L Process Tank (TA-104A)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3741	1,500 L Process Tank (TA-104B)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3742	1,000 L Process Tank (TA-113)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3743	1,000 L Process Tank (TA-114)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B

Emission Unit	Description	Emission Control Equipment
Q3744	1,000 L Process Tank (TA-115)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3745	1,000 L Process Tank (TA-116)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3749	800 L Crystallizer (TA-129)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3750	400 L Process Receiver (TA-130)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3751	400 L Drop Tank (TA-131)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3752	400 L Feed Tank (TA-132)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3753	400 L Mother Liquor Receiver Tank (Tank TA-133)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3755	200 L Process Receiver (Process Receiver for HX-190, TA-139)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q3756	200 L Bump Tank (TA-141)	None

Emission Unit	Description	Emission Control Equipment
Q3901	4,000 L Slurry Silica Resin/Fresh Solvent Holding Tank (Tank TA-169)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4060	2,500 L Pot Still (TA-118)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4138	400 L Fraction Tank (TA-151)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4139	400 L Fraction Tank (TA-158)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4140	400 L Fraction Tank (TA-152)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4141	400 L Fraction Tank (TA-157)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4142	400 L Fraction Tank (TA-153)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4143	400 L Fraction Tank (TA-156)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B

Emission Unit	Description	Emission Control Equipment
Q4144	400 L Fraction Tank (TA-154)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4145	400 L Fraction Tank (TA-155)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4146	400 L Fraction Tank (TA-159)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4147	400 L Fraction Tank (TA-166)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4148	400 L Fraction Tank (TA-160)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4149	400 L Fraction Tank (TA-165)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4150	400 L Fraction Tank (TA-161)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4151	400 L Fraction Tank (TA-164)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B

Emission Unit	Description	Emission Control Equipment
Q4152	400 L Fraction Tank (TA-162)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4153	400 L Fraction Tank (TA-163)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4162	4,000 L Slurry Silica Resin/Fresh Solvent Holding Tank (Tank TA-170)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4168	400 L Waste Bump Tank (TA-167)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
Q4169	400 L Waste Bump Tank (TA-168)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
RO-212	Reverse Osmosis Unit (Rm 101 Reverse Osmosis Unit, RO-212)	None
TA-108	Evaporator Receiver (Tank TA-108)	None
TA-180	500 L Bump Tank (Tank TA-180)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-181	500 L Bump Tank (Tank TA-181)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B

Emission Unit	Description	Emission Control Equipment
TA-182	500 L Bump Tank (Tank TA-182)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-183	500 L Bump Tank (Tank TA-183)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-184	500 L Bump Tank (Tank TA-184)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-186	1,500 L Process Tank (Tank TA-186)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-187	240 L Receiver (Tank TA-187)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-189	5,000 L Process Tank (Tank TA-189)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-190	5,000 L Process Tank (Tank TA-190)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-191	240 L Receiver (Tank TA-191)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B

Emission Unit	Description	Emission Control Equipment
TA-601	10,000 L Process Tank (Tank TA-601)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-602	5,000 L Process Tank (Tank TA-602)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-603	5,000 L Process Tank (Tank TA-603)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-604	10,000 L Process Tank (Tank TA-604)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-605	2,500 L Process Tank (Tank TA-605)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-606	240 L Process Tank (Tank TA-606)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-611	100 L Process Tank (Tank TA-611)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-612	600 L Process Tank (Tank TA-612)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B

Emission Unit	Description	Emission Control Equipment
TA-614	800 L Process Tank (Tank TA-614)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-615	240 L Process Tank (Tank TA-615)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
TA-616	400 L Process Tank (Tank TA-616, Building R-10)	Thermal Oxidizer TO-1 or Primary Vent Condenser HX-196A and Secondary Vent Condenser HX-196B
U2191	Centrifuge (CE-104)	None
U2192	Centrifuge (CE-105)	None
U2954	Filter Press (FL-101)	None
Portable Equipment	Portable Vessels, Reactors, Receivers, Tanks, Solid/Liquid Separators, Filters, Centrifuges, Dryers, Mills, Sifters, and Oscillators	Scrubbers, Condensers, or Baghouses (as configured for the process)

7.7.3 Applicability Provisions and Applicable Regulations

a. The Building R-10 centrifuges, process condensers, tray dryers, evaporators, columns, filter presses, receivers, process tanks, crystallizers, reactors, reverse osmosis units, bump tanks, pot stills, drop tanks, feed tanks, fraction tanks, and portable equipment are "affected fermentation pilot-plant units" for the purpose of these unit-specific conditions.

b. Each affected fermentation pilot-plant unit is subject to the emission limits identified in Condition 5.2.2.

c. The affected fermentation pilot-plant units are subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1254(a) for Process Vents at Existing Sources. The Illinois EPA is administering the NESHAP in Illinois on behalf of the USEPA under a delegation agreement. Pursuant to 40 CFR 63.1250(f)(1), an owner or operator of an existing affected source must

comply with the provisions of 40 CFR 63 Subpart GGG within 3 years after September 21, 1998.

d. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

e. The affected fermentation pilot-plant units are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.7.3 (e)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

ii. Pursuant to 35 IAC 218.302, emissions of organic material in excess of those permitted by Condition 7.7.3(e)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by one of the following methods:

A. A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)]; or

B. Any other air pollution control equipment approved by the Illinois EPA and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere [35 IAC 218.302(c)].

7.7.4 Non-Applicability of Regulations of Concern

a. The affected fermentation pilot-plant units are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical

Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

b. The affected fermentation pilot-plant units are not subject to the control requirements of 35 IAC 218.501, Control Requirements for Batch Operations, pursuant to 35 IAC 218.501(b)(2), which excludes any emission unit included within the category specified in 35 IAC 218 Subpart T.

c. The affected fermentation pilot-plant units are not subject to 35 IAC 212.324, Process Emission Units In Certain Areas, because the source is not located in a non-attainment area for PM_{10}, as identified in 35 IAC 212.324(a)(1).

7.7.5 Operational And Production Limits And Work Practices

a. The owner or operator shall install covers on all in-process tanks used to manufacture pharmaceuticals and containing a VOL at any time. These covers must remain closed, except as production, sampling, maintenance or inspection procedures require operator access [35 IAC 218.484].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The thermal oxidizer combustion chamber shall be preheated to at least the manufacturer's recommended temperature but no less than the temperature at which compliance was demonstrated in the most recent compliance test, or 1400°F in the absence of a compliance test. This temperature shall be

maintained during operation of the affected fermentation pilot-plant units.

d. The Permittee shall follow good operating practices for the thermal oxidizer, vent condensers, vacuum pump, and dust collector including periodic inspection, routine maintenance and prompt repair of defects.

e. The affected fermentation manufacturing units are not restricted to using the specific air control equipment listed in Condition 7.7.2, so long as emissions are kept below the applicable limits specified in Conditions 5.5, 7.7.3, and 7.7.6.

f. Malfunction and Breakdown Provisions

In the event of a malfunction or breakdown of the thermal oxidizer, the Permittee is authorized to continue operation of the affected fermentation pilot-plant units, as necessary to prevent risk of injury to personnel or severe damage to equipment or to provide essential services. This authorization is subject to the following requirements:

i. The Permittee shall repair the damaged feature(s) of the thermal oxidizer or remove the affected fermentation pilot-plant units from service as soon as practicable. This shall be accomplished within 14 days unless the feature(s) can not be repaired within 14 days and the affected fermentation pilot-plant units can not be removed from service within 14 days, and the Permittee obtains an extension, for up to 7 days, from the Illinois EPA. The request for such an extension must document that the thermal oxidizer is unavailable and specify a schedule of actions the Permittee will take that will assure the feature(s) will be repaired or the affected fermentation pilot-plant units will be taken out of service as soon as possible.

ii. The Permittee shall fulfill applicable recordkeeping and reporting requirements of Condition 7.7.9(c) and 7.7.10(f).

iii. This authorization does not allow the emissions of VOM from any affected fermentation pilot-plant unit to exceed the applicability levels for the control requirements of 35 IAC 218 Subpart T, as specified in Condition 7.7.4(a) (see also 35 IAC 218.480(a)).

7.7.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected fermentation pilot-plant units are subject to the following:

a. The total emissions of VOM from Building R-10 (including pilot plant operations and Cyclosporine production) shall not exceed 5.9 tons/year. This limit is based on representations of the maximum actual emissions at the maximum production rates.

b. The above limitations were established in Permit 98070020, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 (see Attachment 4) [T1].

c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.7.7 Testing Requirements

a. *General*. Except as specified in 40 CFR 63.1257(a)(5), the procedures specified in 40 CFR 63.1257(d) and (f) are required to demonstrate initial compliance with 40 CFR 63.1254 and 63.1252(e), respectively. The provisions in 40 CFR 63.1257(a)(2) apply to performance tests that are specified in 40 CFR 63.1257(d). The provisions in 40 CFR 63.1257(a)(5) are used to demonstrate initial compliance with the alternative standards specified in 40 CFR 63.1254(c). The provisions in 40 CFR 63.1257(a)(6) are used to comply with the outlet concentration requirements specified in 40 CFR 63.1254(a)(2)(i) and (a)(3)(ii)(B) [40 CFR 63.1257(a)].

b. *Test methods*. When testing is conducted to measure emissions from an affected source, the test methods specified in 40 CFR 63.1257(b)(1) through (10) shall be used [40 CFR 63.1257(b)].

c. Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.7.4(a) (see also 35 IAC 218.480), at his own expense, demonstrate

compliance to the Illinois EPA and the USEPA by the methods or procedures listed in Condition 7.7.7 (d)(i)(A) (see also 35 IAC 218.105(f)(1)) [35 IAC 218.487].

d. Pursuant to 35 IAC 218.105(d)(1) and Section 39.5(7)(b) of the Act, the control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified below (see also 35 IAC 218.105(f)):

i. Volatile Organic Material Gas Phase Source Test Methods The methods in 40 CFR Part 60, Appendix A, delineated below shall be used to determine control device efficiencies [35 IAC 218.105(f)].

A. CFR Part 60, Appendix A, Method 18, 25 or 25A, as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. The test shall consist of three separate runs, each lasting a minimum of 60 min, unless the Illinois EPA and the USEPA determine that process variables dictate shorter sampling times [35 IAC 218.105(f)(1)].

B. 40 CFR Part 60, Appendix A, Method 1 or 1A shall be used for sample and velocity traverses [35 IAC 218.105(f)(2)].

C. 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D shall be used for velocity and volumetric flow rates [35 IAC 218.105(f)(3)].

D. 40 CFR Part 60, Appendix A, Method 3 shall be used for gas analysis [35 IAC 218.105(f)(4)].

E. 40 CFR Part 60, Appendix A, Method 4 shall be used for stack gas moisture [35 IAC 218.105(f)(5)].

F. 40 CFR Part 60, Appendix A, Methods 2, 2A, 2C, 2D, 3 and 4 shall be performed,

as applicable, at least twice during each test run [35 IAC 218.105(f)(6)].

G. Use of an adaptation to any of the test methods specified in Conditions 7.7.7 (d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) may not be used unless approved by the Illinois EPA and the USEPA on a case by case basis. An owner or operator must submit sufficient documentation for the Illinois EPA and the USEPA to find that the test methods specified in Conditions 7.7.7(d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) will yield inaccurate results and that the proposed adaptation is appropriate [35 IAC 218.105(f)(7)].

ii. Notwithstanding other requirements of 35 IAC Part 218, upon request of the Illinois EPA where it is necessary to demonstrate compliance, an owner or operator of an emission unit which is subject to 35 IAC Part 218 shall, at his own expense, conduct tests in accordance with the applicable test methods and procedures specific in 35 IAC Part 218. Nothing in this Condition (see also 35 IAC 218.105) shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing [35 IAC 218.105(i)].

7.7.8 Monitoring Requirements

a. The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard as specified in 40 CFR 63.1258. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish the operating parameter level [40 CFR 63.1258(a)].

b. *Monitoring for control devices*.

i. *Parameters to monitor*. Except as specified in 40 CFR 63.1258(b)(1)(i), for each control device, the owner or operator shall install and operate monitoring devices and operate

within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4 of 40 CFR 63 Subpart GGG and in 40 CFR 63.1258(b)(1)(ii) through (xi) [40 CFR 63.1258(b)(1)].

ii. *Averaging periods*. Averaging periods for parametric monitoring levels shall be established according to 40 CFR 63.1258(b)(2)(i) through (iii) [40 CFR 63.1258(b)(2)].

iii. *Monitoring for the alternative standards*. For control devices that are used to comply with the provisions of 40 CFR 63.1254(c), the owner or operator shall monitor and record the outlet TOC concentration and the outlet hydrogen halide and halogen concentration every 15 minutes during the period in which the device is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG. A TOC monitor meeting the requirements of Performance Specification 8 or 9 of appendix B of 40 CFR Part 60 shall be installed, calibrated, and maintained, according to 40 CFR 63.8. The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens [40 CFR 63.1258(b)(5)].

iv. *Exceedances of operating parameters*. Pursuant to 40 CFR 63.1258(b)(6), an exceedance of an operating parameter is defined as one of the following:

A. If the parameter, averaged over the operating day or block, is below a minimum value established during the initial compliance demonstration [40 CFR 63.1258 (b)(6)(i)].

B. If the parameter, averaged over the operating day or block, is above the maximum value established during the initial compliance demonstration [40 CFR 63.1258(b)(6)(ii)].

C. Each loss of pilot flame for flares [40 CFR 63.1258(b)(6)(iii)].

v. *Excursions*. Pursuant to 40 CFR 63.1258(b)(7), excursions are defined by either of the two cases listed in Conditions 7.7.8(b)(v)(A) or (B) (see also 40 CFR 63.1258(b)(7)(i) or (ii)).

A. When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in Condition 7.7.8 (b)(v)(C) (see also 40 CFR 63.1258 (b)(7)(iii)), for at least 75 percent of the operating hours [40 CFR 63.1258 (b)(7)(i)].

B. When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data [40 CFR 63.1258(b)(7)(ii)].

C. Monitoring data are insufficient to constitute a valid hour of data, as used in Conditions 7.7.8(b)(v)(A) and (B) (see also 40 CFR 63.1258(b)(7)(i) and (ii)), if measured values are unavailable for any of the required 15-minute periods within the hour [40 CFR 63.1258(b)(7)(iii)].

vi. *Violations*. Pursuant to 40 CFR 63.1258(b)(8), exceedances of parameters monitored according to the provisions of 40 CFR 63.1258(b)(1)(ii) and (iv) through (ix) or excursions as defined by Conditions 7.7.8(b)(v)(A) through (C) (see also 40 CFR 63.1258(b)(7)(i) through (iii)) constitute violations of the operating limit according to Conditions 7.7.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of 40 CFR 63.1258(b)(1)(x) constitute violations of the emission limit according to Conditions 7.7.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of Condition 7.7.8(b)(iii) (see also 40 CFR 63.1258 (b)(5)) constitute violations of the emission limit according to the provisions of Conditions 7.7.8(b)(vi)(C)

and (D) (see also 40 CFR 63.1258 (b)(8)(iii) and (iv)).

A. Except as provided in Condition 7.7.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process [40 CFR 63.1258(b)(8)(i)].

B. Except as provided in Condition 7.7.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device, for each process for which the control device is in service [40 CFR 63.1258(b)(8)(ii)].

C. Except as provided in Condition 7.7.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device. Except as provided in Condition 7.7.8(b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv hydrogen halide or halogen outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device [40 CFR 63.1258 (b)(8)(iii)].

D. Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur during a startup, shutdown, or malfunction, and the facility follows its startup, shutdown, and malfunction plan [40 CFR 63.1258 (b)(8)(iv)].

c. *Monitoring for emission limits*. The owner or operator of any affected source complying with the provisions of 40 CFR 63.1254(a)(1) shall demonstrate continuous compliance with the 2,000 lb/yr emission limits by calculating daily a 365-day rolling summation of

emissions. For owners and operators opting to switch compliance strategy from the 93 percent control requirement to the 2,000 lb/yr compliance method, as described in 40 CFR 63.1254(a), the rolling average must include emissions from the past 365 days. Each day that the total emissions per process exceeds 2,000 lb/yr will be considered a violation of the emission limit [40 CFR 63.1258(c)].

d. An owner or operator that uses an afterburner to comply with any Section of 35 IAC Part 218 shall use Illinois EPA and USEPA approved continuous monitoring equipment which is installed, calibrated, maintained, and operated according to vendor specifications at all times the afterburner is in use. The continuous monitoring equipment must monitor for each afterburner which does not have a catalyst bed, the combustion chamber temperature of each afterburner [35 IAC 218.105(d)(2)(A)(i)].

7.7.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected fermentation pilot-plant unit to demonstrate compliance with Conditions 5.5.1, 5.5.3(a), 7.7.3, 7.7.5, and 7.7.6, pursuant to Section 39.5(7)(b) of the Act:

a. *Records of equipment operation*. Pursuant to 40 CFR 63.1259(b), the owner or operator must keep the following records up-to-date and readily accessible:

i. Each measurement of a control device operating parameter monitored in accordance with Condition 7.7.8 (see also 40 CFR 63.1258) [40 CFR 63.1259 (b)(1)].

ii. For each continuous monitoring system used to comply with 40 CFR 63 Subpart GGG, records documenting the completion of calibration checks and maintenance of continuous monitoring systems [40 CFR 63.1259(b)(3)].

iii. For processes in compliance with the 2,000 lb/yr emission limit of 40 CFR 63.1254(a)(1), records of the rolling annual total emissions [40 CFR 63.1259(b)(4)].

iv. Pursuant to 40 CFR 63.1259(a)(5), records of the following, as appropriate:

A. The number of batches per year for each batch process [40 CFR 63.1259(a)(5)(i)].

B. The operating hours per year for continuous processes [40 CFR 63.1259 (a)(5)(ii)].

v. Uncontrolled and controlled emissions per batch for each process [40 CFR 63.1259(b)(6)].

vi. Wastewater concentration per POD or process [40 CFR 63.1259(b)(7)].

vii. Number of storage tank turnovers per year, if used in an emissions average [40 CFR 63.1259(b)(8)].

viii. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].

ix. Description of worst-case operating conditions as determined using the procedures described in 40 CFR 63.1257(b)(8) for control devices [40 CFR 63.1259(b)(10)].

b. *Records of operating scenarios*. The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with 40 CFR 63 Subpart GGG [40 CFR 63.1259(c)].

c. Records for Malfunctions and Breakdowns of Thermal Oxidizer

The Permittee shall maintain records, pursuant to 35 IAC 201.263, of continued operation of an affected fermentation pilot-plant unit during malfunctions and breakdown of the control features of the thermal oxidizer, which as a minimum, shall include:

i. Date and duration of malfunction or breakdown;

ii. A detailed explanation of the malfunction or breakdown;

iii. An explanation why the damaged feature(s) could not be immediately repaired or the affected fermentation pilot-plant units removed from service without risk of injury to personnel or severe damage to equipment or interruption of essential services;

iv. The measures used to reduce the quantity of emissions and the duration of the event;

v. The steps taken to prevent similar malfunctions or breakdowns or reduce their frequency and severity; and

vi. The amount of release above typical emissions during malfunction/breakdown.

d. Records of the testing of the efficiency of each capture system and control device pursuant to Condition 7.7.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

e. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.7.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

f. Pursuant to 35 IAC 218.489(c), the following records shall be kept for emission units subject to Condition 7.7.5(a) (see also 35 IAC 218.484) which contain VOL:

i. For maintenance and inspection:

A. The date and time each cover is opened [35 IAC 218.489(c)(1)(A)];

B. The length of time the cover remains open [35 IAC 218.489(c)(1)(B)]; and

C. The reason why the cover is opened [35 IAC 218.489(c)(1)(C)].

ii. For production and sampling, detailed written procedures or manufacturing directions specifying the circumstances under which covers may be opened and the procedures for opening covers [35 IAC 218.489(c)(2)].

g. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.7.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.7.4(a) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.7.4(a) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

h. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

i. Records addressing use of good operating practices for the thermal oxidizer, vent condensers, vacuum pump, and dust collector:

i. Records for periodic inspection of the thermal oxidizer, vent condensers, vacuum pump, and dust collector with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

j. Types and quantities of raw materials, excluding water, used for each affected fermentation pilot-plant unit, lb/batch, lb/mo, and ton/yr;

k. The operating schedule of the affected fermentation pilot-plant units or number of hours the affected fermentation pilot-plant units have been operated;

l. The monthly and aggregate annual VOM emissions from the affected fermentation pilot-plant units based on the material and solvent usage and air pollution control equipment efficiencies, with supporting calculations; and

m. The Permittee shall maintain an On-Site Implementation Log (OSIL) which shall contain the following information with respect to the equipment changes authorized by Conditions 7.7.11(b) and (c):

   i. Name and location of batch process with replacement component(s) or control device(s);

   ii. Description of the component(s) or control device(s) replaced;

   iii. Asset or identification number of replacement component(s) or control device(s);

   iv. The effective size or capacity of the original and each replacement component;

   v. The effective efficiencies of the original control device(s) and the replacement control device(s);

   vi. Manufacturer(s) and model number(s) of the replacement component(s) or control device(s);

   vii. The date of installation of the replacement component(s) or control device(s); and

   viii. Other information as needed to show the change is within the scope of Conditions 7.7.11(b) or (c).

7.7.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected fermentation pilot-plant unit with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. *Periodic reports*. Pursuant to 40 CFR 63.1260(g), an owner or operator shall prepare Periodic reports in accordance with Conditions 7.7.10(a)(i) and (ii) (see also 40 CFR 63.1260(g)(1) and (2)) and submit them to the Illinois EPA and/or USEPA.

i. *Submittal schedule*. Pursuant to 40 CFR 63.1260 (g)(1), Except as provided in Conditions 7.7.10 (a)(i)(A), (B), and (C) (see also 40 CFR 63.1260 (g)(1)(i), (ii) and (iii)), an owner or operator shall submit Periodic reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due.

A. When the Illinois EPA and/or USEPA determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source [40 CFR 63.1260 (g)(1)(i)]; or

B. When the monitoring data are used directly for compliance determination and the source experience excess emissions, in which case quarterly reports shall be submitted. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in 40 CFR 63.10(e)(3)(ii) and (iii) shall apply, except that the term "excess emissions and continuous monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of Condition 7.7.10 (see also 40 CFR 63.1260) [40 CFR 63.1260(g)(1)(ii)].

C. When a new operating scenario has been operated since the last report, in which case quarterly reports shall be submitted [40 CFR 63.1260(g)(1)(iii)].

ii. *Content of Periodic report.* Pursuant to 40 CFR 63.1260(g)(2), the owner or operator shall include the information in Conditions 7.7.10 (a)(ii)(A) through (D) (see also 40 CFR 63.1260 (g)(2)(i) through (vii)), as applicable.

A. Each Periodic report must include the information in 40 CFR 63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the information in 40 CFR 63.10(e)(3)(vi)(J) [40 CFR 63.1260(g)(2)(i)].

B. Pursuant to 40 CFR 63.1260(g)(2)(ii), if the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in Conditions 7.7.10(a)(ii)(B)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(ii)(A) through (D)).

I. Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(A)].

II. Duration of excursions, as defined in Condition 7.7.8(b)(v) (see also 40 CFR 63.1258(b)(7)) [40 CFR 63.1260(g)(2)(ii)(B)].

III. Operating logs and operating scenarios for all operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(C)].

IV. When a continuous monitoring system is used, the information required in 40 CFR 63.10(c)(5) through (13) [40 CFR 63.1260(g)(2)(ii)(D)].

C. Pursuant to 40 CFR 63.1260(g)(2)(v), the information in Conditions 7.7.10 (a)(ii)(C)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(v)(A) through (D)) shall be stated in the Periodic report, when applicable.

I. No excess emissions [40 CFR 63.1260 (g)(2)(v)(A)].

II. No exceedances of a parameter [40 CFR 63.1260(g)(2)(v)(B)].

III. No excursions [40 CFR 63.1260 (g)(2)(v)(C)].

IV. No continuous monitoring system has been inoperative, out of control, repaired, or adjusted [40 CFR 63.1260(g)(2)(v)(D)].

D. Each new operating scenario which has been operated since the time period covered by the last Periodic report. For the initial Periodic report, each operating scenario for each process operated since the compliance date shall be submitted [40 CFR 63.1260(g)(2)(vii)].

b. *Notification of process change*.

i. Pursuant to 40 CFR 63.1260(h)(1), except as specified in Condition 7.7.10(b)(ii) (see also 40 CFR 63.1260(h)(2)), whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report quarterly. The report may be submitted as part of the next Periodic report required under Condition 7.7.10(a) (see also 40 CFR 63.1260(g)). The report shall include:

A. A brief description of the process change [40 CFR 63.1260(h)(1)(i)].

B. A description of any modifications to standard procedures or quality assurance procedures [40 CFR 63.1260(h)(1)(ii)].

C. Revisions to any of the information reported in the original Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) [40 CFR 63.1260(h)(1)(iii)].

D. Information required by the Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) for changes involving the addition of processes or equipment [40 CFR 63.1260(h)(1)(iv)].

ii. Pursuant to 40 CFR 63.1260(h)(2), an owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

A. Any change in the activity covered by the Precompliance report [40 CFR 63.1260 (h)(2)(i)].

B. A change in the status of a control device from small to large [40 CFR 63.1260 (h)(2)(ii)].

c. *Reports of startup, shutdown, and malfunction*. For the purposes of 40 CFR 63 Subpart GGG, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the periodic reports required under Condition 7.7.10(a) (see also 40 CFR 63.1260(g)) instead of the schedule specified in 40 CFR 63.10 (d)(5)(i). These reports shall include the information specified in Condition 5.6.2(n)(iii)(A) through (C) (see also 40 CFR 63.1259(a)(3)(i) through (iii)) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in 40 CFR 63.10 (d)(4)(ii) [40 CFR 63.1260(i)].

d. *Notification of performance test and test plan*. The owner or operator of an affected source shall notify the Illinois EPA and/or USEPA of the planned date of a performance test at least 60 days before the test in accordance with 40 CFR 63.7(b). The owner or

operator also must submit the test plan required by 40 CFR 63.7(c) and the emission profile required by 40 CFR 63.1257(b)(8)(ii) with the notification of the performance test [40 CFR 63.1260(l)].

e. *Request for extension of compliance*. An owner or operator may submit to the Illinois EPA and/or USEPA a request for an extension of compliance in accordance with 40 CFR 63.1250(f)(4) [40 CFR 63.1260(m)].

f. Reporting of Malfunctions and Breakdowns for Thermal Oxidizer

Notwithstanding Condition 7.7.10(c) (see also 40 CFR 63.1260(i), the Permittee shall provide the following notification and reports to the Illinois EPA, Compliance Section and Regional Field Office, pursuant to 35 IAC 201.263, concerning continued operation of an affected fermentation pilot-plant unit subject to Condition 7.7.5(f) during malfunction or breakdown of the control features of the thermal oxidizer.

i. The Permittee shall notify the Illinois EPA's regional office by telephone as soon as possible during normal working hours, but no later than three (3) days, upon the occurrence of noncompliance due to malfunction, or breakdown.

ii. Upon achievement of compliance, the Permittee shall give a written follow-up notice to the Illinois EPA, Compliance Section and Regional Field Office, providing a detailed explanation of the event, an explanation why continued operation of the affected fermentation pilot-plant units was necessary, the length of time during which operation continued under such conditions, the measures taken by the Permittee to minimize and correct deficiencies with chronology, and when the repairs were completed or when the thermal oxidizer was taken out of service.

iii. If compliance is not achieved within 5 working days of the occurrence, the Permittee shall submit interim status reports to the Illinois EPA, Compliance Section and Regional Field Office, within 5 days of the occurrence and every 5 days thereafter, until compliance is achieved. These interim reports shall provide a brief explanation of the nature of the malfunction or breakdown, corrective actions

accomplished to date, actions anticipated to occur with schedule, and the expected date on which repairs will be complete or the affected fermentation pilot-plant units will be taken out of service.

g. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

h. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.7.4(a) (see also 35 IAC 218.480(a), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.7.4(a) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

i. Emissions of PM, VOM, and/or HAP from the affected fermentation pilot-plant units in excess of the limits specified in Conditions 5.5.3(a), 7.7.3, and/or 7.7.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.7.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following changes with respect to the affected fermentation pilot-plant units without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee’s obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification pursuant to regulations promulgated pursuant to Title I of the CAA (i.e., 40 CFR 52.21 and 35 IAC Part 203):

a. This permit is issued for production of pharmaceuticals, chemical intermediates for pharmaceutical products and pharmaceutical-like products such as hormones, enzymes and antibiotics. In addition to varying the quantities of such materials produced, the Permittee may change the types of such materials produced, making products not previously made in the affected fermentation chemical manufacturing units, or changing the process by which such materials are made, provided that Conditions 5.5, 7.7.3, or 7.7.6 are not violated.

b. The routine replacement of component parts for a batch process with the same or functionally similar component parts, provided there is no effective increase in the capacity of the batch process (i.e., like-kind replacement), provided that the replacements are not so extensive as to constitute reconstruction of the batch process and it can be demonstrated that emissions from the batch process remain in compliance with the limits specified in Conditions 5.5, 7.7.3, and 7.7.6 (e.g., reactor, receiver, tank, crystallizer, pump, distillation column, centrifuge, air dryer, vacuum dryer).

c. The replacement of control devices with control devices with the same or better effective efficiency, provided there is no increase in emissions over the limits specified in Conditions 5.5, 7.7.3, and 7.7.6 (e.g., vacuum jet, vacuum pump, condenser, scrubber and demister).

7.7.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.7.9 and the emission factors and formulas listed below:

a. Determinations of daily and annual emissions for purposes of Condition 7.7.4(a) (see also 35 IAC 218.480) shall be made using both data on the hourly emission rate (or the emissions per unit of throughput) and appropriate daily and annual data from records of emission unit operation (or material throughput or material consumption data). In the absence of representative test data pursuant to Condition 7.7.7(c) (see also 35 IAC 218.487) for the hourly emission rate (or the emissions per unit of throughput) such items shall be calculated using engineering calculations, including the methods described in Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/2-78-029). This Condition shall not affect the Illinois EPA's or the USEPA's authority to require emission tests to be performed pursuant to Condition 7.7.7(c) (see also 35 IAC 218.487)) [35 IAC 218.480(h)].

b. Compliance with Conditions 7.7.3(b), and (d) is assumed by proper operation of the thermal oxidizer, vent condensers, vacuum pump, and dust collector, as addressed by Condition 7.7.5(d).

c. To determine compliance with Conditions 5.5.1, 5.5.3(a), and 7.7.3(e), VOM emissions from the

affected fermentation pilot-plant units, calculations based on the formulas and procedures listed in either Appendix B of "Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products" (EPA-450/2-78-029) or "Control of Volatile Organic Compound Emissions from Batch Processes-Alternative Control Techniques Information Document" (EPA-450/R-94-020) are acceptable.

d. To determine compliance with Conditions 5.5.1 and 7.7.3(d), PM emissions from the affected fermentation pilot-plant units shall be calculated based on the following:

$$ER = (PR) \times ((PRL) \times (100 - e))/100$$

Where:

ER = Emission rate (lb/hr)

PR = Production rate (lb/hr)

PRL = Material lost to the control device, %

e = Efficiency of the control device, %

7.8 Units CAPD C-2 Chemical Manufacturing Building C-2
Controls CAPD C-2 Condensers, Steam Jets, Liquid Ring Pumps, and Scrubber

7.8.1 Description

The equipment in Building C-2 is used to produce a wide variety of pharmaceutical and pharmaceutical-like products via batch chemical processing techniques, termed Chemical Manufacturing by the source. Typical pharmaceutical compound production requires numerous chemical reactions and mechanical separations to form the needed complex chemical molecules of active drug. The chemical synthesis of pharmaceuticals may vary from several days to several weeks to complete a single batch of product. The number and type of individual process steps varies greatly depending upon the particular pharmaceutical compound. For example, a single piece of process equipment may be used several different times during different stages of the production campaign to produce a single product, and each step will be different from all others.

A variety of portable equipment is used in Building C-2 for batch process manufacturing. Portable equipment means single pieces of equipment that are mounted on wheels or skids so as to enable them to be moved from one process to another within a manufacturing building and from one manufacturing building to another. Portable equipment is divided into three categories: 1) vessels, including reactors, receivers, and tanks; 2) solid/liquid separation equipment, including dryers, centrifuges, and filters; 3) miscellaneous, including dust collectors, emission control equipment, oscillators, and sifters. Whenever a piece of portable equipment is used in a process, its emissions are calculated and included with the emissions for that process.

7.8.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
B-2190	Process Condenser 416-PC (PC-416)	Scrubber 408-SC; After Condenser 414-AC; Liquid Ring Pump 414-LRP; Steam Jets 414-SJ1 and 414-SJ2; and Vent Condenser 416-VC
LC-903276	Centrifuge 423C (PC-423)	Scrubber 408-SC

Emission Unit	Description	Emission Control Equipment
LC-909284	Process Condenser 417-PC (PC-417)	Scrubber 408-SC; After Condenser 417-AC; Liquid Ring Pump 417-LRP; Steam Jets 417-SJ1 and 417-SJ2; and Vent Condenser 417-VC
LC-909285	Process Condenser 414-PC (PC-414)	Scrubber 408-SC; After Condenser 414-AC; Liquid Ring Pump 414-LRP; Steam Jets 414-SJ1 and 414-SJ2; and Vent Condenser 414-VC
LC-909286	Process Condenser 413-PC (PC-413)	Scrubber 408-SC; After Condenser 413-AC; Liquid Ring Pump 413-LRP; Steam Jets 413-SJ1 and 413-SJ2; and Vent Condenser 413-VC
LC-909287	Process Condenser 418-PC (PC-418)	Scrubber 408-SC and Vent Condenser 418-VC
Q-1562	1,500 Gallon Reactor (Reactor 421, PC-421)	Scrubber 408-SC; After Condenser 421-AC; Steam Jet 421-SJ; and Vent Condenser 421-VC
Q-3338	200 Gallon Tank (Shot Tank TA306ST, PC-423)	Scrubber 408-SC
Q-3339	200 Gallon Tank (Shot Tank TA304ST, PC-413)	Scrubber 408-SC
Q-3344	1,500 Gallon Reactor (Reactor 416, PC-416)	Scrubber 408-SC; After Condenser 414-AC; Liquid Ring Pump 414-LRP; Steam Jets 414-SJ1 and 414-SJ2; and Vent Condenser 416-VC
R-0527	750 Gallon Receiver (Receiver 425R, PC-425)	Scrubber 408-SC and Vent Condenser 425R-VC
R-0529	1,000 Gallon Reactor (Reactor 420, PC-420)	Scrubber 408-SC and Vent Condenser 420-VC
R-0570	1,500 Gallon Receiver (Receiver 419R, PC-419)	Scrubber 408-SC; After Condenser 417-AC; Liquid Ring Pump 417-LRP; Steam Jets 417-SJ1 and 417-SJ2; and Vent Condenser 417-VC

Emission Unit	Description	Emission Control Equipment
R-0779	1,000 Gallon Reactor (Reactor 418, PC-418)	Scrubber 408-SC and Vent Condenser 418-VC
R-1001	1,500 Gallon Reactor (Reactor 417, PC-417)	Scrubber 408-SC; After Condenser 417-AC; Liquid Ring Pump 417-LRP; Steam Jets 417-SJ1 and 417-SJ2; and Vent Condenser 417-VC
R-1002	2,000 Gallon Receiver (Receiver 412R, PC-412)	Scrubber 408-SC; After Condenser 413-AC; Liquid Ring Pump 413-LRP; Steam Jets 413-SJ1 and 413-SJ2; and Vent Condenser 413-VC
R-1017	1,500 Gallon Reactor (Reactor 414, PC-414)	Scrubber 408-SC; After Condenser 414-AC; Liquid Ring Pump 414-LRP; Steam Jets 414-SJ1 and 414-SJ2; and Vent Condenser 414-VC
R-1018	1,500 Gallon Reactor (Reactor 413, PC-413)	Scrubber 408-SC; After Condenser 413-AC; Liquid Ring Pump 413-LRP; Steam Jets 413-SJ1 and 413-SJ2; and Vent Condenser 413-VC
R-1029	750 Gallon Receiver (Receiver 424R, PC-424)	Scrubber 408-SC and Vent Condenser 425R-VC
R-1031	1,500 Gallon Receiver (Receiver 415R, PC-415)	Scrubber 408-SC; After Condenser 414-AC; Liquid Ring Pump 414-LRP; Steam Jets 414-SJ1 and 414-SJ2; and Vent Condenser 414-VC
TA307ST	300 Gallon Tank (Shot Tank TA307ST, Asset #LC-******, PC-413)	Scrubber 408-SC
Portable Equipment	Portable Vessels, Reactors, Receivers, Tanks, Solid/Liquid Separators, Filters, Centrifuges, Dryers, Mills, Sifters, and Oscillators	Scrubbers, Condensers, or Baghouses (as configured for the process)

7.8.3 Applicability Provisions and Applicable Regulations

a. The Building C-2 process condensers, centrifuges, reactors, shot tanks, receivers, and portable equipment are "affected chemical manufacturing units" for the purpose of these unit-specific conditions.

b. Each affected chemical manufacturing unit subject to the emission limits identified in Condition 5.2.2.

c. The affected chemical manufacturing units are subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1254(a) for Process Vents at Existing Sources. The Illinois EPA is administering the NESHAP in Illinois on behalf of the USEPA under a delegation agreement. Pursuant to 40 CFR 63.1250(f)(1), an owner or operator of an existing affected source must comply with the provisions of 40 CFR 63 Subpart GGG within 3 years after September 21, 1998.

d. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

e. The affected chemical manufacturing units are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.8.3 (e)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

ii. Pursuant to 35 IAC 218.302, emissions of organic material in excess of those permitted by Condition 7.8.3(e)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by one of the following methods:

A. A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material

that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)]; or

B. Any other air pollution control equipment approved by the Illinois EPA and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere [35 IAC 218.302(c)].

7.8.4 Non-Applicability of Regulations of Concern

a. The affected chemical manufacturing units are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

b. The affected chemical manufacturing units are not subject to the control requirements of 35 IAC 218.501, Control Requirements for Batch Operations, pursuant to 35 IAC 218.501(b)(2), which excludes any emission unit included within the category specified in 35 IAC 218 Subpart T.

c. The affected chemical manufacturing units are not subject to 35 IAC 212.324, Process Emission Units In Certain Areas, because the source is not located in a non-attainment area for PM_{10}, as identified in 35 IAC 212.324(a)(1).

7.8.5 Operational and Production Limits and Work Practices

a. The owner or operator shall install covers on all in-process tanks used to manufacture pharmaceuticals and containing a VOL at any time. These covers must remain closed, except as production, sampling, maintenance or inspection procedures require operator access [35 IAC 218.484].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The Permittee shall follow good operating practices for the condensers, steam jets, liquid ring pumps, scrubber, and surge tanks including periodic inspection, routine maintenance and prompt repair of defects.

d. The affected chemical manufacturing units are not restricted to using the specific air control equipment listed in Condition 7.8.2, so long as emissions are kept below the applicable limits specified in Conditions 5.5, 7.8.3, and 7.8.6.

7.8.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected chemical manufacturing units are subject to the following:

a. Emissions of volatile organic material (VOM) from Shot Tank TA-307 shall not exceed 7.33 lb/month and 0.022 ton/year.

b. The above limitations were established in Permit 98110043, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.8.7 Testing Requirements

a. *General*. Except as specified in 40 CFR 63.1257(a)(5), the procedures specified in 40 CFR 63.1257(d) and (f) are required to demonstrate initial compliance with 40 CFR 63.1254 and 63.1252(e), respectively. The provisions in 40 CFR 63.1257(a)(2) apply to performance tests that are

specified in 40 CFR 63.1257(d). The provisions in 40 CFR 63.1257(a)(5) are used to demonstrate initial compliance with the alternative standards specified in 40 CFR 63.1254(c). The provisions in 40 CFR 63.1257(a)(6) are used to comply with the outlet concentration requirements specified in 40 CFR 63.1254(a)(2)(i) and (a)(3)(ii)(B) [40 CFR 63.1257(a)].

b. *Test methods*. When testing is conducted to measure emissions from an affected source, the test methods specified in 40 CFR 63.1257(b)(1) through (10) shall be used [40 CFR 63.1257(b)].

c. Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.8.4(a) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in Condition 7.8.7 (d)(i)(A) (see also 35 IAC 218.105(f)(1)) [35 IAC 218.487].

d. Pursuant to 35 IAC 218.105(d)(1) and Section 39.5(7)(b) of the Act, the control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified below (see also 35 IAC 218.105(f)):

i. Volatile Organic Material Gas Phase Source Test Methods The methods in 40 CFR Part 60, Appendix A, delineated below shall be used to determine control device efficiencies [35 IAC 218.105(f)].

A. CFR Part 60, Appendix A, Method 18, 25 or 25A, as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. The test shall consist of three separate runs, each lasting a minimum of 60 min, unless the Illinois EPA and the USEPA determine that process variables dictate shorter sampling times [35 IAC 218.105(f)(1)].

B. 40 CFR Part 60, Appendix A, Method 1 or 1A shall be used for sample and velocity traverses [35 IAC 218.105(f)(2)].

C. 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D shall be used for velocity and volumetric flow rates [35 IAC 218.105(f)(3)].

D. 40 CFR Part 60, Appendix A, Method 3 shall be used for gas analysis [35 IAC 218.105(f)(4)].

E. 40 CFR Part 60, Appendix A, Method 4 shall be used for stack gas moisture [35 IAC 218.105(f)(5)].

F. 40 CFR Part 60, Appendix A, Methods 2, 2A, 2C, 2D, 3 and 4 shall be performed, as applicable, at least twice during each test run [35 IAC 218.105(f)(6)].

G. Use of an adaptation to any of the test methods specified in Conditions 7.8.7 (d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) may not be used unless approved by the Illinois EPA and the USEPA on a case by case basis. An owner or operator must submit sufficient documentation for the Illinois EPA and the USEPA to find that the test methods specified in Conditions 7.8.7(d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) will yield inaccurate results and that the proposed adaptation is appropriate [35 IAC 218.105(f)(7)].

ii. Notwithstanding other requirements of 35 IAC Part 218, upon request of the Illinois EPA where it is necessary to demonstrate compliance, an owner or operator of an emission unit which is subject to 35 IAC Part 218 shall, at his own expense, conduct tests in accordance with the applicable test methods and procedures specific in 35 IAC Part 218. Nothing in this Condition (see also 35 IAC 218.105) shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing [35 IAC 218.105(i)].

7.8.8 Monitoring Requirements

a. The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard as specified in 40 CFR 63.1258. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish the operating parameter level [40 CFR 63.1258(a)].

b. *Monitoring for control devices*.

i. *Parameters to monitor*. Except as specified in 40 CFR 63.1258(b)(1)(i), for each control device, the owner or operator shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4 of 40 CFR 63 Subpart GGG and in 40 CFR 63.1258(b)(1)(ii) through (xi) [40 CFR 63.1258(b)(1)].

ii. *Averaging periods*. Averaging periods for parametric monitoring levels shall be established according to 40 CFR 63.1258(b)(2)(i) through (iii) [40 CFR 63.1258(b)(2)].

iii. *Monitoring for the alternative standards*. For control devices that are used to comply with the provisions of 40 CFR 63.1254(c), the owner or operator shall monitor and record the outlet TOC concentration and the outlet hydrogen halide and halogen concentration every 15 minutes during the period in which the device is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG. A TOC monitor meeting the requirements of Performance Specification 8 or 9 of appendix B of 40 CFR Part 60 shall be installed, calibrated, and maintained, according to 40 CFR 63.8. The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens [40 CFR 63.1258(b)(5)].

iv. *Exceedances of operating parameters*. Pursuant to 40 CFR 63.1258(b)(6), an exceedance of an

operating parameter is defined as one of the following:

A. If the parameter, averaged over the operating day or block, is below a minimum value established during the initial compliance demonstration [40 CFR 63.1258 (b)(6)(i)].

B. If the parameter, averaged over the operating day or block, is above the maximum value established during the initial compliance demonstration [40 CFR 63.1258(b)(6)(ii)].

C. Each loss of pilot flame for flares [40 CFR 63.1258(b)(6)(iii)].

v. *Excursions*. Pursuant to 40 CFR 63.1258(b)(7), excursions are defined by either of the two cases listed in Conditions 7.8.8(b)(v)(A) or (B) (see also 40 CFR 63.1258(b)(7)(i) or (ii)).

A. When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in Condition 7.8.8 (b)(v)(C) (see also 40 CFR 63.1258 (b)(7)(iii)), for at least 75 percent of the operating hours [40 CFR 63.1258 (b)(7)(i)].

B. When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data [40 CFR 63.1258(b)(7)(ii)].

C. Monitoring data are insufficient to constitute a valid hour of data, as used in Conditions 7.8.8(b)(v)(A) and (B) (see also 40 CFR 63.1258(b)(7)(i) and (ii)), if measured values are unavailable for any of the required 15-minute periods within the hour [40 CFR 63.1258(b)(7)(iii)].

vi. *Violations*. Pursuant to 40 CFR 63.1258(b)(8), exceedances of parameters monitored according to the provisions of 40 CFR 63.1258(b)(1)(ii)

and (iv) through (ix) or excursions as defined by Conditions 7.8.8(b)(v)(A) through (C) (see also 40 CFR 63.1258(b)(7)(i) through (iii)) constitute violations of the operating limit according to Conditions 7.8.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of 40 CFR 63.1258(b)(1)(x) constitute violations of the emission limit according to Conditions 7.8.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of Condition 7.8.8(b)(iii) (see also 40 CFR 63.1258 (b)(5)) constitute violations of the emission limit according to the provisions of Conditions 7.8.8(b)(vi)(C) and (D) (see also 40 CFR 63.1258 (b)(8)(iii) and (iv)).

A. Except as provided in Condition 7.8.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process [40 CFR 63.1258(b)(8)(i)].

B. Except as provided in Condition 7.8.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device, for each process for which the control device is in service [40 CFR 63.1258(b)(8)(ii)].

C. Except as provided in Condition 7.8.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device. Except as provided in Condition 7.8.8(b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv hydrogen halide or halogen outlet emission limit, averaged over the operating day, will result in no more

than one violation per day per control device [40 CFR 63.1258 (b)(8)(iii)].

D. Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur during a startup, shutdown, or malfunction, and the facility follows its startup, shutdown, and malfunction plan [40 CFR 63.1258 (b)(8)(iv)].

c. *Monitoring for emission limits*. The owner or operator of any affected source complying with the provisions of 40 CFR 63.1254(a)(1) shall demonstrate continuous compliance with the 2,000 lb/yr emission limits by calculating daily a 365-day rolling summation of emissions. For owners and operators opting to switch compliance strategy from the 93 percent control requirement to the 2,000 lb/yr compliance method, as described in 40 CFR 63.1254(a), the rolling average must include emissions from the past 365 days. Each day that the total emissions per process exceeds 2,000 lb/yr will be considered a violation of the emission limit [40 CFR 63.1258(c)].

7.8.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected chemical manufacturing unit to demonstrate compliance with Conditions 5.5.1, 5.5.3(b), 7.8.3, 7.8.5, and 7.8.6, pursuant to Section 39.5(7)(b) of the Act:

a. *Records of equipment operation*. Pursuant to 40 CFR 63.1259(b), the owner or operator must keep the following records up-to-date and readily accessible:

i. Each measurement of a control device operating parameter monitored in accordance with Condition 7.8.8 (see also 40 CFR 63.1258) [40 CFR 63.1259 (b)(1)].

ii. For each continuous monitoring system used to comply with 40 CFR 63 Subpart GGG, records documenting the completion of calibration checks and maintenance of continuous monitoring systems [40 CFR 63.1259(b)(3)].

iii. For processes in compliance with the 2,000 lb/yr emission limit of 40 CFR 63.1254(a)(1),

records of the rolling annual total emissions [40 CFR 63.1259(b)(4)].

iv. Pursuant to 40 CFR 63.1259(a)(5), records of the following, as appropriate:

A. The number of batches per year for each batch process [40 CFR 63.1259(a)(5)(i)].

B. The operating hours per year for continuous processes [40 CFR 63.1259 (a)(5)(ii)].

v. Uncontrolled and controlled emissions per batch for each process [40 CFR 63.1259(b)(6)].

vi. Wastewater concentration per POD or process [40 CFR 63.1259(b)(7)].

vii. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].

viii. Description of worst-case operating conditions as determined using the procedures described in 40 CFR 63.1257(b)(8) for control devices [40 CFR 63.1259(b)(10)].

b. *Records of operating scenarios*. The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with 40 CFR 63 Subpart GGG [40 CFR 63.1259(c)].

c. Records of the testing of the efficiency of each capture system and control device pursuant to Condition 7.8.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

d. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.8.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

   i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

   ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

   iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

   iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

e. Pursuant to 35 IAC 218.489(c), the following records shall be kept for emission units subject to Condition 7.8.5(a) (see also 35 IAC 218.484) which contain VOL:

   i. For maintenance and inspection:

      A. The date and time each cover is opened [35 IAC 218.489(c)(1)(A)];

      B. The length of time the cover remains open [35 IAC 218.489(c)(1)(B)]; and

      C. The reason why the cover is opened [35 IAC 218.489(c)(1)(C)].

   ii. For production and sampling, detailed written procedures or manufacturing directions specifying the circumstances under which covers may be opened and the procedures for opening covers [35 IAC 218.489(c)(2)].

f. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.8.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall:

   i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.8.4(a) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.8.4(a) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

g. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

h. The Permittee shall keep the following records for each product manufactured using the affected chemical manufacturing units. These records shall follow established techniques to calculate emissions:

i. A listing of the raw materials, process materials and associated air pollution control equipment used in making each product manufactured using affected chemical manufacturing units;

ii. A demonstration including engineering calculations for the HAP, PM, and VOM emissions generated for each process per batch of each product manufactured using affected chemical manufacturing units;

iii. A demonstration including engineering calculations for the HAP, PM, and VOM control efficiencies of air pollution control equipment, if any, and emissions to the atmosphere for any air pollution control equipment operating in a normal manner. This demonstration shall also show compliance with the control requirements of 35 IAC 218 Subpart T, if applicable to any of the affected chemical manufacturing units;

iv. The operating parameters of air pollution control equipment, if any, when operating normally (e.g., temperature of condenser cooling water supply); and

v. Methodologies for recalculating emissions from batches run during the malfunction of control equipment.

i. The Permittee shall keep the following records on a batch basis:

i. Records to show that air pollution control equipment is operated in a normal manner, as specified by the above records for a

particular product manufactured using affected chemical manufacturing units;

ii. Records of the number and size of batches run for each product manufactured using affected chemical manufacturing units. For this purpose, a batch shall be considered to run on the day the batch is initiated. Any batch terminated prematurely will be assumed to be a completed batch; and

iii. Records of the times and duration of any malfunction in any air pollution control equipment.

j. The Permittee shall keep the following records on a monthly basis, prepared by the 15th day of the following month:

i. Records of HAP, PM, and VOM emissions for each product manufactured using affected chemical manufacturing units in the month, determined by combining the above records for generated emissions, control efficiency (if control operated in a normal manner) and production rate;

ii. Records of HAP, PM, and VOM emissions for the month for each batch made using affected chemical manufacturing units during any malfunction of air pollution control equipment; and

iii. Records of the aggregate annual HAP, PM, and VOM emissions from the affected chemical manufacturing units for each month, determined from the sum of the current month's emissions and the emissions from the previous 11 months.

k. The Permittee shall maintain an On-Site Implementation Log (OSIL) which shall contain the following information with respect to the equipment changes authorized by Conditions 7.8.11(b) and (c):

i. Name and location of batch process with replacement component(s) or control device(s);

ii. Description of the component(s) or control device(s) replaced;

iii. Asset or identification number of replacement component(s) or control device(s);

iv. The effective size or capacity of the original and each replacement component;

v. The effective efficiencies of the original control device(s) and the replacement control device(s);

vi. Manufacturer(s) and model number(s) of the replacement component(s) or control device(s);

vii. The date of installation of the replacement component(s) or control device(s); and

viii. Other information as needed to show the change is within the scope of Condition 7.8.11(b) or (c).

7.8.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected chemical manufacturing unit with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. *Periodic reports*. Pursuant to 40 CFR 63.1260(g), an owner or operator shall prepare Periodic reports in accordance with Conditions 7.8.10(a)(i) and (ii) (see also 40 CFR 63.1260(g)(1) and (2)) and submit them to the Illinois EPA and/or USEPA.

i. *Submittal schedule*. Pursuant to 40 CFR 63.1260 (g)(1), Except as provided in Conditions 7.8.10 (a)(i)(A), (B), and (C) (see also 40 CFR 63.1260 (g)(1)(i), (ii) and (iii)), an owner or operator shall submit Periodic reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due.

A. When the Illinois EPA and/or USEPA determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source [40 CFR 63.1260 (g)(1)(i)]; or

B. When the monitoring data are used directly for compliance determination and the source experience excess emissions, in which case quarterly reports shall be submitted. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in 40 CFR 63.10(e)(3)(ii) and (iii) shall apply, except that the term "excess emissions and continuous monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of Condition 7.8.10 (see also 40 CFR 63.1260) [40 CFR 63.1260(g)(1)(ii)].

C. When a new operating scenario has been operated since the last report, in which case quarterly reports shall be submitted [40 CFR 63.1260(g)(1)(iii)].

ii. *Content of Periodic report.* Pursuant to 40 CFR 63.1260(g)(2), the owner or operator shall include the information in Conditions 7.8.10 (a)(ii)(A) through (D) (see also 40 CFR 63.1260 (g)(2)(i) through (vii)), as applicable.

A. Each Periodic report must include the information in 40 CFR 63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the information in 40 CFR 63.10(e)(3)(vi)(J) [40 CFR 63.1260(g)(2)(i)].

B. Pursuant to 40 CFR 63.1260(g)(2)(ii), if the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in Conditions 7.8.10(a)(ii)(B)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(ii)(A) through (D)).

I. Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(A)].

II. Duration of excursions, as defined in Condition 7.8.8(b)(v) (see also 40 CFR 63.1258(b)(7)) [40 CFR 63.1260(g)(2)(ii)(B)].

III. Operating logs and operating scenarios for all operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(C)].

IV. When a continuous monitoring system is used, the information required in 40 CFR 63.10(c)(5) through (13) [40 CFR 63.1260(g)(2)(ii)(D)].

C. Pursuant to 40 CFR 63.1260(g)(2)(v), the information in Conditions 7.8.10 (a)(ii)(C)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(v)(A) through (D)) shall be stated in the Periodic report, when applicable.

I. No excess emissions [40 CFR 63.1260 (g)(2)(v)(A)].

II. No exceedances of a parameter [40 CFR 63.1260(g)(2)(v)(B)].

III. No excursions [40 CFR 63.1260 (g)(2)(v)(C)].

IV. No continuous monitoring system has been inoperative, out of control, repaired, or adjusted [40 CFR 63.1260(g)(2)(v)(D)].

D. Each new operating scenario which has been operated since the time period covered by the last Periodic report. For

the initial Periodic report, each operating scenario for each process operated since the compliance date shall be submitted [40 CFR 63.1260(g)(2)(vii)].

b. *Notification of process change.*

i. Pursuant to 40 CFR 63.1260(h)(1), except as specified in Condition 7.8.10(b)(ii) (see also 40 CFR 63.1260(h)(2)), whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report quarterly. The report may be submitted as part of the next Periodic report required under Condition 7.8.10(a) (see also 40 CFR 63.1260(g)). The report shall include:

A. A brief description of the process change [40 CFR 63.1260(h)(1)(i)].

B. A description of any modifications to standard procedures or quality assurance procedures [40 CFR 63.1260(h)(1)(ii)].

C. Revisions to any of the information reported in the original Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) [40 CFR 63.1260(h)(1)(iii)].

D. Information required by the Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) for changes involving the addition of processes or equipment [40 CFR 63.1260(h)(1)(iv)].

ii. Pursuant to 40 CFR 63.1260(h)(2), an owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

A. Any change in the activity covered by the Precompliance report [40 CFR 63.1260 (h)(2)(i)].

B. A change in the status of a control device from small to large [40 CFR 63.1260 (h)(2)(ii)].

c. *Reports of startup, shutdown, and malfunction.* For the purposes of 40 CFR 63 Subpart GGG, the startup,

shutdown, and malfunction reports shall be submitted on the same schedule as the periodic reports required under Condition 7.8.10(a) (see also 40 CFR 63.1260(g)) instead of the schedule specified in 40 CFR 63.10 (d)(5)(i). These reports shall include the information specified in Condition 5.6.2(n)(iii)(A) through (C) (see also 40 CFR 63.1259(a)(3)(i) through (iii)) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in 40 CFR 63.10 (d)(4)(ii) [40 CFR 63.1260(i)].

d. *Notification of performance test and test plan*. The owner or operator of an affected source shall notify the Illinois EPA and/or USEPA of the planned date of a performance test at least 60 days before the test in accordance with 40 CFR 63.7(b). The owner or operator also must submit the test plan required by 40 CFR 63.7(c) and the emission profile required by 40 CFR 63.1257(b)(8)(ii) with the notification of the performance test [40 CFR 63.1260(l)].

e. *Request for extension of compliance*. An owner or operator may submit to the Illinois EPA and/or USEPA a request for an extension of compliance in accordance with 40 CFR 63.1250(f)(4) [40 CFR 63.1260(m)].

f. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

g. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.8.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.8.4(a) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

h. Emissions of PM and/or VOM in excess of the limits in Conditions 5.5.3(b), 7.8.3, and/or 7.8.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.8.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following changes with respect to the affected chemical manufacturing units without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification pursuant to regulations promulgated pursuant to Title I of the CAA (i.e., 40 CFR 52.21 and 35 IAC Part 203):

a. This permit is issued for production of pharmaceuticals, chemical intermediates for pharmaceutical products and pharmaceutical-like products such as hormones, enzymes and antibiotics. In addition to varying the quantities of such materials produced, the Permittee may change the types of such materials produced, making products not previously made in the affected fermentation chemical manufacturing units, or changing the process by which such materials are made, provided that Conditions 5.5, 7.8.3, or 7.8.6 are not violated.

b. The routine replacement of component parts for a batch process with the same or functionally similar component parts, provided there is no effective increase in the capacity of the batch process (i.e., like-kind replacement), provided that the replacements are not so extensive as to constitute reconstruction of the batch process and it can be demonstrated that emissions from the batch process remain in compliance with the limits specified in Conditions 5.5, 7.8.3, and 7.8.6 (e.g., reactor, receiver, tank, crystallizer, pump, distillation column, centrifuge, air dryer, vacuum dryer).

c. The replacement of control devices with control devices with the same or better effective efficiency, provided there is no increase in emissions over the limits specified in Conditions 5.5, 7.8.3, and 7.8.6 (e.g., vacuum jet, vacuum pump, condenser, scrubber and demister).

7.8.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.8.9 and the emission factors and formulas listed below:

a. Determinations of daily and annual emissions for purposes of Condition 7.8.4(a) (see also 35 IAC 218.480) shall be made using both data on the hourly emission rate (or the emissions per unit of throughput) and appropriate daily and annual data from records of emission unit operation (or material throughput or material consumption data). In the absence of representative test data pursuant to Condition 7.8.7(c) (see also 35 IAC 218.487) for the hourly emission rate (or the emissions per unit of throughput) such items shall be calculated using engineering calculations, including the methods described in Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/2-78-029). This Condition shall not affect the Illinois EPA's or the USEPA's authority to require emission tests to be performed pursuant to Condition 7.8.7(c) (see also 35 IAC 218.487)) [35 IAC 218.480(h)].

b. Compliance with Conditions 7.8.3(b) and (d) is assumed by proper operation of the condensers, steam jets, liquid ring pumps, and scrubber, as addressed by Condition 7.8.5(c).

c. To determine compliance with Conditions 5.5.1, 5.5.3(b), 7.8.3(e), and 7.8.6 VOM emissions from the affected chemical manufacturing units, calculations based on the formulas and procedures listed in either Appendix B of "Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products" (EPA-450/2-78-029) or "Control of Volatile Organic Compound Emissions from Batch Processes-Alternative Control Techniques Information Document" (EPA-450/R-94-020) are acceptable.

d. To determine compliance with Conditions 5.5.1, 5.5.3(b)(ii), and 7.8.3(d), PM emissions from the affected chemical manufacturing units shall be calculated based on the following:

$$ER = (PR) \times ((PRL) \times (100 - e))/100$$

Where:

ER = Emission rate (lb/hr)

PR = Production rate (lb/hr)

PRL = Material lost to the control device, %

e = Efficiency of the control device, %

7.9 Units CAPD C-3 Chemical Manufacturing Building C-3
Controls CAPD C-3 Condensers and Vacuum Pumps

7.9.1 Description

The equipment in Building C-3 is used exclusively for drying operations. Materials dried in this building were produced in other buildings at the source. No reactions take place here. Since no reactions take place in Building C-3, solvent loads are low. Dryer emissions are condensed in chilled shell and tube condensers installed on the vent stacks. Trace amounts of organic solvents are condensed by the vent condensers and discharged to the chemical sewer. Particulate matter emissions are negligible since all drying in Building C-3 is under vacuum, either by vacuum jet or by liquid ring vacuum pump. This area normally operates fifty-two weeks per year, but exact schedules are dependent upon operations in other parts of the source.

A variety of portable equipment is used in Building C-3 for batch process manufacturing. Portable equipment means single pieces of equipment that are mounted on wheels or skids so as to enable them to be moved from one process to another within a manufacturing building and from one manufacturing building to another. Portable equipment is divided into three categories: 1) vessels, including reactors, receivers, and tanks; 2) solid/liquid separation equipment, including dryers, centrifuges, and filters; 3) miscellaneous, including dust collectors, emission control equipment, oscillators, and sifters. Whenever a piece of portable equipment is used in a process, its emissions are calculated and included with the emissions for that process.

7.9.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
D-1150	560 Gallon Dryer (Dryer 272D1, PC-272)	After Condenser 272D1-AC; Dry Vacuum Pump 227D1-HP; Vent Condenser 272D1-VC; Liquid Ring Pump 272D2-LRP; and Vent Condenser 272D2-VC
D-1279	560 Gallon Dryer (Dryer 272D2, PC-272)	Liquid Ring Vacuum Pump 272D2-LRP and Vent Condenser 272D2-VC

Portable Equipment	Portable Vessels, Reactors, Receivers, Tanks, Solid/Liquid Separators, Filters, Centrifuges, Dryers, Mills, Sifters, and Oscillators	Scrubbers, Condensers, or Baghouses (as configured for the process)

7.9.3 Applicability Provisions and Applicable Regulations

a. The Building C-3 Dryers and Portable Equipment are "affected dryers" for the purpose of these unit-specific conditions.

b. Each affected dryer is subject to the emission limits identified in Condition 5.2.2.

c. The affected dryers are subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1254(a) for Process Vents at Existing Sources. The Illinois EPA is administering the NESHAP in Illinois on behalf of the USEPA under a delegation agreement. Pursuant to 40 CFR 63.1250(f)(1), an owner or operator of an existing affected source must comply with the provisions of 40 CFR 63 Subpart GGG within 3 years after September 21, 1998.

d. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

e. The affected dryers are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.9.3 (e)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

ii. Pursuant to 35 IAC 218.302, emissions of organic material in excess of those permitted by Condition 7.9.3(e)(i) (see also 35 IAC

218.301) are allowable if such emissions are controlled by one of the following methods:

A. A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)]; or

B. Any other air pollution control equipment approved by the Illinois EPA and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere [35 IAC 218.302(c)].

7.9.4 Non-Applicability of Regulations of Concern

a. The affected dryers are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

b. The affected dryers are not subject to the control requirements of 35 IAC 218.501, Control Requirements for Batch Operations, pursuant to 35 IAC 218.501 (b)(2), which excludes any emission unit included within the category specified in 35 IAC 218 Subpart T.

c. The affected dryers are not subject to 35 IAC 212.324, Process Emission Units In Certain Areas, because the source is not located in a non-attainment area for PM_{10}, as identified in 35 IAC 212.324(a)(1).

7.9.5 Operational and Production Limits and Work Practices

a. The owner or operator shall install covers on all in-process tanks used to manufacture pharmaceuticals and

containing a VOL at any time. These covers must remain closed, except as production, sampling, maintenance or inspection procedures require operator access [35 IAC 218.484].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The Permittee shall follow good operating practices for the condensers and vacuum pumps including periodic inspection, routine maintenance and prompt repair of defects.

d. The affected chemical dryers are not restricted to using the specific air control equipment listed in Condition 7.9.2, so long as emissions are kept below the applicable limits specified in Conditions 5.5 and 7.9.3.

7.9.6 Emission Limitations

There are no specific emission limitations for these units, however, there are source wide emission limitations in Condition 5.5 that include these units.

7.9.7 Testing Requirements

a. *General*. Except as specified in 40 CFR 63.1257(a)(5), the procedures specified in 40 CFR 63.1257(d) and (f) are required to demonstrate initial compliance with 40 CFR 63.1254 and 63.1252(e), respectively. The provisions in 40 CFR 63.1257(a)(2) apply to performance tests that are specified in 40 CFR 63.1257(d). The provisions in 40 CFR 63.1257(a)(5) are used to demonstrate initial compliance with the alternative standards specified in 40 CFR 63.1254(c). The provisions in 40 CFR 63.1257(a)(6) are used to comply with the outlet concentration requirements specified in 40 CFR 63.1254(a)(2)(i) and (a)(3)(ii)(B) [40 CFR 63.1257(a)].

b. *Test methods*. When testing is conducted to measure emissions from an affected source, the test methods specified in 40 CFR 63.1257(b)(1) through (10) shall be used [40 CFR 63.1257(b)].

c. Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.9.4(a) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in Condition 7.9.7 (d)(i)(A) (see also 35 IAC 218.105(f)(1)) [35 IAC 218.487].

d. Pursuant to 35 IAC 218.105(d)(1) and Section 39.5(7)(b) of the Act, the control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified below (see also 35 IAC 218.105(f)):

i. Volatile Organic Material Gas Phase Source Test Methods The methods in 40 CFR Part 60, Appendix A, delineated below shall be used to determine control device efficiencies [35 IAC 218.105(f)].

A. CFR Part 60, Appendix A, Method 18, 25 or 25A, as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. The test shall consist of three separate runs, each lasting a minimum of 60 min, unless the Illinois EPA and the USEPA determine that process variables dictate shorter sampling times [35 IAC 218.105(f)(1)].

B. 40 CFR Part 60, Appendix A, Method 1 or 1A shall be used for sample and velocity traverses [35 IAC 218.105(f)(2)].

C. 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D shall be used for velocity and volumetric flow rates [35 IAC 218.105(f)(3)].

D. 40 CFR Part 60, Appendix A, Method 3 shall be used for gas analysis [35 IAC 218.105(f)(4)].

E. 40 CFR Part 60, Appendix A, Method 4 shall be used for stack gas moisture [35 IAC 218.105(f)(5)].

F. 40 CFR Part 60, Appendix A, Methods 2, 2A, 2C, 2D, 3 and 4 shall be performed, as applicable, at least twice during each test run [35 IAC 218.105(f)(6)].

G. Use of an adaptation to any of the test methods specified in Conditions 7.9.7 (d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) may not be used unless approved by the Illinois EPA and the USEPA on a case by case basis. An owner or operator must submit sufficient documentation for the Illinois EPA and the USEPA to find that the test methods specified in Conditions 7.9.7(d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) will yield inaccurate results and that the proposed adaptation is appropriate [35 IAC 218.105(f)(7)].

ii. Notwithstanding other requirements of 35 IAC Part 218, upon request of the Illinois EPA where it is necessary to demonstrate compliance, an owner or operator of an emission unit which is subject to 35 IAC Part 218 shall, at his own expense, conduct tests in accordance with the applicable test methods and procedures specific in 35 IAC Part 218. Nothing in this Condition (see also 35 IAC 218.105) shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing [35 IAC 218.105(i)].

7.9.8 Monitoring Requirements

a. The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard as specified in 40 CFR 63.1258. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish the operating parameter level [40 CFR 63.1258(a)].

b. *Monitoring for control devices*.

i. *Parameters to monitor*. Except as specified in 40 CFR 63.1258(b)(1)(i), for each control device, the owner or operator shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4 of 40 CFR 63 Subpart GGG and in 40 CFR 63.1258(b)(1)(ii) through (xi) [40 CFR 63.1258(b)(1)].

ii. *Averaging periods*. Averaging periods for parametric monitoring levels shall be established according to 40 CFR 63.1258(b)(2)(i) through (iii) [40 CFR 63.1258(b)(2)].

iii. *Monitoring for the alternative standards*. For control devices that are used to comply with the provisions of 40 CFR 63.1254(c), the owner or operator shall monitor and record the outlet TOC concentration and the outlet hydrogen halide and halogen concentration every 15 minutes during the period in which the device is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG. A TOC monitor meeting the requirements of Performance Specification 8 or 9 of appendix B of 40 CFR Part 60 shall be installed, calibrated, and maintained, according to 40 CFR 63.8. The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens [40 CFR 63.1258(b)(5)].

iv. *Exceedances of operating parameters*. Pursuant to 40 CFR 63.1258(b)(6), an exceedance of an operating parameter is defined as one of the following:

A. If the parameter, averaged over the operating day or block, is below a minimum value established during the initial compliance demonstration [40 CFR 63.1258 (b)(6)(i)].

B. If the parameter, averaged over the operating day or block, is above the maximum value established during the

initial compliance demonstration [40 CFR 63.1258(b)(6)(ii)].

C. Each loss of pilot flame for flares [40 CFR 63.1258(b)(6)(iii)].

v. *Excursions*. Pursuant to 40 CFR 63.1258(b)(7), excursions are defined by either of the two cases listed in Conditions 7.9.8(b)(v)(A) or (B) (see also 40 CFR 63.1258(b)(7)(i) or (ii)).

A. When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in Condition 7.9.8 (b)(v)(C) (see also 40 CFR 63.1258 (b)(7)(iii)), for at least 75 percent of the operating hours [40 CFR 63.1258 (b)(7)(i)].

B. When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data [40 CFR 63.1258(b)(7)(ii)].

C. Monitoring data are insufficient to constitute a valid hour of data, as used in Conditions 7.9.8(b)(v)(A) and (B) (see also 40 CFR 63.1258(b)(7)(i) and (ii)), if measured values are unavailable for any of the required 15-minute periods within the hour [40 CFR 63.1258(b)(7)(iii)].

vi. *Violations*. Pursuant to 40 CFR 63.1258(b)(8), exceedances of parameters monitored according to the provisions of 40 CFR 63.1258(b)(1)(ii) and (iv) through (ix) or excursions as defined by Conditions 7.9.8(b)(v)(A) through (C) (see also 40 CFR 63.1258(b)(7)(i) through (iii)) constitute violations of the operating limit according to Conditions 7.9.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of 40 CFR 63.1258(b)(1)(x) constitute violations of the emission limit according to Conditions 7.9.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i),

(ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of Condition 7.9.8(b)(iii) (see also 40 CFR 63.1258(b)(5)) constitute violations of the emission limit according to the provisions of Conditions 7.9.8(b)(vi)(C) and (D) (see also 40 CFR 63.1258 (b)(8)(iii) and (iv)).

A. Except as provided in Condition 7.9.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process [40 CFR 63.1258(b)(8)(i)].

B. Except as provided in Condition 7.9.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device, for each process for which the control device is in service [40 CFR 63.1258(b)(8)(ii)].

C. Except as provided in Condition 7.9.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device. Except as provided in Condition 7.9.8(b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv hydrogen halide or halogen outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device [40 CFR 63.1258 (b)(8)(iii)].

D. Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur during a startup, shutdown, or malfunction, and the facility follows its startup, shutdown, and malfunction plan [40 CFR 63.1258 (b)(8)(iv)].

c. *Monitoring for emission limits*. The owner or operator of any affected source complying with the provisions of 40 CFR 63.1254(a)(1) shall demonstrate continuous compliance with the 2,000 lb/yr emission limits by calculating daily a 365-day rolling summation of emissions. For owners and operators opting to switch compliance strategy from the 93 percent control requirement to the 2,000 lb/yr compliance method, as described in 40 CFR 63.1254(a), the rolling average must include emissions from the past 365 days. Each day that the total emissions per process exceeds 2,000 lb/yr will be considered a violation of the emission limit [40 CFR 63.1258(c)].

7.9.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected dryer to demonstrate compliance with Conditions 5.5.1, 5.5.3(b), 7.9.3, and 7.9.5, pursuant to Section 39.5(7)(b) of the Act:

a. *Records of equipment operation*. Pursuant to 40 CFR 63.1259(b), the owner or operator must keep the following records up-to-date and readily accessible:

i. Each measurement of a control device operating parameter monitored in accordance with Condition 7.9.8 (see also 40 CFR 63.1258) [40 CFR 63.1259 (b)(1)].

ii. For each continuous monitoring system used to comply with 40 CFR 63 Subpart GGG, records documenting the completion of calibration checks and maintenance of continuous monitoring systems [40 CFR 63.1259(b)(3)].

iii. For processes in compliance with the 2,000 lb/yr emission limit of 40 CFR 63.1254(a)(1), records of the rolling annual total emissions [40 CFR 63.1259(b)(4)].

iv. Pursuant to 40 CFR 63.1259(a)(5), records of the following, as appropriate:

A. The number of batches per year for each batch process [40 CFR 63.1259(a)(5)(i)].

B. The operating hours per year for continuous processes [40 CFR 63.1259 (a)(5)(ii)].

v. Uncontrolled and controlled emissions per batch for each process [40 CFR 63.1259(b)(6)].

vi. Wastewater concentration per POD or process [40 CFR 63.1259(b)(7)].

vii. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].

viii. Description of worst-case operating conditions as determined using the procedures described in 40 CFR 63.1257(b)(8) for control devices [40 CFR 63.1259(b)(10)].

b. *Records of operating scenarios*. The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with 40 CFR 63 Subpart GGG [40 CFR 63.1259(c)].

c. Records of the testing of the efficiency of each capture system and control device pursuant to Condition 7.9.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

d. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.9.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

e. Pursuant to 35 IAC 218.489(c), the following records shall be kept for emission units subject to Condition 7.9.5(a) (see also 35 IAC 218.484) which contain VOL:

i. For maintenance and inspection:

A. The date and time each cover is opened [35 IAC 218.489(c)(1)(A)];

B. The length of time the cover remains open [35 IAC 218.489(c)(1)(B)]; and

C. The reason why the cover is opened [35 IAC 218.489(c)(1)(C)].

ii. For production and sampling, detailed written procedures or manufacturing directions specifying the circumstances under which covers may be opened and the procedures for opening covers [35 IAC 218.489(c)(2)].

f. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.9.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.9.4(a) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.9.4(a) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

g. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

h. The Permittee shall keep the following records for each product manufactured using the affected dryers.

These records shall follow established techniques to calculate emissions:

i. A listing of the raw materials, process materials and associated air pollution control equipment used in making each product manufactured using affected dryers;

ii. A demonstration including engineering calculations for the HAP, PM, and VOM emissions generated for each process per batch of each product manufactured using affected dryers;

iii. A demonstration including engineering calculations for the HAP, PM, and VOM control efficiencies of air pollution control equipment, if any, and emissions to the atmosphere for any air pollution control equipment operating in a normal manner. This demonstration shall also show compliance with the control requirements of 35 IAC 218 Subpart T, if applicable to any of the affected dryers;

iv. The operating parameters of air pollution control equipment, if any, when operating normally (e.g., temperature of condenser cooling water supply); and

v. Methodologies for recalculating emissions from batches run during the malfunction of control equipment.

i. The Permittee shall keep the following records on a batch basis:

i. Records to show that air pollution control equipment is operated in a normal manner, as specified by the above records for a particular product manufactured using affected dryers;

ii. Records of the number and size of batches run for each product manufactured using affected dryers. For this purpose, a batch shall be considered to run on the day the batch is initiated. Any batch terminated prematurely will be assumed to be a completed batch; and

iii. Records of the times and duration of any malfunction in any air pollution control equipment.

j. The Permittee shall keep the following records on a monthly basis, prepared by the 15th day of the following month:

   i. Records of HAP, PM, and VOM emissions for each product manufactured using affected dryers in the month, determined by combining the above records for generated emissions, control efficiency (if control operated in a normal manner) and production rate;

   ii. Records of HAP, PM, and VOM emissions for the month for each batch made using affected dryers during any malfunction of air pollution control equipment; and

   iii. Records of the aggregate annual HAP, PM, and VOM emissions from the affected dryers for each month, determined from the sum of the current month's emissions and the emissions from the previous 11 months.

k. The Permittee shall maintain an On-Site Implementation Log (OSIL) which shall contain the following information with respect to the equipment changes authorized by Conditions 7.9.11(b) and (c):

   i. Name and location of batch process with replacement component(s) or control device(s);

   ii. Description of the component(s) or control device(s) replaced;

   iii. Asset or identification number of replacement component(s) or control device(s);

   iv. The effective size or capacity of the original and each replacement component;

   v. The effective efficiencies of the original control device(s) and the replacement control device(s);

   vi. Manufacturer(s) and model number(s) of the replacement component(s) or control device(s);

   vii. The date of installation of the replacement component(s) or control device(s); and

   viii. Other information as needed to show the change is within the scope of Condition 7.9.11(b) or (c).

7.9.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected dryers with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. *Periodic reports*. Pursuant to 40 CFR 63.1260(g), an owner or operator shall prepare Periodic reports in accordance with Conditions 7.9.10(a)(i) and (ii) (see also 40 CFR 63.1260(g)(1) and (2)) and submit them to the Illinois EPA and/or USEPA.

i. *Submittal schedule*. Pursuant to 40 CFR 63.1260 (g)(1), Except as provided in Conditions 7.9.10 (a)(i)(A), (B), and (C) (see also 40 CFR 63.1260 (g)(1)(i), (ii) and (iii)), an owner or operator shall submit Periodic reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due.

A. When the Illinois EPA and/or USEPA determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source [40 CFR 63.1260 (g)(1)(i)]; or

B. When the monitoring data are used directly for compliance determination and the source experience excess emissions, in which case quarterly reports shall be submitted. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in 40 CFR 63.10(e)(3)(ii) and (iii) shall apply, except that the term "excess emissions and continuous monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of Condition 7.9.10 (see also 40 CFR 63.1260) [40 CFR 63.1260(g)(1)(ii)].

C. When a new operating scenario has been operated since the last report, in which case quarterly reports shall be submitted [40 CFR 63.1260(g)(1)(iii)].

ii. *Content of Periodic report.* Pursuant to 40 CFR 63.1260(g)(2), the owner or operator shall include the information in Conditions 7.9.10 (a)(ii)(A) through (D) (see also 40 CFR 63.1260 (g)(2)(i) through (vii)), as applicable.

A. Each Periodic report must include the information in 40 CFR 63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the information in 40 CFR 63.10(e)(3)(vi)(J) [40 CFR 63.1260(g)(2)(i)].

B. Pursuant to 40 CFR 63.1260(g)(2)(ii), if the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in Conditions 7.9.10(a)(ii)(B)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(ii)(A) through (D)).

I. Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(A)].

II. Duration of excursions, as defined in Condition 7.9.8(b)(v) (see also 40 CFR 63.1258(b)(7)) [40 CFR 63.1260(g)(2)(ii)(B)].

III. Operating logs and operating scenarios for all operating scenarios for all operating days

when the values are outside the levels established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(C)].

IV. When a continuous monitoring system is used, the information required in 40 CFR 63.10(c)(5) through (13) [40 CFR 63.1260(g)(2)(ii)(D)].

C. Pursuant to 40 CFR 63.1260(g)(2)(v), the information in Conditions 7.9.10 (a)(ii)(C)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(v)(A) through (D)) shall be stated in the Periodic report, when applicable.

I. No excess emissions [40 CFR 63.1260 (g)(2)(v)(A)].

II. No exceedances of a parameter [40 CFR 63.1260(g)(2)(v)(B)].

III. No excursions [40 CFR 63.1260 (g)(2)(v)(C)].

IV. No continuous monitoring system has been inoperative, out of control, repaired, or adjusted [40 CFR 63.1260(g)(2)(v)(D)].

D. Each new operating scenario which has been operated since the time period covered by the last Periodic report. For the initial Periodic report, each operating scenario for each process operated since the compliance date shall be submitted [40 CFR 63.1260(g)(2)(vii)].

b. *Notification of process change*.

i. Pursuant to 40 CFR 63.1260(h)(1), except as specified in Condition 7.9.10(b)(ii) (see also 40 CFR 63.1260(h)(2)), whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report quarterly. The report may be submitted as part of the next Periodic report required under Condition 7.9.10(a) (see also 40 CFR 63.1260(g)). The report shall include:

A. A brief description of the process change [40 CFR 63.1260(h)(1)(i)].

B. A description of any modifications to standard procedures or quality assurance procedures [40 CFR 63.1260(h)(1)(ii)].

C. Revisions to any of the information reported in the original Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) [40 CFR 63.1260(h)(1)(iii)].

D. Information required by the Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) for changes involving the addition of processes or equipment [40 CFR 63.1260(h)(1)(iv)].

ii. Pursuant to 40 CFR 63.1260(h)(2), an owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

A. Any change in the activity covered by the Precompliance report [40 CFR 63.1260 (h)(2)(i)].

B. A change in the status of a control device from small to large [40 CFR 63.1260 (h)(2)(ii)].

c. *Reports of startup, shutdown, and malfunction*. For the purposes of 40 CFR 63 Subpart GGG, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the periodic reports required under Condition 7.9.10(a) (see also 40 CFR 63.1260(g)) instead of the schedule specified in 40 CFR 63.10(d)(5)(i). These reports shall include the information specified in Condition 5.6.2(n)(iii)(A) through (C) (see also 40 CFR 63.1259(a)(3)(i) through (iii)) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in 40 CFR 63.10 (d)(4)(ii) [40 CFR 63.1260(i)].

d. *Notification of performance test and test plan*. The owner or operator of an affected source shall notify the Illinois EPA and/or USEPA of the planned date of a performance test at least 60 days before the test in accordance with 40 CFR 63.7(b). The owner or operator also must submit the test plan required by 40 CFR 63.7(c) and the emission profile required by 40 CFR 63.1257(b)(8)(ii) with the notification of the performance test [40 CFR 63.1260(l)].

e. *Request for extension of compliance*. An owner or operator may submit to the Illinois EPA and/or USEPA a request for an extension of compliance in accordance with 40 CFR 63.1250(f)(4) [40 CFR 63.1260(m)].

f. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

g. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.9.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.9.4(a) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

h. Emissions of PM and/or VOM in excess of the limits in Conditions 5.5.3(b) and/or 7.9.3 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.9.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following changes with respect to the affected dryers without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee’s obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification pursuant to regulations promulgated pursuant to Title I of the CAA (i.e., 40 CFR 52.21 and 35 IAC Part 203):

a. This permit is issued for production of pharmaceuticals, chemical intermediates for

pharmaceutical products and pharmaceutical-like products such as hormones, enzymes and antibiotics. In addition to varying the quantities of such materials produced, the Permittee may change the types of such materials produced, making products not previously made in the affected fermentation chemical manufacturing units, or changing the process by which such materials are made, provided that Conditions 5.5 or 7.9.3 are not violated.

b. The replacement of component parts for a batch process with the same or functionally similar component parts, provided there is no effective increase in the capacity of the batch process (i.e., like-kind replacement), provided that the replacements are not so extensive as to constitute reconstruction of the batch process and it can be demonstrated that emissions from the batch process remain in compliance with the limits specified in Conditions 5.5 and 7.9.3 (e.g., reactor, receiver, tank, crystallizer, pump, distillation column, centrifuge, air dryer, vacuum dryer).

c. The replacement of control devices with control devices with the same or better effective efficiency, provided there is no increase in emissions over the limits specified in Conditions 5.5 and 7.9.3 (e.g., vacuum jet, vacuum pump, condenser, scrubber and demister).

7.9.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.9.9 and the emission factors and formulas listed below:

a. Determinations of daily and annual emissions for purposes of Condition 7.9.4(a) (see also 35 IAC 218.480) shall be made using both data on the hourly emission rate (or the emissions per unit of throughput) and appropriate daily and annual data from records of emission unit operation (or material throughput or material consumption data). In the absence of representative test data pursuant to Condition 7.9.7(c) (see also 35 IAC 218.487) for the hourly emission rate (or the emissions per unit of throughput) such items shall be calculated using engineering calculations, including the methods described in Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/2-78-029). This Condition shall not affect the Illinois EPA's or the USEPA's authority to require emission tests to be

performed pursuant to Condition 7.9.7(c) (see also 35 IAC 218.487)) [35 IAC 218.480(h)].

b. Compliance with Conditions 7.9.3(b) and (d) is assumed by proper operation of the condensers and vacuum pumps, as addressed by Condition 7.9.5(c).

c. To determine compliance with Conditions 5.5.1, 5.5.3(b), and 7.9.3(e), VOM emissions from the affected chemical manufacturing units calculations based on the formulas and procedures listed in either Appendix B of "Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products" (EPA-450/2-78-029) or "Control of Volatile Organic Compound Emissions from Batch Processes-Alternative Control Techniques Information Document" (EPA-450/R-94-020) are acceptable.

d. To determine compliance with Conditions 5.5.1, 5.5.3(b)(ii), and 7.9.3(d), PM emissions from the affected chemical manufacturing units shall be calculated based the following:

$$ER = (PR) \times ((PRL) \times (100 - e))/100$$

Where:

ER = Emission rate (lb/hr)

PR = Production rate (lb/hr)

PRL = Material lost to the control device, %

e = Efficiency of the control device, %

7.10 Units CAPD C-6 & C-7 Chemical Manufacturing Buildings C-6 and C-7
Controls CAPD C-6 & C-7 Scrubbers, Condensers, Demister, Vacuum Pumps, Steam Jets, and Dust Collectors

7.10.1 Description

The equipment in Buildings C-6 and C-7 is used to produce a wide variety of pharmaceutical and pharmaceutical-like products via batch chemical processing techniques, termed Chemical Manufacturing by the source. Typical pharmaceutical compound production requires numerous chemical reactions and mechanical separations to form the needed complex chemical molecules of active drug. The chemical synthesis of pharmaceuticals may require from several days to several weeks to complete a single batch of product. The number and type of individual process steps varies greatly depending upon the particular pharmaceutical compound. For example, a single piece of process equipment may be used several different times during different stages of the production campaign to produce a single product, and each step will be different from all the others.

Batch pharmaceutical production using chemical synthesis methods typically employs several different unit processes, such as reactions, distillation, crystallization, separation, drying, and milling steps. Each step must be carefully controlled to produce the desired product at the desired quality. Solvents are typically employed in the reaction, distillation and purification steps of the process. A batch refers to the production of a single product, from beginning to the end, following the manufacturing directions. Production is usually scheduled in short term campaigns consisting of one or more batches. The number of batches needed to produce a given amount of pharmaceutical product is dependent upon the complexity of the manufacturing processes, the size of the equipment available, and the purity desired. As many as one hundred individual steps or unit processes may be required for a single batch. Although the end uses of pharmaceuticals are in the milligram per dose range, the bulk production of pharmaceuticals may produce hundreds of pounds of the material per batch. For some products, batches of a production campaign may produce enough product to satisfy world-wide demand for one or more years. For the more common antibiotics, the demand can exceed thousands of kilograms per year. The pharmaceutical needs of the world are extremely variable and unpredictable. For example, spring and fall flu seasons will create a seasonal demand for antibiotics, of which the exact volume will be dependent on how many people get sick. Therefore, it is nearly impossible for the source to predict and

subsequently plan the amount of particular pharmaceutical to make in a given year, or part of the year. In summary, the chemical synthesis of pharmaceuticals is, by necessity, a small batch process system which must operate with extreme flexibility, and quick responsiveness of the source to market demands.

A variety of portable equipment is used in Buildings C-6 and C-7 for batch process manufacturing. Portable equipment means single pieces of equipment that are mounted on wheels or skids so as to enable them to be moved from one process to another within a manufacturing building and from one manufacturing building to another. Portable equipment is divided into three categories: 1) vessels, including reactors, receivers, and tanks; 2) solid/liquid separation equipment, including dryers, centrifuges, and filters; 3) miscellaneous, including dust collectors, emission control equipment, oscillators, and sifters. Whenever a piece of portable equipment is used in a process, its emissions are calculated and included with the emissions for that process.

7.10.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
224-PC	Process Condenser 224-PC (PC-224, Building C-6)	Scrubbers 100-SC and 200-SC; Vent Condenser 224-VC; and Demister DM101-ME
227-PC	Process Condenser 227-PC (Asset #LC-******, PC-227, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 214-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 214-SJ; Vent Condenser 227-VC; and Demister DM101-ME
A-0105	Centrifuge 265C (PC-265, Building C-7)	Scrubbers 100-SC and 300-SC; and Demister DM101-ME
A-0134	Centrifuge 255C (PC-255, Building C-6)	Scrubbers 100-SC and 200-SC; and Demister DM101-ME
A-0167	Centrifuge 226C (PC-226, Building C-6)	Scrubbers 100-SC and 212-SC; and Demister DM101-ME
A-0178	Centrifuge 268C (PC-268, Building C-7)	Scrubbers 100-SC and 300-SC; and Demister DM101-ME

Emission Unit	Description	Emission Control Equipment
A-0695	Centrifuge 205C (PC-205, Building C-6)	Scrubbers 100-SC and 212-SC; and Demister DM101-ME
A-1000	Centrifuge 284C (PC-284, Building C-7)	None
B-0520	Process Condenser 261-PC (PC-261, Building C-7)	Scrubbers 100-SC and 300-SC; Vent Condenser 261-VC; After Condenser 267-AC; Steam Jets 267-SJ1 and 267-SJ2; and Demister DM101-ME
B-1592	Process Condenser 204-PC (PC-204, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; Vent Condenser 204-VC; and Demister DM101-ME
B-2147	Process Condenser 228-PC (PC-228, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 208-SJ, 209-SJ1, and 209-SJ2; and Demister DM101-ME
B-2179	Process Condenser 229-PC (PC-229, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 229-SJ; and Demister DM101-ME
B-2257	Process Condenser 282-PC (PC-282, Building C-7)	After Condenser 282-AC; Steam Jet 282-SJ; Surge Tank 282SU; and Vent Condenser 282-VC

Emission Unit	Description	Emission Control Equipment
B-2258	Process Condenser 281-PC (PC-281, Building C-7)	Scrubbers 100-SC, 102-SC, and 300-SC; After Condenser 280-AC; Steam Jet 280-SJ; Vent Condenser 281-VC; and Demister DM101-ME
B-2259	Process Condenser 280-PC (PC-280, Building C-7)	Scrubbers 100-SC, 102-SC, and 300-SC; After Condenser 280-AC; Steam Jet 280-SJ; Vent Condenser 280-VC; and Demister DM101-ME
B-2457	Process Condenser 283-PC (PC-283, Building C-7)	Scrubbers 100-SC, 102-SC, and 300-SC; Inter Condenser 283-IC; Liquid Ring Pump 283-LRP; Steam Jets 283-SJ1, and 283-SJ2; Vent Condenser 283-VC; and Demister DM101-ME
B-2482	Process Condenser 207-PC (PC-207, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 214-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 214-SJ; Vent Condenser 207-VC; and Demister DM101-ME
B-2511	Process Condenser 210-PC (PC-210, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; Vent Condenser 210-VC; and Demister DM101-ME

Emission Unit	Description	Emission Control Equipment
B-2512	Process Condenser 215-PC (PC-215, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; Vent Condenser 215-VC; and Demister DM101-ME
B-2529	Process Condenser 262-PC (Building C-7)	Scrubbers 100-SC and 300-SC; Vent Condenser 262-VC; After Condenser 267-AC; Steam Jets 267-SJ1 and 267-SJ2; and Demister DM101-ME
B-2530	Process Condenser 264-PC (PC-264, Building C-7)	Scrubbers 100-SC and 300-SC; Vent Condenser 264-VC; After Condenser 267-AC; Steam Jets 267-SJ1 and 267-SJ2; and Demister DM101-ME
B-2598	Process Condenser 258-PC (PC-258, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 253-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, 253-SJ, and 256-SJ; Vent Condenser 258-VC; and Demister DM101-ME
FJ-8031	Evaporator 229E (PC-229, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 229-SJ; and Demister DM101-ME

Emission Unit	Description	Emission Control Equipment
FK-1834	100 Gallon Receiver (Receiver 251R, PC-251, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 253-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 253-SJ; Vent Condenser 251-VC; and Demister DM101-ME
FK-1835	100 Gallon Receiver (Receiver 224R1, PC-224, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 224-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 224-SJ; Vent Condenser 224-VC; and Demister DM101-ME
FK-1836	100 Gallon Receiver (Receiver 204R, PC-204, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; Vent Condenser 204-VC; and Demister DM101-ME
LC-900738	70 Gallon Process Condenser (Process Condenser 256-PC, PC-256, Building C-6)	Scrubbers 100-SC and 212-SC; Steam Jet 256-SJ; Vent Condenser 256-VC; and Demister DM101-ME

Emission Unit	Description	Emission Control Equipment
LC-900739	117 Gallon Process Condenser (Process Condenser 214-PC, PC-214, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 214-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 214-SJ; Vent Condenser 214-VC; and Demister DM101-ME
LC-902565	123 Gallon Process Condenser (Process Condenser 219-PC, PC-219, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; Vent Condenser 219-VC; and Demister DM101-ME
LC-902759	Process Condenser 263-PC (PC-263, Building C-7)	Scrubbers 100-SC and 300-SC; Vent Condenser 263-VC; After Condenser 267-AC; Steam Jets 267-SJ1 and 267-SJ2; and Demister DM101-ME
LC-902828	100 Gallon Process Condenser (Process Condenser 251-PC, PC-251, Building C-6)	Scrubbers 100-SC and 212-SC; Vent Condenser 251-VC; After Condenser 253-AC; Steam Jet 253-SJ; and Demister DM101-ME
LC-903563	Process Condenser 225-PC (PC-225, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; Vent Condenser 225-VC; and Demister DM101-ME

Emission Unit	Description	Emission Control Equipment
LC-909891 PC-253	100 Gallon Process Condenser (Process Condenser 253-PC, PC-253, Building C-6)	Scrubbers 100-SC and 212-SC; After Condenser 253-AC; Steam Jet 253-SJ; and Demister DM101-ME
LC-918024	117 Gallon Process Condenser (Process Condenser 208-PC, PC-208, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 208-SJ, and 209-SJ1, 209-SJ2; Vent Condenser 208-VC; and Demister DM101-ME
LC-919325	500 Gallon Reactor (Reactor 256, PC-256, Building C-6)	Scrubbers 100-SC and 212-SC; Steam Jet 256-SJ; Vent Condenser 256-VC; and Demister DM101-ME
LC-944449	500 Gallon Reactor (Reactor 204, PC-204, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; Vent Condenser 204-VC; and Demister DM101-ME
LC-946440	149 Gallon Process Condenser (Process Condenser 227-PC, PC-227, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 214-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 214-SJ; Vent Condenser 227-VC; and Demister DM101-ME

Emission Unit	Description	Emission Control Equipment
NN-9271	100 Gallon Wash Tank (Tank 226WT, PC-226, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; and Demister DM101-ME
Q-1805	300 Gallon Receiver (Receiver 227R, PC-227, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steams Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; and Demister DM101-ME
Q-2672	100 Gallon Drop Tank (Tank 224DT, PC-224, Building C-6)	None
Q-2945	100 Gallon Wash Tank (Tank 205WT, PC-205, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; and Demister DM101-ME
Q-2954	1,500 Gallon Reactor (Reactor 261, PC-261, Building C-7)	Scrubbers 100-SC and 300-SC; Vent Condenser 261-VC; After Condenser 267-AC; Steam Jets 267-SJ1 and 267-SJ2; and Demister DM101-ME
Q-2955	1,500 Gallon Reactor (Reactor 225, PC-225, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; Vent Condenser 225-VC; and Demister DM101-ME

Emission Unit	Description	Emission Control Equipment
Q-2992	1,000 Gallon Reactor (Reactor 227, PC-227, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 214-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 214-SJ; Vent Condenser 227-VC; and Demister DM101-ME
Q-3118	100 Gallon Drop Tank (Tank 261DT, PC-261, Building C-7)	Scrubbers 100-SC and 300-SC; After Condenser 267-AC; Steam Jets 267-SJ1 and 267-SJ2; and VS600SU; and Demister DM101-ME
Q-3120	1,500 Gallon Receiver (Receiver 261R, Building C-7)	Scrubbers 100-SC and 300-SC; After Condenser 267-AC; Steam Jets 267-SJ1 and 267-SJ2; and Demister DM101-ME
Q-3127	650 Gallon Reactor (Reactor 251, PC-251, Building C-6)	Scrubbers 100-SC and 212-SC; Vent Condenser 251-VC; After Condenser 253-AC; Steam Jet 253-SJ; and Demister DM101-ME
Q-3179	Wash Tank (Tank 255WT, PC-255, Building C-6)	After Condenser 214-AC and Steam Jet 214-SJ
Q-3296	1,500 Gallon Reactor (Reactor 228, PC-228, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 208-SJ, 209-SJ1, and 209-SJ2; and Demister DM101-ME

Emission Unit	Description	Emission Control Equipment
Q-3297	500 Gallon Reactor (Reactor 229, PC-229, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 229-SJ; and Demister DM101-ME
Q-3298	100 Gallon Receiver (Receiver 229R, PC-229, Building C-6)	None
Q-3300	20 Gallon Feed Tank (Tank 229FT, PC-229, Building C-6)	None
Q-3301	Wash Tank (Tank 229WT, PC-229, Building C-6)	None
Q-3378	2,000 Gallon Receiver (Receiver 288R, PC-288, Building C-7)	After Condenser 285D-AC; Liquid Ring Vacuum Pump 285D-LRP; and Vent Condenser 285D-VC
Q-3379	1,500 Gallon Reactor (Reactor 281, PC-281, Building C-7)	Scrubbers 100-SC, 102-SC, and 300-SC; After Condenser 280-AC; Steam Jet 280-SJ; Vent Condenser 281-VC; and Demister DM101-ME
Q-3380	1,500 Gallon Reactor (Reactor 280, PC-280, Building C-7)	Scrubbers 100-SC, 102-SC, and 300-SC; After Condenser 280-AC; Steam Jet 280-SJ; Vent Condenser 280-VC; and Demister DM101-ME
Q-3381	750 Gallon Wash Tank (Tank 286WT, PC-286, Building C-7)	Scrubbers 100-SC, 102-SC, and 300-SC; Liquid Ring Pump 283-LRP; and Demister DM101-ME
Q-3395	200 Gallon Drop Tank (Tank 280DT, PC-280, Building C-7)	None

Emission Unit	Description	Emission Control Equipment
Q-3396	400 Gallon Receiver (Receiver 280R, PC-280, Building C-7)	Scrubbers 100-SC, 102-SC, and 300-SC; After Condenser 280-AC; Dry Vacuum Pump 280-DVP; Steam Jet 280-SJ; Vent Condenser 280-VC; and Demister DM101-ME
Q-3397	650 Gallon Wash Tank (Tank 284WT, PC-284, Building C-7)	None
Q-3933	2,000 Gallon Reactor (Reactor 263, PC-263, Building C-7)	Scrubbers 100-SC and 300-SC; Vent Condenser 263-VC; After Condenser 267-AC; Steam Jets 267-SJ1 and 267-SJ2; and Demister DM101-ME
Q-4074	750 Gallon Reactor (Reactor 207, PC-207, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 214-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 214-SJ; Vent Condenser 207-VC; and Demister DM101-ME
Q-4080	1,500 Gallon Reactor (Reactor 210, PC-210, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; Vent Condenser 210-VC; and Demister DM101-ME

Emission Unit	Description	Emission Control Equipment
Q-4081	1,500 Gallon Reactor (Reactor 215, PC-215, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; Vent Condenser 215-VC; and Demister DM101-ME
Q-4088	100 Gallon Drop Tank (Tank 207DT, PC-207, Building C-6)	Scrubbers 100-SC and 200-SC; and Demister DM101-ME
Q-4105	100 Gallon Drop Tank (Drop Tank 262DT, PC-262, Building C-7)	Scrubber 100-SC and Demister DM101-ME
Q-4129	500 Gallon Receiver (Receiver 211R, PC-211, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; Vent Condenser 210-VC; and Demister DM101-ME
Q-4130	500 Gallon Receiver (Receiver 216R, PC-216, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; Vent Condenser 215-VC; and Demister DM101-ME
R-0617	500 Gallon Reactor (Reactor 253, PC-253, Building C-6)	Scrubbers 100-SC and 212-SC; After Condenser 253-AC; Steam Jet 253-SJ; and Demister DM101-ME

Emission Unit	Description	Emission Control Equipment
R-0680	125 Gallon Charge Tank (Tank 214CT, PC-214, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 214-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 214-SJ; Vent Condenser 214-VC; and Demister DM101-ME
R-0686	1,000 Gallon Reactor (Reactor 214, PC-214, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 214-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 214-SJ; Vent Condenser 214-VC; and Demister DM101-ME
R-0694	500 Gallon Receiver (Receiver 224R2, PC-224, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 224-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 224-SJ; Vent Condenser 224-VC; and Demister DM101-ME
R-0695	500 Gallon Receiver (Receiver 224R3, PC-224, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 224-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, and 224-SJ; Vent Condenser 224-VC; and Demister DM101-ME
R-0696	125 Gallon Receiver (Receiver 253R, PC-253, Building C-6)	After Condenser 253-AC and Steam Jet 253-SJ

Emission Unit	Description	Emission Control Equipment
R-0697	200 Gallon Receiver (Receiver 219R, PC-219, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; and Demister DM101-ME
R-0751	100 Gallon Receiver (Receiver 258R, PC-258, Building C-6)	Vent Condenser 258-VC
R-0759	1,000 Gallon Reactor (Reactor 224, PC-224, Building C-6)	Scrubbers 100-SC and 200-SC; Vent Condenser 224-VC; and Demister DM101-ME
R-0785	1,500 Gallon Reactor (Reactor 258, PC-258, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC, 209-AC, and 253-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, 209-SJ2, 253-SJ, and 256-SJ; Vent Condenser 258-VC; and Demister DM101-ME
R-0787	2,000 Gallon Reactor (Reactor 262, PC-262, Building C-7)	Scrubbers 100-SC and 300-SC; Vent Condenser 262-VC; After Condenser 267-AC; Steam Jets 267-SJ1 and 267-SJ2; and Demister DM101-ME
R-0788	750 Gallon Reactor (Reactor 264, PC-264, Building C-7)	Scrubbers 100-SC and 300-SC; Vent Condenser 264-VC; After Condenser 267-AC; Steam Jets 267-SJ1 and 267-SJ2; and Demister DM101-ME
R-0790	50 Gallon Drop Tank (Tank 253DT, PC-253, Building C-6)	Scrubbers 100-SC and 212-SC; After Condenser 253-AC; Steam Jet 253-SJ; and Demister DM101-ME

Emission Unit	Description	Emission Control Equipment
R-0791	2,000 Gallon Receiver (Receiver 262R, PC-262, Building C-7)	Scrubbers 100-SC and 300-SC; After Condenser 267-AC; Steam Jets 267-SJ1 and 267-SJ2; and Demister DM101-ME
R-0796	250 Gallon Wash Tank (Tank 265DT, PC-265, Building C-7)	None
R-1016	1,500 Gallon Reactor (Reactor 208, PC-208, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 208-SJ, and 209-SJ1, 209-SJ2; Vent Condenser 208-VC; and Demister DM101-ME
R-1023	125 Gallon Charge Tank (Tank 208CT, PC-208, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; and Demister DM101-ME
R-1046	1,500 Gallon Reactor (Reactor 282, PC-282, Building C-7)	After Condenser 282-AC; Steam Jet 282-SJ; and Vent Condenser 282-VC
R-1047	1,500 Gallon Reactor (Reactor 283, PC-283, Building C-7)	Scrubbers 100-SC, 102-SC, and 300-SC; Inter Condenser 283-IC; Liquid Ring Pump 283-LRP; Steam Jets 283-SJ1, and 283-SJ2; Vent Condenser 283-VC; and Demister DM101-ME
R-1048	2,000 Gallon Receiver (Receiver 289R, PC-289, Building C-7)	After Condenser 285D-AC; Liquid Ring Vacuum Pump 285D-LRP; and Vent Condenser 285D-VC
R-1049 282CT	200 Gallon Drop Tank (Tank 282CT, PC-282, Building C-7)	None

Emission Unit	Description	Emission Control Equipment
R-1049 282DT	200 Gallon Drop Tank (Tank 282DT, Building C-7)	After Condenser 282-AC and Steam Jet 282-SJ
R-1050	1,000 Gallon Reactor (Reactor 219, PC-219, Building C-6)	Scrubbers 100-SC, 200-SC, and 212-SC; After Condensers 201-AC and 209-AC; Liquid Ring Pumps 201-LRP and 209-LRP; Steam Jets 201-SJ1, 201-SJ2, 209-SJ1, and 209-SJ2; Vent Condenser 219-VC; and Demister DM101-ME
Portable Equipment	Portable Vessels, Reactors, Receivers, Tanks, Solid/Liquid Separators, Filters, Centrifuges, Dryers, Mills, Sifters, and Oscillators	Scrubbers, Condensers, or Baghouses (as configured for the process)

7.10.3 Applicability Provisions and Applicable Regulations

a. The Buildings C-6 and C-7 process condensers, centrifuges, dryers, evaporators, receivers, reactors, wash tanks, drop tanks, feed tanks, charge tanks, and portable equipment are "affected chemical manufacturing units" for the purpose of these unit-specific conditions.

b. Each affected chemical manufacturing unit is subject to the emission limits identified in Condition 5.2.2.

c. The affected chemical manufacturing units are subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1254(a) for Process Vents at Existing Sources. The Illinois EPA is administering the NESHAP in Illinois on behalf of the USEPA under a delegation agreement. Pursuant to 40 CFR 63.1250(f)(1), an owner or operator of an existing affected source must comply with the provisions of 40 CFR 63 Subpart GGG within 3 years after September 21, 1998.

d. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification

commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

e. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit for which construction or modification commenced prior to April 14, 1972, which, either alone or in combination with the emission of particulate matter from all other similar process emission at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 (see also Attachment 2) [35 IAC 212.322(a)].

f. The affected chemical manufacturing units are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.10.3 (f)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

ii. Pursuant to 35 IAC 218.302, emissions of organic material in excess of those permitted by Condition 7.10.3(f)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by one of the following methods:

A. A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)]; or

B. Any other air pollution control equipment approved by the Illinois EPA and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere [35 IAC 218.302(c)].

7.10.4 Non-Applicability of Regulations of Concern

a. The affected chemical manufacturing units are not subject to the control requirements of 35 IAC 218

Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

b. The affected chemical manufacturing units are not subject to the control requirements of 35 IAC 218.501, Control Requirements for Batch Operations, pursuant to 35 IAC 218.501(b)(2), which excludes any emission unit included within the category specified in 35 IAC 218 Subpart T.

c. The affected chemical manufacturing units are not subject to 35 IAC 212.324, Process Emission Units In Certain Areas, because the source is not located in a non-attainment area for PM_{10}, as identified in 35 IAC 212.324(a)(1).

7.10.5 Operational and Production Limits and Work Practices

a. The owner or operator shall install covers on all in-process tanks used to manufacture pharmaceuticals and containing a VOL at any time. These covers must remain closed, except as production, sampling, maintenance or inspection procedures require operator access [35 IAC 218.484].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The Permittee shall follow good operating practices for the scrubbers, condensers, demister, vacuum pumps, steam jets, and dust collectors including

periodic inspection, routine maintenance and prompt repair of defects.

d. The affected chemical manufacturing units are not restricted to using the specific air control equipment listed in Condition 7.10.2, so long as emissions are kept below the applicable limits specified in Conditions 5.5 and 7.10.3.

7.10.6 Emission Limitations

There are no specific emission limitations for these units, however, there are source wide emission limitations in Condition 5.5 that include these units.

7.10.7 Testing Requirements

a. *General*. Except as specified in 40 CFR 63.1257(a)(5), the procedures specified in 40 CFR 63.1257(d) and (f) are required to demonstrate initial compliance with 40 CFR 63.1254 and 63.1252(e), respectively. The provisions in 40 CFR 63.1257(a)(2) apply to performance tests that are specified in 40 CFR 63.1257(d). The provisions in 40 CFR 63.1257(a)(5) are used to demonstrate initial compliance with the alternative standards specified in 40 CFR 63.1254(c). The provisions in 40 CFR 63.1257(a)(6) are used to comply with the outlet concentration requirements specified in 40 CFR 63.1254(a)(2)(i) and (a)(3)(ii)(B) [40 CFR 63.1257(a)].

b. *Test methods*. When testing is conducted to measure emissions from an affected source, the test methods specified in 40 CFR 63.1257(b)(1) through (10) shall be used [40 CFR 63.1257(b)].

c. Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.10.4(a) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in Condition 7.10.7 (d)(i)(A) (see also 35 IAC 218.105(f)(1)) [35 IAC 218.487].

d. Pursuant to 35 IAC 218.105(d)(1) and Section 39.5(7)(b) of the Act, the control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified below (see also 35 IAC 218.105(f)):

i. Volatile Organic Material Gas Phase Source Test Methods The methods in 40 CFR Part 60, Appendix A, delineated below shall be used to determine control device efficiencies [35 IAC 218.105(f)].

A. CFR Part 60, Appendix A, Method 18, 25 or 25A, as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. The test shall consist of three separate runs, each lasting a minimum of 60 min, unless the Illinois EPA and the USEPA determine that process variables dictate shorter sampling times [35 IAC 218.105(f)(1)].

B. 40 CFR Part 60, Appendix A, Method 1 or 1A shall be used for sample and velocity traverses [35 IAC 218.105(f)(2)].

C. 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D shall be used for velocity and volumetric flow rates [35 IAC 218.105(f)(3)].

D. 40 CFR Part 60, Appendix A, Method 3 shall be used for gas analysis [35 IAC 218.105(f)(4)].

E. 40 CFR Part 60, Appendix A, Method 4 shall be used for stack gas moisture [35 IAC 218.105(f)(5)].

F. 40 CFR Part 60, Appendix A, Methods 2, 2A, 2C, 2D, 3 and 4 shall be performed, as applicable, at least twice during each test run [35 IAC 218.105(f)(6)].

G. Use of an adaptation to any of the test methods specified in Conditions 7.10.7 (d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) may not be used unless approved by the Illinois EPA and the USEPA on a case by case basis. An owner or operator must submit sufficient documentation for the Illinois EPA and the USEPA to find that the test methods

specified in Conditions 7.10.7(d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) will yield inaccurate results and that the proposed adaptation is appropriate [35 IAC 218.105(f)(7)].

ii. Notwithstanding other requirements of 35 IAC Part 218, upon request of the Illinois EPA where it is necessary to demonstrate compliance, an owner or operator of an emission unit which is subject to 35 IAC Part 218 shall, at his own expense, conduct tests in accordance with the applicable test methods and procedures specific in 35 IAC Part 218. Nothing in this Condition (see also 35 IAC 218.105) shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing [35 IAC 218.105(i)].

7.10.8 Monitoring Requirements

a. The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard as specified in 40 CFR 63.1258. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish the operating parameter level [40 CFR 63.1258(a)].

b. *Monitoring for control devices*.

i. *Parameters to monitor*. Except as specified in 40 CFR 63.1258(b)(1)(i), for each control device, the owner or operator shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4 of 40 CFR 63 Subpart GGG and in 40 CFR 63.1258(b)(1)(ii) through (xi) [40 CFR 63.1258(b)(1)].

ii. *Averaging periods*. Averaging periods for parametric monitoring levels shall be established according to 40 CFR 63.1258(b)(2)(i) through (iii) [40 CFR 63.1258(b)(2)].

iii. *Monitoring for the alternative standards*. For control devices that are used to comply with the provisions of 40 CFR 63.1254(c), the owner or operator shall monitor and record the outlet TOC concentration and the outlet hydrogen halide and halogen concentration every 15 minutes during the period in which the device is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG. A TOC monitor meeting the requirements of Performance Specification 8 or 9 of appendix B of 40 CFR Part 60 shall be installed, calibrated, and maintained, according to 40 CFR 63.8. The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens [40 CFR 63.1258(b)(5)].

iv. *Exceedances of operating parameters*. Pursuant to 40 CFR 63.1258(b)(6), an exceedance of an operating parameter is defined as one of the following:

A. If the parameter, averaged over the operating day or block, is below a minimum value established during the initial compliance demonstration [40 CFR 63.1258 (b)(6)(i)].

B. If the parameter, averaged over the operating day or block, is above the maximum value established during the initial compliance demonstration [40 CFR 63.1258(b)(6)(ii)].

C. Each loss of pilot flame for flares [40 CFR 63.1258(b)(6)(iii)].

v. *Excursions*. Pursuant to 40 CFR 63.1258(b)(7), excursions are defined by either of the two cases listed in Conditions 7.10.8(b)(v)(A) or (B) (see also 40 CFR 63.1258(b)(7)(i) or (ii)).

A. When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in Condition 7.10.8 (b)(v)(C) (see also 40 CFR 63.1258 (b)(7)(iii)), for at least 75 percent of

the operating hours [40 CFR 63.1258 (b)(7)(i)].

B. When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data [40 CFR 63.1258(b)(7)(ii)].

C. Monitoring data are insufficient to constitute a valid hour of data, as used in Conditions 7.10.8(b)(v)(A) and (B) (see also 40 CFR 63.1258(b)(7)(i) and (ii)), if measured values are unavailable for any of the required 15-minute periods within the hour [40 CFR 63.1258(b)(7)(iii)].

vi. *Violations*. Pursuant to 40 CFR 63.1258(b)(8), exceedances of parameters monitored according to the provisions of 40 CFR 63.1258(b)(1)(ii) and (iv) through (ix) or excursions as defined by Conditions 7.10.8(b)(v)(A) through (C) (see also 40 CFR 63.1258(b)(7)(i) through (iii)) constitute violations of the operating limit according to Conditions 7.10.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of 40 CFR 63.1258(b)(1)(x) constitute violations of the emission limit according to Conditions 7.10.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of Condition 7.10.8(b)(iii) (see also 40 CFR 63.1258(b)(5)) constitute violations of the emission limit according to the provisions of Conditions 7.10.8(b)(vi)(C) and (D) (see also 40 CFR 63.1258 (b)(8)(iii) and (iv)).

A. Except as provided in Condition 7.10.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process [40 CFR 63.1258(b)(8)(i)].

B. Except as provided in Condition 7.10.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device, for each process for which the control device is in service [40 CFR 63.1258(b)(8)(ii)].

C. Except as provided in Condition 7.10.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device. Except as provided in Condition 7.10.8(b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv hydrogen halide or halogen outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device [40 CFR 63.1258 (b)(8)(iii)].

D. Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur during a startup, shutdown, or malfunction, and the facility follows its startup, shutdown, and malfunction plan [40 CFR 63.1258 (b)(8)(iv)].

c. *Monitoring for emission limits*. The owner or operator of any affected source complying with the provisions of 40 CFR 63.1254(a)(1) shall demonstrate continuous compliance with the 2,000 lb/yr emission limits by calculating daily a 365-day rolling summation of emissions. For owners and operators opting to switch compliance strategy from the 93 percent control requirement to the 2,000 lb/yr compliance method, as described in 40 CFR 63.1254(a), the rolling average must include emissions from the past 365 days. Each day that the total emissions per process exceeds 2,000 lb/yr will be considered a violation of the emission limit [40 CFR 63.1258(c)].

7.10.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items

for each affected chemical manufacturing unit to demonstrate compliance with Conditions 5.5.1, 5.5.3(b), 7.10.3, and 7.10.5, pursuant to Section 39.5(7)(b) of the Act:

a. *Records of equipment operation*. Pursuant to 40 CFR 63.1259(b), the owner or operator must keep the following records up-to-date and readily accessible:

   i. Each measurement of a control device operating parameter monitored in accordance with Condition 7.10.8 (see also 40 CFR 63.1258) [40 CFR 63.1259 (b)(1)].

   ii. For each continuous monitoring system used to comply with 40 CFR 63 Subpart GGG, records documenting the completion of calibration checks and maintenance of continuous monitoring systems [40 CFR 63.1259(b)(3)].

   iii. For processes in compliance with the 2,000 lb/yr emission limit of 40 CFR 63.1254(a)(1), records of the rolling annual total emissions [40 CFR 63.1259(b)(4)].

   iv. Pursuant to 40 CFR 63.1259(a)(5), records of the following, as appropriate:

      A. The number of batches per year for each batch process [40 CFR 63.1259(a)(5)(i)].

      B. The operating hours per year for continuous processes [40 CFR 63.1259 (a)(5)(ii)].

   v. Uncontrolled and controlled emissions per batch for each process [40 CFR 63.1259(b)(6)].

   vi. Wastewater concentration per POD or process [40 CFR 63.1259(b)(7)].

   vii. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].

   viii. Description of worst-case operating conditions as determined using the procedures described in 40 CFR 63.1257(b)(8) for control devices [40 CFR 63.1259(b)(10)].

b. *Records of operating scenarios*. The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with 40 CFR 63 Subpart GGG [40 CFR 63.1259(c)].

c. Records of the testing of the efficiency of each capture system and control device pursuant to Condition 7.10.7, which include the following [Section 39.5(7)(e) of the Act]:

   i. The date, place and time of sampling or measurements;

   ii. The date(s) analyses were performed;

   iii. The company or entity that performed the analyses;

   iv. The analytical techniques or methods used;

   v. The results of such analyses; and

   vi. The operating conditions as existing at the time of sampling or measurement.

d. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.10.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

   i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

   ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

   iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

   iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

e. Pursuant to 35 IAC 218.489(c), the following records shall be kept for emission units subject to Condition 7.10.5(a) (see also 35 IAC 218.484) which contain VOL:

   i. For maintenance and inspection:

      A. The date and time each cover is opened [35 IAC 218.489(c)(1)(A)];

      B. The length of time the cover remains open [35 IAC 218.489(c)(1)(B)]; and

      C. The reason why the cover is opened [35 IAC 218.489(c)(1)(C)].

ii. For production and sampling, detailed written procedures or manufacturing directions specifying the circumstances under which covers may be opened and the procedures for opening covers [35 IAC 218.489(c)(2)].

f. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.10.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.10.4(a) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.10.4(a) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

g. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

h. The Permittee shall keep the following records for each product manufactured using the affected chemical manufacturing units. These records shall follow established techniques to calculate emissions:

i. A listing of the raw materials, process materials and associated air pollution control equipment used in making each product manufactured using affected chemical manufacturing units;

ii. A demonstration including engineering calculations for the HAP, PM, and VOM emissions generated for each process per batch of each product manufactured using affected chemical manufacturing units;

iii. A demonstration including engineering calculations for the HAP, PM, and VOM control efficiencies of air pollution control equipment, if any, and emissions to the

atmosphere for any air pollution control equipment operating in a normal manner. This demonstration shall also show compliance with the control requirements of 35 IAC 218 Subpart T, if applicable to any of the affected chemical manufacturing units;

iv. The operating parameters of air pollution control equipment, if any, when operating normally (e.g., temperature of condenser cooling water supply); and

v. Methodologies for recalculating emissions from batches run during the malfunction of control equipment.

i. The Permittee shall keep the following records on a batch basis:

i. Records to show that air pollution control equipment is operated in a normal manner, as specified by the above records for a particular product manufactured using affected chemical manufacturing units;

ii. Records of the number and size of batches run for each product manufactured using affected chemical manufacturing units. For this purpose, a batch shall be considered to run on the day the batch is initiated. Any batch terminated prematurely will be assumed to be a completed batch; and

iii. Records of the times and duration of any malfunction in any air pollution control equipment.

j. The Permittee shall keep the following records on a monthly basis, prepared by the 15th day of the following month:

i. Records of HAP, PM, and VOM emissions for each product manufactured using affected chemical manufacturing units in the month, determined by combining the above records for generated emissions, control efficiency (if control operated in a normal manner) and production rate;

ii. Records of HAP, PM, and VOM emissions for the month for each batch made using affected chemical manufacturing units during any malfunction of air pollution control equipment; and

iii. Records of the aggregate annual HAP, PM, and VOM emissions from the affected chemical manufacturing units for each month, determined from the sum of the current month's emissions and the emissions from the previous 11 months.

k. The Permittee shall maintain an On-Site Implementation Log (OSIL) which shall contain the following information with respect to the equipment changes authorized by Conditions 7.10.11(b) and (c):

i. Name and location of batch process with replacement component(s) or control device(s);

ii. Description of the component(s) or control device(s) replaced;

iii. Asset or identification number of replacement component(s) or control device(s);

iv. The effective size or capacity of the original and each replacement component;

v. The effective efficiencies of the original control device(s) and the replacement control device(s);

vi. Manufacturer(s) and model number(s) of the replacement component(s) or control device(s);

vii. The date of installation of the replacement component(s) or control device(s); and

viii. Other information as needed to show the change is within the scope of Condition 7.10.11(b) or (c).

7.10.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected chemical manufacturing unit with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. *Periodic reports*. Pursuant to 40 CFR 63.1260(g), an owner or operator shall prepare Periodic reports in accordance with Conditions 7.10.10(a)(i) and (ii) (see also 40 CFR 63.1260(g)(1) and (2)) and submit them to the Illinois EPA and/or USEPA.

i. *Submittal schedule*. Pursuant to 40 CFR 63.1260 (g)(1), Except as provided in Conditions 7.10.10 (a)(i)(A), (B), and (C) (see also 40 CFR 63.1260 (g)(1)(i), (ii) and (iii)), an owner or operator shall submit Periodic reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due.

A. When the Illinois EPA and/or USEPA determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source [40 CFR 63.1260 (g)(1)(i)]; or

B. When the monitoring data are used directly for compliance determination and the source experience excess emissions, in which case quarterly reports shall be submitted. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in 40 CFR 63.10(e)(3)(ii) and (iii) shall apply, except that the term "excess emissions and continuous monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of Condition 7.10.10 (see also 40 CFR 63.1260) [40 CFR 63.1260(g)(1)(ii)].

C. When a new operating scenario has been operated since the last report, in which case quarterly reports shall be submitted [40 CFR 63.1260(g)(1)(iii)].

ii. *Content of Periodic report*. Pursuant to 40 CFR 63.1260(g)(2), the owner or operator shall include the information in Conditions 7.10.10 (a)(ii)(A) through (D) (see also 40 CFR 63.1260 (g)(2)(i) through (vii)), as applicable.

A. Each Periodic report must include the information in 40 CFR 63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the information in 40 CFR 63.10(e)(3)(vi)(J) [40 CFR 63.1260(g)(2)(i)].

B. Pursuant to 40 CFR 63.1260(g)(2)(ii), if the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in Conditions 7.10.10(a)(ii)(B)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(ii)(A) through (D)).

   I. Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(A)].

   II. Duration of excursions, as defined in Condition 7.10.8(b)(v) (see also 40 CFR 63.1258(b)(7)) [40 CFR 63.1260(g)(2)(ii)(B)].

   III. Operating logs and operating scenarios for all operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(C)].

   IV. When a continuous monitoring system is used, the information required in 40 CFR 63.10(c)(5) through (13) [40 CFR 63.1260(g)(2)(ii)(D)].

C. Pursuant to 40 CFR 63.1260(g)(2)(v), the information in Conditions 7.10.10

(a)(ii)(C)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(v)(A) through (D)) shall be stated in the Periodic report, when applicable.

I. No excess emissions [40 CFR 63.1260 (g)(2)(v)(A)].

II. No exceedances of a parameter [40 CFR 63.1260(g)(2)(v)(B)].

III. No excursions [40 CFR 63.1260 (g)(2)(v)(C)].

IV. No continuous monitoring system has been inoperative, out of control, repaired, or adjusted [40 CFR 63.1260(g)(2)(v)(D)].

D. Each new operating scenario which has been operated since the time period covered by the last Periodic report. For the initial Periodic report, each operating scenario for each process operated since the compliance date shall be submitted [40 CFR 63.1260(g)(2)(vii)].

b. *Notification of process change*.

i. Pursuant to 40 CFR 63.1260(h)(1), except as specified in Condition 7.10.10(b)(ii) (see also 40 CFR 63.1260(h)(2)), whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report quarterly. The report may be submitted as part of the next Periodic report required under Condition 7.10.10(a) (see also 40 CFR 63.1260(g)). The report shall include:

A. A brief description of the process change [40 CFR 63.1260(h)(1)(i)].

B. A description of any modifications to standard procedures or quality assurance procedures [40 CFR 63.1260(h)(1)(ii)].

C. Revisions to any of the information reported in the original Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) [40 CFR 63.1260(h)(1)(iii)].

D. Information required by the Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) for changes involving the addition of processes or equipment [40 CFR 63.1260(h)(1)(iv)].

ii. Pursuant to 40 CFR 63.1260(h)(2), an owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

A. Any change in the activity covered by the Precompliance report [40 CFR 63.1260 (h)(2)(i)].

B. A change in the status of a control device from small to large [40 CFR 63.1260 (h)(2)(ii)].

c. *Reports of startup, shutdown, and malfunction*. For the purposes of 40 CFR 63 Subpart GGG, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the periodic reports required under Condition 7.10.10(a) (see also 40 CFR 63.1260(g)) instead of the schedule specified in 40 CFR 63.10(d)(5)(i). These reports shall include the information specified in Condition 5.6.2(n)(iii)(A) through (C) (see also 40 CFR 63.1259(a)(3)(i) through (iii)) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in 40 CFR 63.10 (d)(4)(ii) [40 CFR 63.1260(i)].

d. *Notification of performance test and test plan*. The owner or operator of an affected source shall notify the Illinois EPA and/or USEPA of the planned date of a performance test at least 60 days before the test in accordance with 40 CFR 63.7(b). The owner or operator also must submit the test plan required by 40 CFR 63.7(c) and the emission profile required by 40 CFR 63.1257(b)(8)(ii) with the notification of the performance test [40 CFR 63.1260(l)].

e. *Request for extension of compliance*. An owner or operator may submit to the Illinois EPA and/or USEPA

a request for an extension of compliance in accordance with 40 CFR 63.1250(f)(4) [40 CFR 63.1260(m)].

f. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

g. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.10.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.10.4(a) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

h. Emissions of PM and/or VOM in excess of the limits in Conditions 5.5.3(b) and/or 7.10.3 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.10.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following changes with respect to the affected chemical manufacturing units without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee’s obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification pursuant to regulations promulgated pursuant to Title I of the CAA (i.e., 40 CFR 52.21 and 35 IAC Part 203):

a. This permit is issued for production of pharmaceuticals, chemical intermediates for pharmaceutical products and pharmaceutical-like products such as hormones, enzymes and antibiotics. In addition to varying the quantities of such materials produced, the Permittee may change the types of such materials produced, making products not previously made in the affected chemical manufacturing units, or changing the process by which such materials are made, provided that Conditions 5.5 or 7.10.3 are not violated.

b. The replacement of component parts for a batch process with the same or functionally similar component parts, provided there is no effective

increase in the capacity of the batch process (i.e., like-kind replacement), provided that the replacements are not so extensive as to constitute reconstruction of the batch process and it can be demonstrated that emissions from the batch process remain in compliance with the limits specified in Conditions 5.5 and 7.10.3 (e.g., reactor, receiver, tank, crystallizer, pump, distillation column, centrifuge, air dryer, vacuum dryer).

c. The replacement of control devices with control devices with the same or better effective efficiency, provided there is no increase in emissions over the limits specified in Conditions 5.5 and 7.10.3 (e.g., vacuum jet, vacuum pump, condenser, scrubber and demister).

7.10.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.10.9 and the emission factors and formulas listed below:

a. Determinations of daily and annual emissions for purposes of Condition 7.10.4(a) (see also 35 IAC 218.480) shall be made using both data on the hourly emission rate (or the emissions per unit of throughput) and appropriate daily and annual data from records of emission unit operation (or material throughput or material consumption data). In the absence of representative test data pursuant to Condition 7.10.7(c) (see also 35 IAC 218.487) for the hourly emission rate (or the emissions per unit of throughput) such items shall be calculated using engineering calculations, including the methods described in Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/2-78-029). This Condition shall not affect the Illinois EPA's or the USEPA's authority to require emission tests to be performed pursuant to Condition 7.10.7(c) (see also 35 IAC 218.487)) [35 IAC 218.480(h)].

b. Compliance with Conditions 7.10.3(b), (d), and (e) is assumed by proper operation of the scrubbers, condensers, demister, vacuum pumps, steam jets, and dust collectors, as addressed by Condition 7.10.5(c).

c. To determine compliance with Conditions 5.5.1, 5.5.3(b), and 7.10.3(f), VOM emissions from the affected chemical manufacturing units, calculations based on the formulas and procedures listed in either Appendix B of "Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical

Products" (EPA-450/2-78-029) or "Control of Volatile Organic Compound Emissions from Batch Processes-Alternative Control Techniques Information Document" (EPA-450/R-94-020) are acceptable.

d. To determine compliance with Conditions 5.5.1, 5.5.3(b)(ii), and 7.10.3(d) and(e), PM emissions from the affected chemical manufacturing units shall be calculated based on the following:

ER = (PR) x ((PRL) x (100 - e))/100

Where:

ER = Emission rate (lb/hr)

PR = Production rate (lb/hr)

PRL = Material lost to the control device, %

e = Efficiency of the control device, %

7.11 Units CAPD C-10 Chemical Manufacturing Building C-10
Controls CAPD C-10 Scrubbers, Condensers, Steam Jets, Cyclones, Vacuum Pumps, Surge Tanks, and Dust Collectors

7.11.1 Description

The equipment in Building C-10 is used to produce a wide variety of pharmaceutical and pharmaceutical-like products via batch chemical processing techniques, termed Chemical Manufacturing by the source. Typical pharmaceutical compound production requires numerous chemical reactions and mechanical separations to from the needed complex chemical molecules of active drug. The chemical synthesis of pharmaceuticals may require from several days to several weeks to complete a single batch of product. The number and type of individual process steps varies greatly depending upon the particular pharmaceutical compound. For example, a single piece of process equipment may be used several different times during different stages of the production campaign to produce a single product, and each step will be different from all the others.

Batch pharmaceutical production using chemical synthesis methods typically employs several different unit processes, such as reactions, distillation, crystallization, separation, drying, and milling steps. Each step must be carefully controlled to produce the desired product at the desired quality. Solvents are typically employed in the reaction, distillation and purification steps of the process. A batch refers to the production of a single product, from beginning to the end, following the manufacturing directions. Production is usually scheduled in short term campaigns consisting of one or more batches. The number of batches needed to produce a given amount of pharmaceutical product is dependent upon the complexity of the manufacturing processes, the size of the equipment available, and the purity desired. As many as one hundred individual steps or unit processes may be required for a single batch. Although the end uses of pharmaceuticals are in the milligram per dose range, the bulk production of pharmaceuticals may produce hundreds of pounds of the material per batch. For some products, batches of a production campaign may produce enough product to satisfy world-wide demand for one or more years. For the more common antibiotics, the demand can exceed thousands of kilograms per year. The pharmaceutical needs of the world are extremely variable and unpredictable. For example, spring and fall flu seasons will create a seasonal demand for antibiotics, of which the exact volume will be dependent on how many people get sick. Therefore, it is nearly impossible for the source to predict and subsequently plan the amount of particular pharmaceutical to make in a given year, or part of the year. In summary,

the chemical synthesis of pharmaceuticals is, by necessity, a small batch process system which must operate with extreme flexibility, and quick responsiveness of the source to market demands.

A variety of portable equipment is used in Building C-10 for batch process manufacturing. Portable equipment means single pieces of equipment that are mounted on wheels or skids so as to enable them to be moved from one process to another within a manufacturing building and from one manufacturing building to another. Portable equipment is divided into three categories: 1) vessels, including reactors, receivers, and tanks; 2) solid/liquid separation equipment, including dryers, centrifuges, and filters; 3) miscellaneous, including dust collectors, emission control equipment, oscillators, and sifters. Whenever a piece of portable equipment is used in a process, its emissions are calculated and included with the emissions for that process.

7.11.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
861-PC	Process Condenser 861-PC (Asset #LC-******, PC-861)	None
A-0095	Centrifuge 829C (PC-829)	None
A-0135	Centrifuge 834C (PC-834)	Scrubber 834-SC and Vent Condenser 834-VC
A-0179	Centrifuge 814C (PC-814)	Steam Jet 812-SJ
A-0180	Centrifuge 810C (PC-810)	None
A-0338	Centrifuge 805C (PC-805)	None
A-0672	Centrifuge 855C (PC-855)	None
A-1193	Centrifuge 838C (PC-838)	Cyclone 838C-CYC
B-0758	Process Condenser 826-PC (PC-826)	After Condenser 828-AC and Steam Jet 828-SJ
B-0765	Process Condenser 812-PC (PC-812)	Steam Jet 812-SJ
B-0766	Process Condenser 811-PC (PC-811)	Steam Jet 812-SJ
B-0768	Process Condenser 827-PC (PC-827)	After Condenser 828-AC and Steam Jet 828-SJ
B-1444	Process Condenser 860-PC (PC-860)	After Condenser 860-AC; and Steam Jets 860-SJ1 and 860-SJ2
B-1580	Process Condenser 803-PC (PC-803)	After Condenser 803-AC2; Dry Vacuum Pump 803-HP; Vent Condenser 803-VC; and Surge Tank 803SU

Emission Unit	Description	Emission Control Equipment
B-1814	Process Condenser 804-PC (PC-804)	After Condensers 803-AC1 and 803-AC2; Dry Vacuum Pump 803-HP; Steam Jet 803-SJ; Vent Condenser 804-VC; and Surge Tank 804SU
B-1862	Process Condenser 842-PC (PC-842)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
B-1946	Process Condenser 854-PC (PC-854)	After Condenser 852-AC; Steam Jets 852-SJ, 853-SJ1, 853-SJ2, and 853-SJ3; Inter Condensers 853-IC1 and 853-IC2; and Scrubber 853-SC
B-2419	100 Gallon Process Condenser (Process Condenser 841-PC, PC-841)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP

Emission Unit	Description	Emission Control Equipment
B-2485	Process Condenser 840-PC (PC-840)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Vent Condenser 840-VC; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
B-2490	Process Condenser 802-PC (PC-802)	Scrubbers 802-SC and 839-SC; Steam Jets 802-SJ1 and VS604-SJ; Inter Condenser VS604-IC; Liquid Ring Pump VS604-LRP; and Surge Tank VS604-SU
B-2491	Process Condenser 806-PC (PC-806)	Scrubbers 802-SC and 839-SC; Steam Jets 802-SJ1 and VS604-SJ; Inter Condenser VS604-IC; and Liquid Ring Pump VS604-LRP
B-2492	Process Condenser 853-PC (PC-853)	After Condenser 852-AC; Steam Jets 852-SJ, 853-SJ1, 853-SJ2, and 853-SJ3; Inter Condensers 853-IC1 and 853-IC2; and Scrubber 853-SC

Emission Unit	Description	Emission Control Equipment
B-2493	Process Condenser 837-PC (PC-837)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
B-2494	Process Condenser 852-PC (PC-852)	After Condenser 852-AC; Steam Jets 852-SJ, 853-SJ1, 853-SJ2, and 853-SJ3; Inter Condensers 853-IC1 and 853-IC2; and Scrubber 853-SC;
B-2914	Process Condenser 846-PC (PC-846)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
D-0307 857D1	560 Gallon Dryer (Dryer 857D1, PC-857)	None
D-0307 857D2	560 Gallon Dryer (Dryer 857D2, PC-857)	None
D-0307 857D3	560 Gallon Dryer (Dryer 857D3, PC-857)	None
D-0307 857D4	560 Gallon Dryer (Dryer 857D4, PC-857)	None

Emission Unit	Description	Emission Control Equipment
D-0307 857D5	560 Gallon Dryer (Dryer 857D5, PC-857)	None
D-0307 857D6	560 Gallon Dryer (Dryer 857D6, PC-857)	None
D-0707	560 Gallon Dryer (Dryer 878D, PC-878)	After Condenser 878D-AC; Cyclone 878D-CYC; Inter Condensers 878D-IC1 and 878D-IC2; and Steam Jets 878D-SJ1, 878D-SJ2, and 878D-SJ3
D-1275	560 Gallon Dryer (Dryer 856D1, PC-856)	After Condenser 856D1-AC and Dry Vacuum Pump 856HP1
D-1433	560 Gallon Dryer (Dryer 880D, PC-880)	After Condensers 880D-AC; Dust Collector 880D-DC; Inter Condenser 880D-IC; Liquid Ring Pump 880D-LRP; and Steam Jets 880D-SJ1 and 880D-SJ2
D-1660	560 Gallon Dryer (Dryer 881D, PC-881)	After Condenser 881D-AC; Cyclone 881D-CYC; Dry Vacuum Pump 881D-HP; and Vent Condenser 881-VC
D-1802	560 Gallon Dryer (Dryer 815D, PC-815)	After Condenser 815D-AC; Cyclone 815D-CYC; Dust Collector 815D-DC; and Dry Vacuum Pump 815D-HP
G-0453	Blender 877B (PC-877)	Dust Collector 877B-DC
G-0456	Flaker 860DF (PC-860)	None
G-0551	560 Gallon Dryer (Dryer 879D, PC-879)	After Condenser 879D-AC; Cyclone 879D-CYC; Dry Vacuum Pump 879D-HP; and Vent Condenser 879D-VC
J-0447	Hopper 877H (PC-877)	None

Emission Unit	Description	Emission Control Equipment
KK-5966	Process Condenser 845-PC (PC-845)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; Vent Condenser 845-VC; and Liquid Ring Pumps VS601-LRP and VS603-LRP
LC-049322	500 Gallon Shot Tank (Tank 820ST, PC-820)	Scrubber 839-SC; After Condenser VS605-AC; Liquid Ring Pump VS605-LRP; Steam Jets VS605-SJ1 and VS605-SJ2; and Surge Tank VS605SU
LC-054707	225 Gallon Wash Tank (Tank 834WT, PC-834)	After Condenser 834-AC; Steam Jets 834-SJ1 and 834-SJ2; and Scrubber 834-SC
LC-900869	100 Gallon Receiver (Receiver 860R1, PC-860)	After Condenser 860-AC; and Steam Jets 860-SJ1 and 860-SJ2
LC-900870	500 Gallon Reactor (Reactor 861, PC-861)	None

Emission Unit	Description	Emission Control Equipment
LC-902544	Process Condenser 833-PC (PC-833)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
LC-903535	750 Gallon Receiver (Receiver 841R, PC-841)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP

Emission Unit	Description	Emission Control Equipment
LC-903536	2,000 Receiver (Receiver 849R, PC-849)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
LC-908768	2,000 Gallon Reactor (Reactor 809, PC-809)	Scrubbers 809-SC and 839-SC; Vent Condenser 809-VC; After Condenser VS605-AC; Liquid Ring Pump VS605-LRP; Steam Jets VS605-SJ1 and VS605-SJ2; and Surge Tank VS605SU
LC-908769	1,500 Gallon Reactor (Reactor 818, PC-818, Building C-10)	Vent Condenser 818-VC; Scrubber 839-SC; After Condenser VS605-AC; Liquid Ring Pump VS605-LRP Steam Jets VS605-SJ1 and VS605-SJ2; and Surge Tank VS605SU
LC-909321	200 Gallon Shot Tank (Tank 819ST, PC-819)	Scrubber 839-SC; After Condenser VS605-AC; Liquid Ring Pump VS605-LRP; Steam Jets VS605-SJ1 and VS605-SJ2; and Surge Tank VS605SU
LC-909640	1,000 Gallon Reactor (Reactor 806, PC-806)	Scrubbers 802-SC and 839-SC; Steam Jets 802-SJ1 and VS604-SJ; Inter Condenser VS604-IC; and Liquid Ring Pump VS604-LRP

Emission Unit	Description	Emission Control Equipment
LC-909641	1,000 Gallon Receiver (Receiver 802R1, PC-802)	Scrubbers 802-SC and 839-SC; Steam Jets 802-SJ1 and VS604-SJ; Inter Condenser VS604-IC; Liquid Ring Pump VS604-LRP; and Surge Tank VS604-SU
LC-909890	Process Condenser 828-PC (PC-828)	After Condensers 828-AC, 840-AC, 841-AC, 846-AC, 847-AC, and VS601-AC, VS603-AC; Steam Jets 828-SJ, 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Scrubber 839-SC; Inter Condensers 840-IC1 and 840-IC2; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
LC-909891 PC-830	Process Condenser 830-PC (PC-830)	After Condensers 828-AC, 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Steam Jets 828-SJ, 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Scrubber 839-SC; Inter Condensers 840-IC1 and 840-IC2; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP

Emission Unit	Description	Emission Control Equipment
LC-918019	Process Condenser 809-PC (PC-809)	Scrubbers 809-SC and 839-SC; Vent Condenser 809-VC; After Condenser VS605-AC; Liquid Ring Pump VS605-LRP; Steam Jets VS605-SJ1 and VS605-SJ2; and Surge Tank VS605SU
LC-918020	Process Condenser 818-PC (PC-818)	Vent Condenser 818-VC; Scrubber 839-SC; After Condenser VS605-AC; Liquid Ring Pump VS605-LRP Steam Jets VS605-SJ1 and VS605-SJ2; and Surge Tank VS605SU
LC-918047	Process Condenser 808-PC (PC-808)	Vent Condenser 808-VC; Scrubber 839-SC; After Condenser VS605-AC; Liquid Ring Pump VS605-LRP; Steam Jets VS605-SJ1 and VS605-SJ2; and Surge Tank VS605SU
LC-918469	2,000 Gallon Reactor (Reactor 808, PC-808)	Vent Condenser 808-VC; Scrubber 839-SC; After Condenser VS605-AC; Liquid Ring Pump VS605-LRP; Steam Jets VS605-SJ1 and VS605-SJ2; and Surge Tank VS605SU
LC-918470	500 Gallon Shot Tank (Tank 821ST, PC-821)	Scrubber 839-SC; After Condenser VS605-AC; Liquid Ring Pump VS605-LRP; Steam Jets VS605-SJ1 and VS605-SJ2; and Surge Tank VS605SU
LC-923079	127 Gallon Process Condenser (Process Condenser 801-PC)	After Condenser 807A-AC; Steam Jets 807A-SJ and VS604-SJ; Surge Tanks 807SU and VS604-SU; Scrubber 839-SC; Inter Condenser VS604-IC; and Liquid Ring Pump VS604-LRP

Emission Unit	Description	Emission Control Equipment
LC-926383	560 Gallon Dryer (Dryer 856D2, PC-856)	After Condenser 856D2-AC; Inter Condenser 856D2-IC; Liquid Ring Pump 856D2-LRP; and Steam Jet 856D2-SJ1
LC-951137	117 Gallon Process Condenser (Process Condenser 847-PC, PC-847)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
Q-0365	100 Gallon Receiver (Receiver 854R3, PC-854)	After Condenser 852-AC; Steam Jets 852-SJ, 853-SJ1, 853-SJ2, and 853-SJ3; Inter Condensers 853-IC1 and 853-IC2; and Scrubber 853-SC
Q-0990	Drop Tank (Tank 847DT, PC-847)	None
Q-1411	100 Gallon Solvent Tank (Tank 811T1, PC-811)	None
Q-1412	100 Gallon Receiver (Receiver 804R3, PC-804)	After Condenser 803-AC1 and Steam Jet 803-SJ
Q-1456	200 Gallon Receiver (Receiver 804R2, PC-804)	None
Q-1465	100 Gallon Receiver (Receiver 853R, PC-853)	After Condenser 852-AC and Steam Jet 852-SJ
Q-1474	1,000 Gallon Receiver (Receiver 803R1, PC-803)	After Condenser 803-AC1 and Steam Jet 803-SJ
Q-1491	1,000 Gallon Reactor (Reactor 812, PC-812)	Steam Jet 812-SJ
Q-1492	1,000 Gallon Reactor (Reactor 811, PC-811)	Steam Jet 812-SJ

Emission Unit	Description	Emission Control Equipment
Q-1493 PC-828	1,200 Gallon Receiver (Receiver 828R, PC-828)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
Q1493 PC-830	1000 Gallon Receiver (Receiver 830R, PC-830)	None
Q-1496	300 Gallon Tank (Tank 840T, PC-840)	None
Q-1499	200 Gallon Receiver (Receiver 811R, PC-811)	None
Q-1776	1,200 Gallon Receiver (Receiver 842R, PC-842)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP

Emission Unit	Description	Emission Control Equipment
Q-1777	200 Gallon Acetic Acid Tank (Tank 841T, PC-841)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
Q-2409	300 Gallon Receiver (Receiver 803R3, PC-803)	After Condenser 803-AC1 and Steam Jet 803-SJ
Q-2822	1,500 Gallon Reactor (Reactor 803, PC-803)	After Condenser 803-AC2; Dry Vacuum Pump 803-HP; Vent Condenser 803-VC; and Surge Tank 803SU
Q-2823	1,300 Gallon Reactor (Reactor 854, PC-854)	After Condenser 852-AC; Steam Jets 852-SJ, 853-SJ1, 853-SJ2, and 853-SJ3; Inter Condensers 853-IC1 and 853-IC2; and Scrubber 853-SC
Q-2899	300 Gallon Wash Tank (Tank 810WT, PC-810)	None
Q-2929	1,000 Gallon Receiver (Receiver 804R1, PC-804)	After Condenser 803-AC1 and Steam Jet 803-SJ
Q-2952	500 Gallon Receiver (Receiver 803R2, PC-803)	After Condenser 803-AC1 and Steam Jet 803-SJ
Q-3119	150 Gallon Tank (Tank 807B, PC-807)	After Condensers 803-AC1 and 807A-AC; Steam Jets 803-SJ, 807A-SJ, and VS604-SJ; Surge Tanks 807SU and VS604-SU; Scrubber 839-SC; Inter Condenser VS604-IC; and Liquid Ring Pump VS604-LRP

Emission Unit	Description	Emission Control Equipment
Q-3181	1,500 Gallon Reactor (Reactor 842, PC-842)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
Q-3182	1,750 Gallon Reactor (Reactor 845, PC-845)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; Vent Condenser 845-VC; and Liquid Ring Pumps VS601-LRP and VS603-LRP

Emission Unit	Description	Emission Control Equipment
Q-3262	200 Gallon Wash Tank (Tank 838WT, PC-838)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
Q-3318	1,800 Gallon Receiver (Receiver 845R, PC-845)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; Vent Condenser 845-VC; and Liquid Ring Pumps VS601-LRP and VS603-LRP
Q-3326	100 Gallon Receiver (Receiver 807R, PC-807)	After Condenser 807A-AC; Steam Jets 807A-SJ and VS604-SJ; Surge Tanks 807SU and VS604-SU; Scrubber 839-SC; Inter Condenser VS604-IC; and Liquid Ring Pump VS604-LRP

Emission Unit	Description	Emission Control Equipment
Q-3420	1,000 Gallon Reactor (Reactor 801, PC-801)	After Condenser 807A-AC; Steam Jets 807A-SJ and VS604-SJ; Surge Tanks 807SU and VS604-SU; Scrubber 839-SC; Inter Condenser VS604-IC; and Liquid Ring Pump VS604-LRP
Q-3434	1,000 Gallon Receiver (Receiver 801R, PC-801)	Scrubber 839-SC; Inter Condenser VS604-IC; Liquid Ring Pump VS604-LRP; Steam Jet 807A-SJ; and Surge Tank VS604-SU
Q-3456	100 Gallon Receiver (Receiver 881R, PC-881)	Vent Condenser 881D-VC
Q-3566	Charge Tank (Tank 809CT, PC-809)	None
Q3568	Charge Tank (Tank 808CT, PC-808)	None
Q-3589	1,000 Gallon Receiver (Receiver 834R, PC-834)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; Liquid Ring Pumps VS601-LRP and VS603-LRP
Q-3781	750 Gallon Receiver (Receiver 854R1, PC-854)	After Condenser 852-AC; Steam Jets 852-SJ, 853-SJ1, 853-SJ2, and 853-SJ3; Inter Condensers 853-IC1 and 853-IC2; and Scrubber 853-SC

Emission Unit	Description	Emission Control Equipment
Q-3783	200 Gallon Wash Tank (Tank 805WT, PC-805)	After Condenser 807A-AC; Steam Jets 807A-SJ and VS604-SJ; Surge Tanks 807SU and VS604-SU; Scrubber 839-SC; Inter Condenser VS604-IC; and Liquid Ring Pump VS604-LRP
Q-3784	200 Gallon Wash Tank (Tank 855WT, PC-855)	After Condenser 852-AC and Steam Jet 852-SJ
Q-3786	500 Gallon Wash Tank (Tank 829WT, PC-829)	None
Q-4067	1,300 Gallon Reactor (Reactor 827, PC-827)	After Condenser 828-AC and Steam Jet 828-SJ
Q-4076	550 Gallon Caustic Tank (Tank 839T2, PC-839)	None
Q-4082	1,300 Gallon Reactor (Reactor 826, PC-826)	After Condenser 828-AC and Steam Jet 828-SJ
R-0531	200 Gallon Receiver (Receiver 840R3, PC-840)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP

Emission Unit	Description	Emission Control Equipment
R-0532	500 Gallon Receiver (Receiver 840R2, PC-840)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
R-0533	500 Gallon Receiver (Receiver 840R1, PC-840)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP

Emission Unit	Description	Emission Control Equipment
R-0579	2,000 Gallon Receiver (Receiver 848R, PC-848)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
R-0580	2,000 Gallon Reactor (Reactor 833, PC-833)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP

Emission Unit	Description	Emission Control Equipment
R-0601	1,000 Gallon Reactor (Reactor 828, PC-828)	After Condensers 828-AC, 840-AC, 841-AC, 846-AC, 847-AC, and VS601-AC, VS603-AC; Steam Jets 828-SJ, 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Scrubber 839-SC; Inter Condensers 840-IC1 and 840-IC2; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
R-0614	500 Gallon Receiver (Receiver 802R2, PC-802)	Scrubbers 802-SC and 839-SC; Steam Jets 802-SJ1 and VS604-SJ; Inter Condenser VS604-IC; Liquid Ring Pump VS604-LRP; and Surge Tank VS604-SU
R-0619	500 Gallon Reactor (Reactor 860, PC-860)	After Condenser 860-AC; and Steam Jets 860-SJ1 and 860-SJ2
R-0622	1,000 Gallon Reactor (Reactor 852, PC-852)	After Condenser 852-AC; Steam Jets 852-SJ, 853-SJ1, 853-SJ2, and 853-SJ3; Inter Condensers 853-IC1 and 853-IC2; and Scrubber 853-SC;

Emission Unit	Description	Emission Control Equipment
R-0623	500 Gallon Weigh Tank (Tank 842WT, PC-842)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
R-0682	750 Gallon Receiver (Receiver 854R2, PC-854)	After Condenser 852-AC; Steam Jets 852-SJ, 853-SJ1, 853-SJ2, and 853-SJ3; Inter Condensers 853-IC1 and 853-IC2; and Scrubber 853-SC
R-0688	Hot Well (Hot Well 853HW, PC-853)	None
R-0690	50 Gallon Hot Well (Hot Well 840HW, PC-840)	None
R-0691	2,000 Gallon Reactor (Reactor 804, PC-804)	After Condensers 803-AC1 and 803-AC2; Dry Vacuum Pump 803-HP; Steam Jet 803-SJ; Vent Condenser 804-VC; and Surge Tank 804SU

Emission Unit	Description	Emission Control Equipment
R-0752	1,000 Gallon Reactor (Reactor 840, PC-840)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Vent Condenser 840-VC; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
R-0755	1,000 Gallon Reactor (Reactor 841, PC-841)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
R-0756	500 Gallon Reactor (Reactor 834, PC-834)	After Condenser 834-AC; Steam Jets 834-SJ1 and 834-SJ2; and Scrubber 839-SC

Emission Unit	Description	Emission Control Equipment
R-0760	1,000 Gallon Reactor (Reactor 830, PC-830)	After Condensers 828-AC, 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Steam Jets 828-SJ, 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Scrubber 839-SC; Inter Condensers 840-IC1 and 840-IC2; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
R-0784	150 Gallon Tank (Tank 807A, PC-807)	After Condenser 807A-AC; Steam Jets 807A-SJ and VS604-SJ; Surge Tanks 807SU and VS604-SU; Scrubber 839-SC; Inter Condenser VS604-IC; and Liquid Ring Pump VS604-LRP
R-1019	2,000 Gallon Reactor (Reactor 837, PC-837)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP

Emission Unit	Description	Emission Control Equipment
R-1020	1,000 Gallon Reactor (Reactor 802, PC-802)	Scrubbers 802-SC and 839-SC; Steam Jets 802-SJ1 and VS604-SJ; Inter Condenser VS604-IC; Liquid Ring Pump VS604-LRP; and Surge Tank VS604-SU
R-1035	2,000 Gallon Reactor (Reactor 846, PC-846)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1, 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
R-1044	2,000 Gallon Reactor (Reactor 847, PC-847)	Scrubber 839-SC; After Condensers 840-AC, 841-AC, 846-AC, 847-AC, VS601-AC, and VS603-AC; Inter Condensers 840-IC1 and 840-IC2; Steam Jets 840-SJ1, 840-SJ2, 840-SJ3, 840-SJ4, 841-SJ, 846-SJ, 847-SJ1 847-SJ2, VS601-SJ, and VS603-SJ; Surge Tanks 840SU, 841SU, 846SU, 847SU, VS601SU, and VS603SU; and Liquid Ring Pumps VS601-LRP and VS603-LRP
R-1088	1,000 Gallon Reactor (Reactor 853, PC-853)	After Condenser 852-AC; Steam Jets 852-SJ, 853-SJ1, 853-SJ2, and 853-SJ3; Inter Condensers 853-IC1 and 853-IC2; and Scrubber 853-SC
T-1838	200 Gallon Tank (Tank 811T2, PC-811)	None

Emission Unit	Description	Emission Control Equipment
T-2948	100 Gallon Accumulation Tank (Tank 839T1, PC-839)	Scrubber 839-SC
Portable Equipment	Portable Vessels, Reactors, Receivers, Tanks, Solid/Liquid Separators, Filters, Centrifuges, Dryers, Mills, Sifters, and Oscillators	Scrubbers, Condensers, or Baghouses (as configured for the process)

7.11.3 Applicability Provisions and Applicable Regulations

a. The Building C-10 process condensers, centrifuges, dryers, blenders, flakers, hoppers, shot tanks, wash tanks, receivers, reactors, drop tanks, tanks, charge tanks, weigh tanks, hot wells, accumulation tanks, and portable equipment are "affected chemical manufacturing units" for the purpose of these unit-specific conditions.

b. Each affected chemical manufacturing unit is subject to the emission limits identified in Condition 5.2.2.

c. The affected chemical manufacturing units are subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1254(a) for Process Vents at Existing Sources. The Illinois EPA is administering the NESHAP in Illinois on behalf of the USEPA under a delegation agreement. Pursuant to 40 CFR 63.1250(f)(1), an owner or operator of an existing affected source must comply with the provisions of 40 CFR 63 Subpart GGG within 3 years after September 21, 1998.

d. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

e. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit for which construction or modification commenced prior to April 14, 1972, which, either alone or in combination with the emission of particulate matter from all other similar process emission at a source or premises,

exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 (see also Attachment 2) [35 IAC 212.322(a)].

f. The affected chemical manufacturing units are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.11.3 (f)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

ii. Pursuant to 35 IAC 218.302, emissions of organic material in excess of those permitted by Condition 7.11.3(f)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by one of the following methods:

A. A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)]; or

B. Any other air pollution control equipment approved by the Illinois EPA and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere [35 IAC 218.302(c)].

7.11.4 Non-Applicability of Regulations of Concern

a. The affected chemical manufacturing units are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5

tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

b. The affected chemical manufacturing units are not subject to the control requirements of 35 IAC 218.501, Control Requirements for Batch Operations, pursuant to 35 IAC 218.501(b)(2), which excludes any emission unit included within the category specified in 35 IAC 218 Subpart T.

c. The affected chemical manufacturing units are not subject to 35 IAC 212.324, Process Emission Units In Certain Areas, because the source is not located in a non-attainment area for PM_{10}, as identified in 35 IAC 212.324(a)(1).

7.11.5 Operational and Production Limits and Work Practices

a. The owner or operator shall install covers on all in-process tanks used to manufacture pharmaceuticals and containing a VOL at any time. These covers must remain closed, except as production, sampling, maintenance or inspection procedures require operator access [35 IAC 218.484].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The Permittee shall follow good operating practices for the scrubbers, condensers, steam jets, cyclones, vacuum pumps, surge tanks, and dust collectors including periodic inspection, routine maintenance and prompt repair of defects.

d. The affected chemical manufacturing units are not restricted to using the specific air control equipment listed in Condition 7.11.2, so long as emissions are kept below the applicable limits specified in Conditions 5.5, 7.11.3, and 7.11.6.

7.11.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected chemical manufacturing units are subject to the following:

a. This permit is issued based on negligible emissions of volatile organic material (VOM) from the 500 gallon reactor on PC-860 and the 175 gallon receiver on PC-860. For this purpose emissions from all such emission units shall not exceed nominal emission rates of 73 lb/month and 0.22 ton/yr.

b. The above limitations contain revisions to previously issued Permit 98030059. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, the hourly emission limit of 0.05 lb for VOM has been replaced the monthly limit of 73 lb without any increase in the annual emissions limit [T1R].

c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.11.7 Testing Requirements

a. *General*. Except as specified in 40 CFR 63.1257(a)(5), the procedures specified in 40 CFR 63.1257(d) and (f) are required to demonstrate initial compliance with 40 CFR 63.1254 and 63.1252(e), respectively. The provisions in 40 CFR 63.1257(a)(2) apply to performance tests that are specified in 40 CFR 63.1257(d). The provisions in 40 CFR 63.1257(a)(5) are used to demonstrate initial compliance with the alternative standards specified in 40 CFR 63.1254(c). The provisions in 40 CFR 63.1257(a)(6) are used to comply with the outlet

concentration requirements specified in 40 CFR 63.1254(a)(2)(i) and (a)(3)(ii)(B) [40 CFR 63.1257(a)].

b. *Test methods*. When testing is conducted to measure emissions from an affected source, the test methods specified in 40 CFR 63.1257(b)(1) through (10) shall be used [40 CFR 63.1257(b)].

c. Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.11.4(a) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in Condition 7.11.7 (d)(i)(A) (see also 35 IAC 218.105(f)(1)) [35 IAC 218.487].

d. Pursuant to 35 IAC 218.105(d)(1) and Section 39.5(7)(b) of the Act, the control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified below (see also 35 IAC 218.105(f)):

i. Volatile Organic Material Gas Phase Source Test Methods The methods in 40 CFR Part 60, Appendix A, delineated below shall be used to determine control device efficiencies [35 IAC 218.105(f)].

A. CFR Part 60, Appendix A, Method 18, 25 or 25A, as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. The test shall consist of three separate runs, each lasting a minimum of 60 min, unless the Illinois EPA and the USEPA determine that process variables dictate shorter sampling times [35 IAC 218.105(f)(1)].

B. 40 CFR Part 60, Appendix A, Method 1 or 1A shall be used for sample and velocity traverses [35 IAC 218.105(f)(2)].

C. 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D shall be used for velocity and

volumetric flow rates [35 IAC 218.105(f)(3)].

D. 40 CFR Part 60, Appendix A, Method 3 shall be used for gas analysis [35 IAC 218.105(f)(4)].

E. 40 CFR Part 60, Appendix A, Method 4 shall be used for stack gas moisture [35 IAC 218.105(f)(5)].

F. 40 CFR Part 60, Appendix A, Methods 2, 2A, 2C, 2D, 3 and 4 shall be performed, as applicable, at least twice during each test run [35 IAC 218.105(f)(6)].

G. Use of an adaptation to any of the test methods specified in Conditions 7.11.7 (d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) may not be used unless approved by the Illinois EPA and the USEPA on a case by case basis. An owner or operator must submit sufficient documentation for the Illinois EPA and the USEPA to find that the test methods specified in Conditions 7.11.7(d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) will yield inaccurate results and that the proposed adaptation is appropriate [35 IAC 218.105(f)(7)].

ii. Notwithstanding other requirements of 35 IAC Part 218, upon request of the Illinois EPA where it is necessary to demonstrate compliance, an owner or operator of an emission unit which is subject to 35 IAC Part 218 shall, at his own expense, conduct tests in accordance with the applicable test methods and procedures specific in 35 IAC Part 218. Nothing in this Condition (see also 35 IAC 218.105) shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing [35 IAC 218.105(i)].

7.11.8 Monitoring Requirements

a. The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard as specified in 40 CFR 63.1258. During the initial compliance demonstration, maximum or minimum

operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish the operating parameter level [40 CFR 63.1258(a)].

b. *Monitoring for control devices*.

i. *Parameters to monitor*. Except as specified in 40 CFR 63.1258(b)(1)(i), for each control device, the owner or operator shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4 of 40 CFR 63 Subpart GGG and in 40 CFR 63.1258(b)(1)(ii) through (xi) [40 CFR 63.1258(b)(1)].

ii. *Averaging periods*. Averaging periods for parametric monitoring levels shall be established according to 40 CFR 63.1258(b)(2)(i) through (iii) [40 CFR 63.1258(b)(2)].

iii. *Monitoring for the alternative standards*. For control devices that are used to comply with the provisions of 40 CFR 63.1254(c), the owner or operator shall monitor and record the outlet TOC concentration and the outlet hydrogen halide and halogen concentration every 15 minutes during the period in which the device is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG. A TOC monitor meeting the requirements of Performance Specification 8 or 9 of appendix B of 40 CFR Part 60 shall be installed, calibrated, and maintained, according to 40 CFR 63.8. The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens [40 CFR 63.1258(b)(5)].

iv. *Exceedances of operating parameters*. Pursuant to 40 CFR 63.1258(b)(6), an exceedance of an operating parameter is defined as one of the following:

A. If the parameter, averaged over the operating day or block, is below a minimum value established during the

initial compliance demonstration [40 CFR 63.1258 (b)(6)(i)].

B. If the parameter, averaged over the operating day or block, is above the maximum value established during the initial compliance demonstration [40 CFR 63.1258(b)(6)(ii)].

C. Each loss of pilot flame for flares [40 CFR 63.1258(b)(6)(iii)].

v. *Excursions*. Pursuant to 40 CFR 63.1258(b)(7), excursions are defined by either of the two cases listed in Conditions 7.11.8(b)(v)(A) or (B) (see also 40 CFR 63.1258(b)(7)(i) or (ii)).

A. When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in Condition 7.11.8 (b)(v)(C) (see also 40 CFR 63.1258 (b)(7)(iii)), for at least 75 percent of the operating hours [40 CFR 63.1258 (b)(7)(i)].

B. When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data [40 CFR 63.1258(b)(7)(ii)].

C. Monitoring data are insufficient to constitute a valid hour of data, as used in Conditions 7.11.8(b)(v)(A) and (B) (see also 40 CFR 63.1258(b)(7)(i) and (ii)), if measured values are unavailable for any of the required 15-minute periods within the hour [40 CFR 63.1258(b)(7)(iii)].

vi. *Violations*. Pursuant to 40 CFR 63.1258(b)(8), exceedances of parameters monitored according to the provisions of 40 CFR 63.1258(b)(1)(ii) and (iv) through (ix) or excursions as defined by Conditions 7.11.8(b)(v)(A) through (C) (see also 40 CFR 63.1258(b)(7)(i) through (iii)) constitute violations of the operating limit according to Conditions 7.11.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i),

(ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of 40 CFR 63.1258(b)(1)(x) constitute violations of the emission limit according to Conditions 7.11.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of Condition 7.11.8(b)(iii) (see also 40 CFR 63.1258(b)(5)) constitute violations of the emission limit according to the provisions of Conditions 7.11.8(b)(vi)(C) and (D) (see also 40 CFR 63.1258(b)(8)(iii) and (iv)).

A. Except as provided in Condition 7.11.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process [40 CFR 63.1258(b)(8)(i)].

B. Except as provided in Condition 7.11.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device, for each process for which the control device is in service [40 CFR 63.1258(b)(8)(ii)].

C. Except as provided in Condition 7.11.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device. Except as provided in Condition 7.11.8(b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv hydrogen halide or halogen outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device [40 CFR 63.1258 (b)(8)(iii)].

D. Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate

monitoring data do not constitute a violation if they occur during a startup, shutdown, or malfunction, and the facility follows its startup, shutdown, and malfunction plan [40 CFR 63.1258 (b)(8)(iv)].

c. *Monitoring for emission limits*. The owner or operator of any affected source complying with the provisions of 40 CFR 63.1254(a)(1) shall demonstrate continuous compliance with the 2,000 lb/yr emission limits by calculating daily a 365-day rolling summation of emissions. For owners and operators opting to switch compliance strategy from the 93 percent control requirement to the 2,000 lb/yr compliance method, as described in 40 CFR 63.1254(a), the rolling average must include emissions from the past 365 days. Each day that the total emissions per process exceeds 2,000 lb/yr will be considered a violation of the emission limit [40 CFR 63.1258(c)].

7.11.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected chemical manufacturing unit to demonstrate compliance with Conditions 5.5.1, 5.5.3(b), 7.11.3, 7.11.5, and 7.11.6, pursuant to Section 39.5(7)(b) of the Act:

a. *Records of equipment operation*. Pursuant to 40 CFR 63.1259(b), the owner or operator must keep the following records up-to-date and readily accessible:

i. Each measurement of a control device operating parameter monitored in accordance with Condition 7.11.8 (see also 40 CFR 63.1258) [40 CFR 63.1259 (b)(1)].

ii. For each continuous monitoring system used to comply with 40 CFR 63 Subpart GGG, records documenting the completion of calibration checks and maintenance of continuous monitoring systems [40 CFR 63.1259(b)(3)].

iii. For processes in compliance with the 2,000 lb/yr emission limit of 40 CFR 63.1254(a)(1), records of the rolling annual total emissions [40 CFR 63.1259(b)(4)].

iv. Pursuant to 40 CFR 63.1259(a)(5), records of the following, as appropriate:

A. The number of batches per year for each batch process [40 CFR 63.1259(a)(5)(i)].

B. The operating hours per year for continuous processes [40 CFR 63.1259 (a)(5)(ii)].

v. Uncontrolled and controlled emissions per batch for each process [40 CFR 63.1259(b)(6)].

vi. Wastewater concentration per POD or process [40 CFR 63.1259(b)(7)].

vii. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].

viii. Description of worst-case operating conditions as determined using the procedures described in 40 CFR 63.1257(b)(8) for control devices [40 CFR 63.1259(b)(10)].

b. *Records of operating scenarios*. The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with 40 CFR 63 Subpart GGG [40 CFR 63.1259(c)].

c. Records of the testing of the efficiency of each capture system and control device pursuant to Condition 7.11.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

d. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.11.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

e. Pursuant to 35 IAC 218.489(c), the following records shall be kept for emission units subject to Condition 7.11.5(a) (see also 35 IAC 218.484) which contain VOL:

i. For maintenance and inspection:

A. The date and time each cover is opened [35 IAC 218.489(c)(1)(A)];

B. The length of time the cover remains open [35 IAC 218.489(c)(1)(B)]; and

C. The reason why the cover is opened [35 IAC 218.489(c)(1)(C)].

ii. For production and sampling, detailed written procedures or manufacturing directions specifying the circumstances under which covers may be opened and the procedures for opening covers [35 IAC 218.489(c)(2)].

f. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.11.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.11.4(a) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.11.4(a) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

g. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

h. The Permittee shall keep the following records for each product manufactured using the affected chemical manufacturing units. These records shall follow established techniques to calculate emissions:

   i. A listing of the raw materials, process materials and associated air pollution control equipment used in making each product manufactured using affected chemical manufacturing units;

   ii. A demonstration including engineering calculations for the HAP, PM, and VOM emissions generated for each process per batch of each product manufactured using affected chemical manufacturing units;

   iii. A demonstration including engineering calculations for the HAP, PM, and VOM control efficiencies of air pollution control equipment, if any, and emissions to the atmosphere for any air pollution control equipment operating in a normal manner. This demonstration shall also show compliance with the control requirements of 35 IAC 218 Subpart T, if applicable to any of the affected chemical manufacturing units;

   iv. The operating parameters of air pollution control equipment, if any, when operating normally (e.g., temperature of condenser cooling water supply); and

   v. Methodologies for recalculating emissions from batches run during the malfunction of control equipment.

i. The Permittee shall keep the following records on a batch basis:

   i. Records to show that air pollution control equipment is operated in a normal manner, as specified by the above records for a particular product manufactured using affected chemical manufacturing units;

   ii. Records of the number and size of batches run for each product manufactured using affected chemical manufacturing units. For this

purpose, a batch shall be considered to run on the day the batch is initiated. Any batch terminated prematurely will be assumed to be a completed batch; and

iii. Records of the times and duration of any malfunction in any air pollution control equipment.

j. The Permittee shall keep the following records on a monthly basis, prepared by the 15th day of the following month:

i. Records of HAP, PM, and VOM emissions for each product manufactured using affected chemical manufacturing units in the month, determined by combining the above records for generated emissions, control efficiency (if control operated in a normal manner) and production rate;

ii. Records of HAP, PM, and VOM emissions for the month for each batch made using affected chemical manufacturing units during any malfunction of air pollution control equipment; and

iii. Records of the aggregate annual HAP, PM, and VOM emissions from the affected chemical manufacturing units for each month, determined from the sum of the current month's emissions and the emissions from the previous 11 months.

k. The Permittee shall maintain an On-Site Implementation Log (OSIL) which shall contain the following information with respect to the equipment changes authorized by Conditions 7.11.11(b) and (c):

i. Name and location of batch process with replacement component(s) or control device(s);

ii. Description of the component(s) or control device(s) replaced;

iii. Asset or identification number of replacement component(s) or control device(s);

iv. The effective size or capacity of the original and each replacement component;

v. The effective efficiencies of the original control device(s) and the replacement control device(s);

vi. Manufacturer(s) and model number(s) of the replacement component(s) or control device(s);

vii. The date of installation of the replacement component(s) or control device(s); and

viii. Other information as needed to show the change is within the scope of Condition 7.11.11(b) or (c).

7.11.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected chemical manufacturing unit with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. *Periodic reports*. Pursuant to 40 CFR 63.1260(g), an owner or operator shall prepare Periodic reports in accordance with Conditions 7.11.10(a)(i) and (ii) (see also 40 CFR 63.1260(g)(1) and (2)) and submit them to the Illinois EPA and/or USEPA.

i. *Submittal schedule*. Pursuant to 40 CFR 63.1260 (g)(1), Except as provided in Conditions 7.11.10 (a)(i)(A), (B), and (C) (see also 40 CFR 63.1260 (g)(1)(i), (ii) and (iii)), an owner or operator shall submit Periodic reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due.

A. When the Illinois EPA and/or USEPA determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source [40 CFR 63.1260 (g)(1)(i)]; or

B. When the monitoring data are used directly for compliance determination and the source experience excess emissions, in which case quarterly reports shall be submitted. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting

format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in 40 CFR 63.10(e)(3)(ii) and (iii) shall apply, except that the term "excess emissions and continuous monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of Condition 7.11.10 (see also 40 CFR 63.1260) [40 CFR 63.1260(g)(1)(ii)].

C. When a new operating scenario has been operated since the last report, in which case quarterly reports shall be submitted [40 CFR 63.1260(g)(1)(iii)].

ii. *Content of Periodic report*. Pursuant to 40 CFR 63.1260(g)(2), the owner or operator shall include the information in Conditions 7.11.10 (a)(ii)(A) through (D) (see also 40 CFR 63.1260 (g)(2)(i) through (vii)), as applicable.

A. Each Periodic report must include the information in 40 CFR 63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the information in 40 CFR 63.10(e)(3)(vi)(J) [40 CFR 63.1260(g)(2)(i)].

B. Pursuant to 40 CFR 63.1260(g)(2)(ii), if the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in Conditions 7.11.10(a)(ii)(B)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(ii)(A) through (D)).

I. Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in

the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(A)].

II. Duration of excursions, as defined in Condition 7.11.8(b)(v) (see also 40 CFR 63.1258(b)(7)) [40 CFR 63.1260(g)(2)(ii)(B)].

III. Operating logs and operating scenarios for all operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(C)].

IV. When a continuous monitoring system is used, the information required in 40 CFR 63.10(c)(5) through (13) [40 CFR 63.1260(g)(2)(ii)(D)].

C. Pursuant to 40 CFR 63.1260(g)(2)(v), the information in Conditions 7.11.10 (a)(ii)(C)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(v)(A) through (D)) shall be stated in the Periodic report, when applicable.

I. No excess emissions [40 CFR 63.1260 (g)(2)(v)(A)].

II. No exceedances of a parameter [40 CFR 63.1260(g)(2)(v)(B)].

III. No excursions [40 CFR 63.1260 (g)(2)(v)(C)].

IV. No continuous monitoring system has been inoperative, out of control, repaired, or adjusted [40 CFR 63.1260(g)(2)(v)(D)].

D. Each new operating scenario which has been operated since the time period covered by the last Periodic report. For the initial Periodic report, each operating scenario for each process operated since the compliance date shall be submitted [40 CFR 63.1260(g)(2)(vii)].

b. *Notification of process change.*

i. Pursuant to 40 CFR 63.1260(h)(1), except as specified in Condition 7.11.10(b)(ii) (see also 40 CFR 63.1260(h)(2)), whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report quarterly. The report may be submitted as part of the next Periodic report required under Condition 7.11.10(a) (see also 40 CFR 63.1260(g)). The report shall include:

A. A brief description of the process change [40 CFR 63.1260(h)(1)(i)].

B. A description of any modifications to standard procedures or quality assurance procedures [40 CFR 63.1260(h)(1)(ii)].

C. Revisions to any of the information reported in the original Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) [40 CFR 63.1260(h)(1)(iii)].

D. Information required by the Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) for changes involving the addition of processes or equipment [40 CFR 63.1260(h)(1)(iv)].

ii. Pursuant to 40 CFR 63.1260(h)(2), an owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

A. Any change in the activity covered by the Precompliance report [40 CFR 63.1260 (h)(2)(i)].

B. A change in the status of a control device from small to large [40 CFR 63.1260 (h)(2)(ii)].

c. *Reports of startup, shutdown, and malfunction*. For the purposes of 40 CFR 63 Subpart GGG, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the periodic reports required under Condition 7.11.10(a) (see also 40 CFR 63.1260(g)) instead of the schedule specified in 40 CFR 63.10 (d)(5)(i). These reports shall include the information specified in Condition 5.6.2(n)(iii)(A) through (C) (see also 40 CFR 63.1259(a)(3)(i) through

(iii)) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in 40 CFR 63.10 (d)(4)(ii) [40 CFR 63.1260(i)].

d. *Notification of performance test and test plan*. The owner or operator of an affected source shall notify the Illinois EPA and/or USEPA of the planned date of a performance test at least 60 days before the test in accordance with 40 CFR 63.7(b). The owner or operator also must submit the test plan required by 40 CFR 63.7(c) and the emission profile required by 40 CFR 63.1257(b)(8)(ii) with the notification of the performance test [40 CFR 63.1260(l)].

e. *Request for extension of compliance*. An owner or operator may submit to the Illinois EPA and/or USEPA a request for an extension of compliance in accordance with 40 CFR 63.1250(f)(4) [40 CFR 63.1260(m)].

f. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

g. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.11.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.11.4(a) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

h. Emissions of PM and/or VOM in excess of the limits in Conditions 5.5.3(b), 7.11.3 and/or 7.11.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.11.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following changes with respect to the affected chemical manufacturing units without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification pursuant to regulations promulgated pursuant to Title I of the CAA (i.e., 40 CFR 52.21 and 35 IAC Part 203):

a. This permit is issued for production of pharmaceuticals, chemical intermediates for pharmaceutical products and pharmaceutical-like products such as hormones, enzymes and antibiotics. In addition to varying the quantities of such materials produced, the Permittee may change the types of such materials produced, making products not previously made in the affected chemical manufacturing units, or changing the process by which such materials are made, provided that Conditions 5.5, 7.11.3, or 7.11.6 are not violated.

b. The replacement of component parts for a batch process with the same or functionally similar component parts, provided there is no effective increase in the capacity of the batch process (i.e., like-kind replacement), provided that the replacements are not so extensive as to constitute reconstruction of the batch process and it can be demonstrated that emissions from the batch process remain in compliance with the limits specified in Conditions 5.5, 7.11.3, and 7.11.6 (e.g., reactor, receiver, tank, crystallizer, pump, distillation column, centrifuge, air dryer, vacuum dryer).

c. The replacement of control devices with control devices with the same or better effective efficiency, provided there is no increase in emissions over the limits specified in Conditions 5.5, 7.11.3, and 7.11.6 (e.g., vacuum jet, vacuum pump, condenser, scrubber and demister).

7.11.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.11.9 and the emission factors and formulas listed below:

a. Determinations of daily and annual emissions for purposes of Condition 7.11.4(a) (see also 35 IAC 218.480) shall be made using both data on the hourly emission rate (or the emissions per unit of throughput) and appropriate daily and annual data from records of emission unit operation (or material

throughput or material consumption data). In the absence of representative test data pursuant to Condition 7.11.7(c) (see also 35 IAC 218.487) for the hourly emission rate (or the emissions per unit of throughput) such items shall be calculated using engineering calculations, including the methods described in Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/2-78-029). This Condition shall not affect the Illinois EPA's or the USEPA's authority to require emission tests to be performed pursuant to Condition 7.11.7(c) (see also 35 IAC 218.487)) [35 IAC 218.480(h)].

b. Compliance with Conditions 7.11.3(b), (d), and (e) is assumed by proper operation of the scrubbers, condensers, steam jets, cyclones, vacuum pumps, surge tanks, and dust collectors, as addressed by Condition 7.11.5(c).

c. To determine compliance with Conditions 5.5.1, 5.5.3(b), 7.11.3(f), and 7.11.6, VOM emissions from the affected chemical manufacturing units calculations based on the formulas and procedures listed in either Appendix B of "Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products" (EPA-450/2-78-029) or "Control of Volatile Organic Compound Emissions from Batch Processes-Alternative Control Techniques Information Document" (EPA-450/R-94-020) are acceptable.

d. To determine compliance with Conditions 5.5.1, 5.5.3(b)(ii), and 7.11.3(d) and (e), PM emissions from the affected chemical manufacturing units shall be calculated based on the following:

$$ER = (PR) \times ((PRL) \times (100 - e))/100$$

Where:

ER = Emission rate (lb/hr)

PR = Production rate (lb/hr)

PRL = Material lost to the control device, %

e = Efficiency of the control device, %

7.12 Units CAPD C-11 Chemical Manufacturing Building C-11
Controls CAPD C-11 Steam Jets

7.12.1 Description

The equipment in Building C-11 is used only to perform hydrogenation reactions, the reactors are specifically designed for that purpose and these reactions are performed at high pressure in closed vessels. Separation activities found in other production areas at the source are not performed in Building C-11. Normally, the only separation necessary is to remove catalyst from the reaction solution. No products are isolated in Building C-11. Operations in Building C-11 are dependent upon worldwide drug demand and are quite variable from year-to-year. It is difficult to predict long range operating demands since it is impossible to predict world-wide illness patterns.

7.12.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
NN-0443	Process Condenser (Process Condenser 824-PC)	None
Q-1048	110 Gallon Receiver (Receiver 825R, PC-825)	None
Q-1375	300 Gallon Reactor (Reactor 822, PC-822)	Steam Jet 824-SJ
Q-1552	500 Gallon Reactor (Reactor 824, PC-824)	Steam Jet 824-SJ
R-0598	750 Gallon Reactor (Reactor 825, PC-825)	Steam Jet 825-SJ
U-2028	Filter Press (Filter 824FP, PC-824)	None

7.12.3 Applicability Provisions and Applicable Regulations

a. The Building C-11 process condenser, reactors, filter press, and receiver are "affected chemical manufacturing units" for the purpose of these unit-specific conditions.

b. Each affected chemical manufacturing unit is subject to the emission limits identified in Condition 5.2.2.

c. The affected chemical manufacturing units are subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1254(a) for Process Vents at Existing Sources. The Illinois EPA is administering the NESHAP in Illinois on behalf of the USEPA under a delegation agreement. Pursuant to 40 CFR 63.1250(f)(1), an owner or operator of an existing affected source must comply with the

provisions of 40 CFR 63 Subpart GGG within 3 years after September 21, 1998.

d. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

e. The affected chemical manufacturing units are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.12.3(e)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

ii. Pursuant to 35 IAC 218.302, emissions of organic material in excess of those permitted by Condition 7.12.3(e)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by one of the following methods:

A. A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)]; or

B. Any other air pollution control equipment approved by the Illinois EPA and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere [35 IAC 218.302(c)].

7.12.4 Non-Applicability of Regulations of Concern

a. The affected chemical manufacturing units are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical

Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

b. The affected chemical manufacturing units are not subject to the control requirements of 35 IAC 218.501, Control Requirements for Batch Operations, pursuant to 35 IAC 218.501(b)(2), which excludes any emission unit included within the category specified in 35 IAC 218 Subpart T.

c. The affected chemical manufacturing units are not subject to 35 IAC 212.324, Process Emission Units In Certain Areas, because the source is not located in a non-attainment area for PM_{10}, as identified in 35 IAC 212.324(a)(1).

7.12.5 Operational and Production Limits and Work Practices

a. The owner or operator shall install covers on all in-process tanks used to manufacture pharmaceuticals and containing a VOL at any time. These covers must remain closed, except as production, sampling, maintenance or inspection procedures require operator access [35 IAC 218.484].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The Permittee shall follow good operating practices for the steam jets including periodic inspection, routine maintenance and prompt repair of defects.

7.12.6 Emission Limitations

There are no specific emission limitations for these units, however, there are source wide emission limitations in Condition 5.5 that include these units.

7.12.7 Testing Requirements

a. General. Except as specified in 40 CFR 63.1257(a)(5), the procedures specified in 40 CFR 63.1257(d) and (f) are required to demonstrate initial compliance with 40 CFR 63.1254 and 63.1252(e), respectively. The provisions in 40 CFR 63.1257(a)(2) apply to performance tests that are specified in 40 CFR 63.1257(d). The provisions in 40 CFR 63.1257(a)(5) are used to demonstrate initial compliance with the alternative standards specified in 40 CFR 63.1254(c). The provisions in 40 CFR 63.1257(a)(6) are used to comply with the outlet concentration requirements specified in 40 CFR 63.1254(a)(2)(i) and (a)(3)(ii)(B) [40 CFR 63.1257(a)].

b. Test methods. When testing is conducted to measure emissions from an affected source, the test methods specified in 40 CFR 63.1257(b)(1) through (10) shall be used [40 CFR 63.1257(b)].

c. Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.12.4(a) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in Condition 7.12.7(d)(i)(A) (see also 35 IAC 218.105(f)(1)) [35 IAC 218.487].

d. Pursuant to 35 IAC 218.105(d)(1) and Section 39.5(7)(b) of the Act, the control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified below (see also 35 IAC 218.105(f)):

i. Volatile Organic Material Gas Phase Source Test Methods The methods in 40 CFR Part 60, Appendix A, delineated below shall be used to determine control device efficiencies [35 IAC 218.105(f)].

A. CFR Part 60, Appendix A, Method 18, 25 or 25A, as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be

based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. The test shall consist of three separate runs, each lasting a minimum of 60 min, unless the Illinois EPA and the USEPA determine that process variables dictate shorter sampling times [35 IAC 218.105(f)(1)].

B. 40 CFR Part 60, Appendix A, Method 1 or 1A shall be used for sample and velocity traverses [35 IAC 218.105(f)(2)].

C. 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D shall be used for velocity and volumetric flow rates [35 IAC 218.105(f)(3)].

D. 40 CFR Part 60, Appendix A, Method 3 shall be used for gas analysis [35 IAC 218.105(f)(4)].

E. 40 CFR Part 60, Appendix A, Method 4 shall be used for stack gas moisture [35 IAC 218.105(f)(5)].

F. 40 CFR Part 60, Appendix A, Methods 2, 2A, 2C, 2D, 3 and 4 shall be performed, as applicable, at least twice during each test run [35 IAC 218.105(f)(6)].

G. Use of an adaptation to any of the test methods specified in Conditions 7.12.7(d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) may not be used unless approved by the Illinois EPA and the USEPA on a case by case basis. An owner or operator must submit sufficient documentation for the Illinois EPA and the USEPA to find that the test methods specified in Conditions 7.12.7(d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) will yield inaccurate results and that the proposed adaptation is appropriate [35 IAC 218.105(f)(7)].

ii. Notwithstanding other requirements of 35 IAC Part 218, upon request of the Illinois EPA where it is necessary to demonstrate compliance, an owner or operator of an

emission unit which is subject to 35 IAC Part 218 shall, at his own expense, conduct tests in accordance with the applicable test methods and procedures specific in 35 IAC Part 218. Nothing in this Condition (see also 35 IAC 218.105) shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing [35 IAC 218.105(i)].

7.12.8 Monitoring Requirements

a. The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard as specified in 40 CFR 63.1258. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish the operating parameter level [40 CFR 63.1258(a)].

b. *Monitoring for control devices.*

i. *Parameters to monitor.* Except as specified in 40 CFR 63.1258(b)(1)(i), for each control device, the owner or operator shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4 of 40 CFR 63 Subpart GGG and in 40 CFR 63.1258(b)(1)(ii) through (xi) [40 CFR 63.1258(b)(1)].

ii. *Averaging periods.* Averaging periods for parametric monitoring levels shall be established according to 40 CFR 63.1258(b)(2)(i) through (iii) [40 CFR 63.1258(b)(2)].

iii. *Monitoring for the alternative standards.* For control devices that are used to comply with the provisions of 40 CFR 63.1254(c), the owner or operator shall monitor and record the outlet TOC concentration and the outlet hydrogen halide and halogen concentration every 15 minutes during the period in which the device is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG. A TOC monitor meeting the requirements of Performance Specification 8 or 9 of appendix B

of 40 CFR Part 60 shall be installed, calibrated, and maintained, according to 40 CFR 63.8. The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens [40 CFR 63.1258(b)(5)].

iv. *Exceedances of operating parameters*. Pursuant to 40 CFR 63.1258(b)(6), an exceedance of an operating parameter is defined as one of the following:

A. If the parameter, averaged over the operating day or block, is below a minimum value established during the initial compliance demonstration [40 CFR 63.1258 (b)(6)(i)].

B. If the parameter, averaged over the operating day or block, is above the maximum value established during the initial compliance demonstration [40 CFR 63.1258(b)(6)(ii)].

C. Each loss of pilot flame for flares [40 CFR 63.1258(b)(6)(iii)].

v. *Excursions*. Pursuant to 40 CFR 63.1258(b)(7), excursions are defined by either of the two cases listed in Conditions 7.12.8(b)(v)(A) or (B) (see also 40 CFR 63.1258(b)(7)(i) or (ii)).

A. When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in Condition 7.12.8 (b)(v)(C) (see also 40 CFR 63.1258 (b)(7)(iii)), for at least 75 percent of the operating hours [40 CFR 63.1258 (b)(7)(i)].

B. When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data [40 CFR 63.1258(b)(7)(ii)].

C. Monitoring data are insufficient to constitute a valid hour of data, as used in Conditions 7.12.8(b)(v)(A) and (B) (see also 40 CFR 63.1258(b)(7)(i) and (ii)), if measured values are unavailable for any of the required 15-minute periods within the hour [40 CFR 63.1258(b)(7)(iii)].

vi. *Violations*. Pursuant to 40 CFR 63.1258(b)(8), exceedances of parameters monitored according to the provisions of 40 CFR 63.1258(b)(1)(ii) and (iv) through (ix) or excursions as defined by Conditions 7.12.8(b)(v)(A) through (C) (see also 40 CFR 63.1258(b)(7)(i) through (iii)) constitute violations of the operating limit according to Conditions 7.12.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of 40 CFR 63.1258(b)(1)(x) constitute violations of the emission limit according to Conditions 7.12.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of Condition 7.12.8(b)(iii) (see also 40 CFR 63.1258 (b)(5)) constitute violations of the emission limit according to the provisions of Conditions 7.12.8(b)(vi)(C) and (D) (see also 40 CFR 63.1258 (b)(8)(iii) and (iv)).

A. Except as provided in Condition 7.12.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process [40 CFR 63.1258(b)(8)(i)].

B. Except as provided in Condition 7.12.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device, for each process for which the control device is in service [40 CFR 63.1258(b)(8)(ii)].

C. Except as provided in Condition 7.12.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device. Except as provided in Condition 7.12.8(b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv hydrogen halide or halogen outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device [40 CFR 63.1258 (b)(8)(iii)].

D. Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur during a startup, shutdown, or malfunction, and the facility follows its startup, shutdown, and malfunction plan [40 CFR 63.1258 (b)(8)(iv)].

c. *Monitoring for emission limits*. The owner or operator of any affected source complying with the provisions of 40 CFR 63.1254(a)(1) shall demonstrate continuous compliance with the 2,000 lb/yr emission limits by calculating daily a 365-day rolling summation of emissions. For owners and operators opting to switch compliance strategy from the 93 percent control requirement to the 2,000 lb/yr compliance method, as described in 40 CFR 63.1254(a), the rolling average must include emissions from the past 365 days. Each day that the total emissions per process exceeds 2,000 lb/yr will be considered a violation of the emission limit [40 CFR 63.1258(c)].

7.12.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected chemical manufacturing unit to demonstrate compliance with Conditions 5.5.1, 5.5.3(c), 7.12.3, and 7.12.5, pursuant to Section 39.5(7)(b) of the Act:

a. *Records of equipment operation*. Pursuant to 40 CFR 63.1259(b), the owner or operator must keep the following records up-to-date and readily accessible:

i. Each measurement of a control device operating parameter monitored in accordance with

Condition 7.12.8 (see also 40 CFR 63.1258) [40 CFR 63.1259 (b)(1)].

ii. For each continuous monitoring system used to comply with 40 CFR 63 Subpart GGG, records documenting the completion of calibration checks and maintenance of continuous monitoring systems [40 CFR 63.1259(b)(3)].

iii. For processes in compliance with the 2,000 lb/yr emission limit of 40 CFR 63.1254(a)(1), records of the rolling annual total emissions [40 CFR 63.1259(b)(4)].

iv. Pursuant to 40 CFR 63.1259(a)(5), records of the following, as appropriate:

A. The number of batches per year for each batch process [40 CFR 63.1259(a)(5)(i)].

B. The operating hours per year for continuous processes [40 CFR 63.1259 (a)(5)(ii)].

v. Uncontrolled and controlled emissions per batch for each process [40 CFR 63.1259(b)(6)].

vi. Wastewater concentration per POD or process [40 CFR 63.1259(b)(7)].

vii. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].

viii. Description of worst-case operating conditions as determined using the procedures described in 40 CFR 63.1257(b)(8) for control devices [40 CFR 63.1259(b)(10)].

b. *Records of operating scenarios*. The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with 40 CFR 63 Subpart GGG [40 CFR 63.1259(c)].

c. Records of the testing of the efficiency of each capture system and control device pursuant to Condition 7.12.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

d. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.12.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

e. Pursuant to 35 IAC 218.489(c), the following records shall be kept for emission units subject to Condition 7.12.5(a) (see also 35 IAC 218.484) which contain VOL:

i. For maintenance and inspection:

A. The date and time each cover is opened [35 IAC 218.489(c)(1)(A)];

B. The length of time the cover remains open [35 IAC 218.489(c)(1)(B)]; and

C. The reason why the cover is opened [35 IAC 218.489(c)(1)(C)].

ii. For production and sampling, detailed written procedures or manufacturing directions specifying the circumstances under which covers may be opened and the procedures for opening covers [35 IAC 218.489(c)(2)].

f. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the

applicability cutoffs in Condition 7.12.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.12.4(a) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.12.4(a) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

g. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

h. The Permittee shall keep the following records for each product manufactured using the affected chemical manufacturing units. These records shall follow established techniques to calculate emissions:

i. A listing of the raw materials, process materials and associated air pollution control equipment used in making each product manufactured using affected chemical manufacturing units;

ii. A demonstration including engineering calculations for the HAP, PM, and VOM emissions generated for each process per batch of each product manufactured using affected chemical manufacturing units;

iii. A demonstration including engineering calculations for the HAP, PM, and VOM control efficiencies of air pollution control equipment, if any, and emissions to the atmosphere for any air pollution control equipment operating in a normal manner. This demonstration shall also show compliance with the control requirements of 35 IAC 218 Subpart T, if applicable to any of the affected chemical manufacturing units;

iv. The operating parameters of air pollution control equipment, if any, when operating normally (e.g., temperature of condenser cooling water supply); and

v. Correction factors for the malfunction of control equipment.

i. The Permittee shall keep the following records on a batch basis:

i. Records to show that air pollution control equipment is operated in a normal manner, as specified by the above records for a particular product manufactured using affected chemical manufacturing units;

ii. Records of the number and size of batches run for each product manufactured using affected chemical manufacturing units. For this purpose, a batch shall be considered to run on the day the batch is initiated. Any batch terminated prematurely will be assumed to be a completed batch; and

iii. Records of the times and duration of any malfunction in any air pollution control equipment.

j. The Permittee shall keep the following records on a monthly basis, prepared by the 15th day of the following month:

i. Records of HAP, PM, and VOM emissions for each product manufactured using affected chemical manufacturing units in the month, determined by combining the above records for generated emissions, control efficiency (if control operated in a normal manner) and production rate;

ii. Records of HAP, PM, and VOM emissions for the month for each batch made using affected chemical manufacturing units during any malfunction of air pollution control equipment; and

iii. Records of the aggregate annual HAP, PM, and VOM emissions from the affected chemical manufacturing units for each month, determined from the sum of the current month's emissions and the emissions from the previous 11 months.

k. The Permittee shall maintain an On-Site Implementation Log (OSIL) which shall contain the following information with respect to the equipment changes authorized by Conditions 7.12.11(b) and (c):

i. Name and location of batch process with replacement component(s) or control device(s);

ii. Description of the component(s) or control device(s) replaced;

iii. Asset or identification number of replacement component(s) or control device(s);

iv. The effective size or capacity of the original and each replacement component;

v. The effective efficiencies of the original control device(s) and the replacement control device(s);

vi. Manufacturer(s) and model number(s) of the replacement component(s) or control device(s);

vii. The date of installation of the replacement component(s) or control device(s); and

viii. Other information as needed to show the change is within the scope of Condition 7.12.11(b) or (c).

7.12.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected chemical manufacturing unit with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. *Periodic reports*. Pursuant to 40 CFR 63.1260(g), an owner or operator shall prepare Periodic reports in accordance with Conditions 7.12.10(a)(i) and (ii) (see also 40 CFR 63.1260(g)(1) and (2)) and submit them to the Illinois EPA and/or USEPA.

i. *Submittal schedule*. Pursuant to 40 CFR 63.1260 (g)(1), Except as provided in Conditions 7.12.10 (a)(i)(A), (B), and (C) (see also 40 CFR 63.1260 (g)(1)(i), (ii) and (iii)), an owner or operator shall submit Periodic reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status is due and shall cover the 6-month period

beginning on the date the Notification of Compliance Status is due.

A. When the Illinois EPA and/or USEPA determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source [40 CFR 63.1260 (g)(1)(i)]; or

B. When the monitoring data are used directly for compliance determination and the source experience excess emissions, in which case quarterly reports shall be submitted. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in 40 CFR 63.10(e)(3)(ii) and (iii) shall apply, except that the term "excess emissions and continuous monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of Condition 7.12.10 (see also 40 CFR 63.1260) [40 CFR 63.1260(g)(1)(ii)].

C. When a new operating scenario has been operated since the last report, in which case quarterly reports shall be submitted [40 CFR 63.1260(g)(1)(iii)].

ii. *Content of Periodic report*. Pursuant to 40 CFR 63.1260(g)(2), the owner or operator shall include the information in Conditions 7.12.10 (a)(ii)(A) through (D) (see also 40 CFR 63.1260 (g)(2)(i) through (vii)), as applicable.

A. Each Periodic report must include the information in 40 CFR 63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the information in 40 CFR 63.10(e)(3)(vi)(J) [40 CFR 63.1260(g)(2)(i)].

B. Pursuant to 40 CFR 63.1260(g)(2)(ii), if the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or

greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in Conditions 7.12.10(a)(ii)(B)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(ii)(A) through (D)).

I. Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(A)].

II. Duration of excursions, as defined in Condition 7.12.8(b)(v) (see also 40 CFR 63.1258(b)(7)) [40 CFR 63.1260(g)(2)(ii)(B)].

III. Operating logs and operating scenarios for all operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(C)].

IV. When a continuous monitoring system is used, the information required in 40 CFR 63.10(c)(5) through (13) [40 CFR 63.1260(g)(2)(ii)(D)].

C. Pursuant to 40 CFR 63.1260(g)(2)(v), the information in Conditions 7.12.10 (a)(ii)(C)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(v)(A) through (D)) shall be stated in the Periodic report, when applicable.

I. No excess emissions [40 CFR 63.1260 (g)(2)(v)(A)].

II. No exceedances of a parameter [40 CFR 63.1260(g)(2)(v)(B)].

III. No excursions [40 CFR 63.1260 (g)(2)(v)(C)].

IV. No continuous monitoring system has been inoperative, out of control, repaired, or adjusted [40 CFR 63.1260(g)(2)(v)(D)].

D. Each new operating scenario which has been operated since the time period covered by the last Periodic report. For the initial Periodic report, each operating scenario for each process operated since the compliance date shall be submitted [40 CFR 63.1260(g)(2)(vii)].

b. *Notification of process change*.

i. Pursuant to 40 CFR 63.1260(h)(1), except as specified in Condition 7.12.10(b)(ii) (see also 40 CFR 63.1260(h)(2)), whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report quarterly. The report may be submitted as part of the next Periodic report required under Condition 7.12.10(a) (see also 40 CFR 63.1260(g)). The report shall include:

A. A brief description of the process change [40 CFR 63.1260(h)(1)(i)].

B. A description of any modifications to standard procedures or quality assurance procedures [40 CFR 63.1260(h)(1)(ii)].

C. Revisions to any of the information reported in the original Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) [40 CFR 63.1260(h)(1)(iii)].

D. Information required by the Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) for changes involving the addition of processes or equipment [40 CFR 63.1260(h)(1)(iv)].

ii. Pursuant to 40 CFR 63.1260(h)(2), an owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

A. Any change in the activity covered by the Precompliance report [40 CFR 63.1260 (h)(2)(i)].

B. A change in the status of a control device from small to large [40 CFR 63.1260 (h)(2)(ii)].

c. *Reports of startup, shutdown, and malfunction*. For the purposes of 40 CFR 63 Subpart GGG, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the periodic reports required under Condition 7.12.10(a) (see also 40 CFR 63.1260(g)) instead of the schedule specified in 40 CFR 63.10(d)(5)(i). These reports shall include the information specified in Condition 5.6.2(n)(iii)(A) through (C) (see also 40 CFR 63.1259(a)(3)(i) through (iii)) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in 40 CFR 63.10(d)(4)(ii) [40 CFR 63.1260(i)].

d. *Notification of performance test and test plan*. The owner or operator of an affected source shall notify the Illinois EPA and/or USEPA of the planned date of a performance test at least 60 days before the test in accordance with 40 CFR 63.7(b). The owner or operator also must submit the test plan required by 40 CFR 63.7(c) and the emission profile required by 40 CFR 63.1257(b)(8)(ii) with the notification of the performance test [40 CFR 63.1260(l)].

e. *Request for extension of compliance*. An owner or operator may submit to the Illinois EPA and/or USEPA a request for an extension of compliance in accordance with 40 CFR 63.1250(f)(4) [40 CFR 63.1260(m)].

f. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

g. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.12.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.12.4(a) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

h. Emissions of PM and/or VOM in excess of the limits in Conditions 5.5.3(c) and/or 7.12.3 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.12.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following changes with respect to the affected chemical manufacturing units without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification pursuant to regulations promulgated pursuant to Title I of the CAA (i.e., 40 CFR 52.21 and 35 IAC Part 203):

a. This permit is issued for production of pharmaceuticals, chemical intermediates for pharmaceutical products and pharmaceutical-like products such as hormones, enzymes and antibiotics. In addition to varying the quantities of such materials produced, the Permittee may change the types of such materials produced, making products not previously made in the affected chemical manufacturing units, or changing the process by which such materials are made, provided that Conditions 5.5 or 7.12.3 are not violated.

b. The replacement of component parts for a batch process with the same or functionally similar component parts, provided there is no effective increase in the capacity of the batch process (i.e., like-kind replacement), provided that the replacements are not so extensive as to constitute reconstruction of the batch process and it can be demonstrated that emissions from the batch process remain in compliance with the limits specified in Conditions 5.5 and 7.12.3 (e.g., reactor, receiver, tank, crystallizer, pump, distillation column, centrifuge, air dryer, vacuum dryer).

c. The replacement of control devices with control devices with the same or better effective efficiency, provided there is no increase in emissions over the limits specified in Conditions 5.5 and 7.12.3 (e.g., vacuum jet, vacuum pump, condenser, scrubber and demister).

7.12.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.12.9 and the emission factors and formulas listed below:

a. Determinations of daily and annual emissions for purposes of Condition 7.12.4(a) (see also 35 IAC 218.480) shall be made using both data on the hourly emission rate (or the emissions per unit of throughput) and appropriate daily and annual data from records of emission unit operation (or material throughput or material consumption data). In the absence of representative test data pursuant to Condition 7.12.7(c) (see also 35 IAC 218.487) for the hourly emission rate (or the emissions per unit of throughput) such items shall be calculated using engineering calculations, including the methods described in Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/2-78-029). This Condition shall not affect the Illinois EPA's or the USEPA's authority to require emission tests to be performed pursuant to Condition 7.12.7(c) (see also 35 IAC 218.487)) [35 IAC 218.480(h)].

b. Compliance with Conditions 7.12.3(b), and (d) is assumed by proper operation of the steam jets, as addressed by Condition 7.12.5(c).

c. To determine compliance with Conditions 5.5.1, 5.5.3(c), and 7.12.3(e), VOM emissions from the affected chemical manufacturing units calculations based on the formulas and procedures listed in either Appendix B of "Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products" (EPA-450/2-78-029) or "Control of Volatile Organic Compound Emissions from Batch Processes-Alternative Control Techniques Information Document" (EPA-450/R-94-020) are acceptable.

d. To determine compliance with Conditions 5.5.1, 5.5.3(b)(ii), and 7.12.3(d), PM emissions from the affected chemical manufacturing units shall be calculated based on the following:

$$ER = (PR) \times ((PRL) \times (100 - e))/100$$

Where:

ER = Emission rate (lb/hr)

PR = Production rate (lb/hr)

PRL = Material lost to the control device, %

e = Efficiency of the control device, %

7.13 Units CAPD C-17 Chemical Manufacturing Building C-17
Controls CAPD C-17 Cyclones, Scrubbers, Condensers, Vacuum Pumps, and Steam Jets

7.13.1 Description

The equipment in Building C-17 is used to produce a wide variety of pharmaceutical and pharmaceutical-like products via batch chemical processing techniques, termed Chemical Manufacturing by the source. Typical pharmaceutical compound production requires numerous chemical reactions and mechanical separations to from the needed complex chemical molecules of active drug. The chemical synthesis of pharmaceuticals may require from several days to several weeks to complete a single batch of product. The number and type of individual process steps varies greatly depending upon the particular pharmaceutical compound. For example, a single piece of process equipment may be used several different times during different stages of the production campaign to produce a single product, and each step will be different from all the others.

Batch pharmaceutical production using chemical synthesis methods typically employs several different unit processes, such as reactions, distillation, crystallization, separation, drying, and milling steps. Each step must be carefully controlled to produce the desired product at the desired quality. Solvents are typically employed in the reaction, distillation and purification steps of the process. A batch refers to the production of a single product, from beginning to the end, following the manufacturing directions. Production is usually scheduled in short term campaigns consisting of one or more batches. The number of batches needed to produce a given amount of pharmaceutical product is dependent upon the complexity of the manufacturing processes, the size of the equipment available, and the purity desired. As many as one hundred individual steps or unit processes may be required for a single batch. Although the end uses of pharmaceuticals are in the milligram per dose range, the bulk production of pharmaceuticals may produce hundreds of pounds of the material per batch. For some products, batches of a production campaign may produce enough product to satisfy world-wide demand for one or more years. For the more common antibiotics, the demand can exceed thousands of kilograms per year. The pharmaceutical needs of the world are extremely variable and unpredictable. For example, spring and fall flu seasons will create a seasonal demand for antibiotics, of which the exact volume will be dependent on how many people get sick. Therefore, it is nearly impossible for the source to predict and subsequently plan the amount of particular pharmaceutical to make in a given year, or part of the year. In summary,

the chemical synthesis of pharmaceuticals is, by necessity, a small batch process system which must operate with extreme flexibility, and quick responsiveness of the source to market demands.

A variety of portable equipment is used in Building C-17 for batch process manufacturing. Portable equipment means single pieces of equipment that are mounted on wheels or skids so as to enable them to be moved from one process to another within a manufacturing building and from one manufacturing building to another. Portable equipment is divided into three categories: 1) vessels, including reactors, receivers, and tanks; 2) solid/liquid separation equipment, including dryers, centrifuges, and filters; 3) miscellaneous, including dust collectors, emission control equipment, oscillators, and sifters. Whenever a piece of portable equipment is used in a process, its emissions are calculated and included with the emissions for that process.

7.13.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
A-1303	Centrifuge 935C (PC-935)	Cyclone 935C-CYC and Scrubber 988-SC
B-2411	Process Condenser 920-PC (PC-920)	After Condenser 920-AC; Liquid Ring Pump 920-LRP; Steam Jet 920-SJ; Vent Condenser 920-VC; and Scrubber 988-SC
B-2442	Process Condenser 915-PC (PC-915)	After Condenser 905-AC; Liquid Ring Pump 905-LRP Steam Jets 905-SJ1 and 905-SJ2; Vent Condenser 915-VC; and Scrubber 988-SC
B-2924	Process Condenser 900-PC (PC-900)	After Condenser 900-AC; Liquid Ring Pump 900-LRP; Steam Jets 900-SJ1 and 900-SJ2; Vent Condenser 900-VC; and Scrubber 988-SC
B-2925	Process Condenser 905-PC (PC-905)	After Condenser 900-AC; Liquid Ring Pump 900-LRP; Steam Jets 900-SJ1 and 900-SJ2; Vent Condenser 905-VC; and Scrubber 988-SC

Emission Unit	Description	Emission Control Equipment
B-2926	Process Condenser 910-PC (PC-910)	After Condenser 910-AC; Liquid Ring Pump 910-LRP; Steam Jets 910-SJ1 and 910-SJ2; Vent Condenser 910-VC; and Scrubber 988-SC
E-0358	Process Condenser 925-PC (PC-925)	After Condenser 910-AC; Liquid Ring Pump 910-LRP; Steam Jets 910-SJ1 and 910-SJ2; Vent Condenser 925-VC; and Scrubber 988-SC
LC-918149	2,000 Gallon Mix Tank (Tank 930MT, PC-930)	Vent Condenser 930MT-VC and Scrubber 988-SC
LC-926576	2,500 Gallon Reactor (Reactor 920, PC-920)	After Condenser 920-AC; Liquid Ring Pump 920-LRP; Steam Jet 920-SJ; Vent Condenser 920-VC; and Scrubber 988-SC
Q-3451	300 Gallon Drop Tank (Tank 994DT2, PC-994)	Scrubber 998-SC
Q-3489	1,500 Gallon Hold Tank (Tank 985HT, PC-985)	None
Q-3495	2,000 Gallon Reactor (Reactor 900, PC-900)	After Condenser 900-AC; Liquid Ring Pump 900-LRP; Steam Jets 900-SJ1 and 900-SJ2; Vent Condenser 900-VC; and Scrubber 988-SC
Q-3496	2,000 Gallon Mix Tank (Tank 901MT, PC-901)	After Condenser 900-AC; Liquid Ring Pump 900-LRP; Steam Jets 900-SJ1 and 900-SJ2; Vent Condenser 901MT-VC; and Scrubber 988-SC
Q-3497	2,000 Gallon Reactor (Reactor 905, PC-905)	After Condenser 900-AC; Liquid Ring Pump 900-LRP; Steam Jets 900-SJ1 and 900-SJ2; Vent Condenser 905-VC; and Scrubber 988-SC

Emission Unit	Description	Emission Control Equipment
Q-3498	2,000 Gallon Mix Tank (Tank 906MT, PC-906)	After Condenser 905-AC; Liquid Ring Pump 905-LRP; Steam Jets 905-SJ1 and 905-SJ2; Vent Condenser 906MT-VC; and Scrubber 988-SC
Q-3499	2,000 Gallon Reactor (Reactor 910, PC-910)	After Condenser 910-AC; Liquid Ring Pump 910-LRP; Steam Jets 910-SJ1 and 910-SJ2; Vent Condenser 910-VC; and Scrubber 988-SC
Q-3500	2,000 Gallon Mix Tank (Tank 911MT, PC-911)	After Condenser 910-AC; Liquid Ring Pump 910-LRP; Steam Jets 910-SJ1 and 910-SJ2; Vent Condenser 911MT-VC; and Scrubber 988-SC
Q-3556	2,500 Gallon Reactor (Reactor 925, PC-925)	After Condenser 910-AC; Liquid Ring Pump 910-LRP; Steam Jets 910-SJ1 and 910-SJ2; Vent Condenser 925-VC; and Scrubber 988-SC
Q-3557	2,000 Gallon Receiver (Receiver 915R, PC-915)	After Condenser 905-AC; Liquid Ring Pump 905-LRP; Steam Jets 905-SJ1 and 905-SJ2; Vent Condenser 915-VC; and Scrubber 988-SC
Q-3559	200 Gallon Wash Tank (Tank 935WT, PC-935)	Scrubber 988-SC
Q-3560	300 Gallon Receiver (Receiver 920R, PC-920)	After Condenser 920-AC; Liquid Ring Pump 920-LRP; Steam Jet 920-SJ; Vent Condenser 920-VC; Scrubber 988-SC
Q3563	1,000 Gallon Mother Liquor Tank (Tank 935MLT, PC-935)	Scrubber 988-SC
Q-3564	1,000 Gallon Hold Tank (Tank 986HT, PC-986)	None
Q-3717	1,000 Gallon Caustic Tank (Tank 993T, PC-993)	None

Emission Unit	Description	Emission Control Equipment
R-0901	2,000 Gallon Reactor (Reactor 915, PC-915)	After Condenser 905-AC; Liquid Ring Pump 905-LRP Steam Jets 905-SJ1 and 905-SJ2; Vent Condenser 915-VC; and Scrubber 988-SC
R-1059	300 Gallon Receiver (Receiver 900R, PC-900)	After Condenser 900-AC; Liquid Ring Pump 900-LRP; Steam Jets 900-SJ1 and 900-SJ2; Vent Condenser 900-VC; and Scrubber 988-SC
R-1060	300 Gallon Receiver (Receiver 905R, PC-905)	After Condenser 900-AC; Liquid Ring Pump 900-LRP; Steam Jets 900-SJ1 and 900-SJ2; Vent Condenser 905-VC; and Scrubber 988-SC
R-1061	300 Gallon Receiver (Receiver 910R, PC-910)	After Condenser 910-AC; Liquid Ring Pump 910-LRP; Steam Jets 910-SJ1 and 910-SJ2; Vent Condenser 910-VC; and Scrubber 988-SC
R-1062	300 Gallon Drop Tank (Tank 994DT1, PC-994)	Scrubber 988-SC
Portable Equipment	Portable Vessels, Reactors, Receivers, Tanks, Solid/Liquid Separators, Filters, Centrifuges, Dryers, Mills, Sifters, and Oscillators	Scrubbers, Condensers, or Baghouses (as configured for the process)

7.13.3 Applicability Provisions and Applicable Regulations

a. The Building C-17 centrifuges, process condensers, mix tanks, reactors, drop tanks, hold tanks, wash tanks, receivers, tanks and portable equipment are "affected chemical manufacturing units" for the purpose of these unit-specific conditions.

b. Each affected chemical manufacturing unit is subject to the emission limits identified in Condition 5.2.2.

c. The affected chemical manufacturing units are subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1254(a) for Process Vents at Existing Sources. The Illinois

EPA is administering the NESHAP in Illinois on behalf of the USEPA under a delegation agreement. Pursuant to 40 CFR 63.1250(f)(1), an owner or operator of an existing affected source must comply with the provisions of 40 CFR 63 Subpart GGG within 3 years after September 21, 1998.

d. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

e. The affected chemical manufacturing units are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.13.3 (e)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

ii. Pursuant to 35 IAC 218.302, emissions of organic material in excess of those permitted by Condition 7.13.3(e)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by one of the following methods:

A. A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)]; or

B. Any other air pollution control equipment approved by the Illinois EPA and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere [35 IAC 218.302(c)].

7.13.4 Non-Applicability of Regulations of Concern

a. The affected chemical manufacturing units are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

b. The affected chemical manufacturing units are not subject to the control requirements of 35 IAC 218.501, Control Requirements for Batch Operations, pursuant to 35 IAC 218.501(b)(2), which excludes any emission unit included within the category specified in 35 IAC 218 Subpart T.

c. The affected chemical manufacturing units are not subject to 35 IAC 212.324, Process Emission Units In Certain Areas, because the source is not located in a non-attainment area for PM_{10}, as identified in 35 IAC 212.324(a)(1).

7.13.5 Operational and Production Limits and Work Practices

a. The owner or operator shall install covers on all in-process tanks used to manufacture pharmaceuticals and containing a VOL at any time. These covers must remain closed, except as production, sampling, maintenance or inspection procedures require operator access [35 IAC 218.484].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The Permittee shall follow good operating practices for the cyclones, scrubbers, condensers, vacuum

pumps, and steam jets including periodic inspection, routine maintenance and prompt repair of defects.

d. The affected chemical manufacturing units are not restricted to using the specific air control equipment listed in Condition 7.13.2, so long as emissions are kept below the applicable limits specified in Conditions 5.5 and 7.13.3.

7.13.6 Emission Limitations

There are no specific emission limitations for these units, however, there are source wide emission limitations in Condition 5.5 that include these units.

7.13.7 Testing Requirements

a. *General*. Except as specified in 40 CFR 63.1257(a)(5), the procedures specified in 40 CFR 63.1257(d) and (f) are required to demonstrate initial compliance with 40 CFR 63.1254 and 63.1252(e), respectively. The provisions in 40 CFR 63.1257(a)(2) apply to performance tests that are specified in 40 CFR 63.1257(d). The provisions in 40 CFR 63.1257(a)(5) are used to demonstrate initial compliance with the alternative standards specified in 40 CFR 63.1254(c). The provisions in 40 CFR 63.1257(a)(6) are used to comply with the outlet concentration requirements specified in 40 CFR 63.1254(a)(2)(i) and (a)(3)(ii)(B) [40 CFR 63.1257(a)].

b. *Test methods*. When testing is conducted to measure emissions from an affected source, the test methods specified in 40 CFR 63.1257(b)(1) through (10) shall be used [40 CFR 63.1257(b)].

c. Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.13.4(a) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in Condition 7.13.7 (d)(i)(A) (see also 35 IAC 218.105(f)(1)) [35 IAC 218.487].

d. Pursuant to 35 IAC 218.105(d)(1) and Section 39.5(7)(b) of the Act, the control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified below (see also 35 IAC 218.105(f)):

i. Volatile Organic Material Gas Phase Source Test Methods The methods in 40 CFR Part 60, Appendix A, delineated below shall be used to determine control device efficiencies [35 IAC 218.105(f)].

A. CFR Part 60, Appendix A, Method 18, 25 or 25A, as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. The test shall consist of three separate runs, each lasting a minimum of 60 min, unless the Illinois EPA and the USEPA determine that process variables dictate shorter sampling times [35 IAC 218.105(f)(1)].

B. 40 CFR Part 60, Appendix A, Method 1 or 1A shall be used for sample and velocity traverses [35 IAC 218.105(f)(2)].

C. 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D shall be used for velocity and volumetric flow rates [35 IAC 218.105(f)(3)].

D. 40 CFR Part 60, Appendix A, Method 3 shall be used for gas analysis [35 IAC 218.105(f)(4)].

E. 40 CFR Part 60, Appendix A, Method 4 shall be used for stack gas moisture [35 IAC 218.105(f)(5)].

F. 40 CFR Part 60, Appendix A, Methods 2, 2A, 2C, 2D, 3 and 4 shall be performed, as applicable, at least twice during each test run [35 IAC 218.105(f)(6)].

G. Use of an adaptation to any of the test methods specified in Conditions 7.13.7 (d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) may not be used unless approved by the Illinois EPA and the USEPA on a case by case basis. An owner or operator must submit sufficient documentation for the Illinois EPA and the USEPA to find that the test methods

specified in Conditions 7.13.7(d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) will yield inaccurate results and that the proposed adaptation is appropriate [35 IAC 218.105(f)(7)].

ii. Notwithstanding other requirements of 35 IAC Part 218, upon request of the Illinois EPA where it is necessary to demonstrate compliance, an owner or operator of an emission unit which is subject to 35 IAC Part 218 shall, at his own expense, conduct tests in accordance with the applicable test methods and procedures specific in 35 IAC Part 218. Nothing in this Condition (see also 35 IAC 218.105) shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing [35 IAC 218.105(i)].

7.13.8 Monitoring Requirements

a. The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard as specified in 40 CFR 63.1258. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish the operating parameter level [40 CFR 63.1258(a)].

b. *Monitoring for control devices*.

i. *Parameters to monitor*. Except as specified in 40 CFR 63.1258(b)(1)(i), for each control device, the owner or operator shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4 of 40 CFR 63 Subpart GGG and in 40 CFR 63.1258(b)(1)(ii) through (xi) [40 CFR 63.1258(b)(1)].

ii. *Averaging periods*. Averaging periods for parametric monitoring levels shall be established according to 40 CFR 63.1258(b)(2)(i) through (iii) [40 CFR 63.1258(b)(2)].

iii. *Monitoring for the alternative standards*. For control devices that are used to comply with the provisions of 40 CFR 63.1254(c), the owner or operator shall monitor and record the outlet TOC concentration and the outlet hydrogen halide and halogen concentration every 15 minutes during the period in which the device is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG. A TOC monitor meeting the requirements of Performance Specification 8 or 9 of appendix B of 40 CFR Part 60 shall be installed, calibrated, and maintained, according to 40 CFR 63.8. The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens [40 CFR 63.1258(b)(5)].

iv. *Exceedances of operating parameters*. Pursuant to 40 CFR 63.1258(b)(6), an exceedance of an operating parameter is defined as one of the following:

A. If the parameter, averaged over the operating day or block, is below a minimum value established during the initial compliance demonstration [40 CFR 63.1258 (b)(6)(i)].

B. If the parameter, averaged over the operating day or block, is above the maximum value established during the initial compliance demonstration [40 CFR 63.1258(b)(6)(ii)].

C. Each loss of pilot flame for flares [40 CFR 63.1258(b)(6)(iii)].

v. *Excursions*. Pursuant to 40 CFR 63.1258(b)(7), excursions are defined by either of the two cases listed in Conditions 7.13.8(b)(v)(A) or (B) (see also 40 CFR 63.1258(b)(7)(i) or (ii)).

A. When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in Condition 7.13.8 (b)(v)(C) (see also 40 CFR 63.1258 (b)(7)(iii)), for at least 75 percent of

the operating hours [40 CFR 63.1258 (b)(7)(i)].

B. When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data [40 CFR 63.1258(b)(7)(ii)].

C. Monitoring data are insufficient to constitute a valid hour of data, as used in Conditions 7.13.8(b)(v)(A) and (B) (see also 40 CFR 63.1258(b)(7)(i) and (ii)), if measured values are unavailable for any of the required 15-minute periods within the hour [40 CFR 63.1258(b)(7)(iii)].

vi. *Violations*. Pursuant to 40 CFR 63.1258(b)(8), exceedances of parameters monitored according to the provisions of 40 CFR 63.1258(b)(1)(ii) and (iv) through (ix) or excursions as defined by Conditions 7.13.8(b)(v)(A) through (C) (see also 40 CFR 63.1258(b)(7)(i) through (iii)) constitute violations of the operating limit according to Conditions 7.13.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of 40 CFR 63.1258(b)(1)(x) constitute violations of the emission limit according to Conditions 7.13.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of Condition 7.13.8(b)(iii) (see also 40 CFR 63.1258(b)(5)) constitute violations of the emission limit according to the provisions of Conditions 7.13.8(b)(vi)(C) and (D) (see also 40 CFR 63.1258(b)(8)(iii) and (iv)).

A. Except as provided in Condition 7.13.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process [40 CFR 63.1258(b)(8)(i)].

B. Except as provided in Condition 7.13.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device, for each process for which the control device is in service [40 CFR 63.1258(b)(8)(ii)].

C. Except as provided in Condition 7.13.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device. Except as provided in Condition 7.13.8(b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv hydrogen halide or halogen outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device [40 CFR 63.1258 (b)(8)(iii)].

D. Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur during a startup, shutdown, or malfunction, and the facility follows its startup, shutdown, and malfunction plan [40 CFR 63.1258 (b)(8)(iv)].

c. *Monitoring for emission limits*. The owner or operator of any affected source complying with the provisions of 40 CFR 63.1254(a)(1) shall demonstrate continuous compliance with the 2,000 lb/yr emission limits by calculating daily a 365-day rolling summation of emissions. For owners and operators opting to switch compliance strategy from the 93 percent control requirement to the 2,000 lb/yr compliance method, as described in 40 CFR 63.1254(a), the rolling average must include emissions from the past 365 days. Each day that the total emissions per process exceeds 2,000 lb/yr will be considered a violation of the emission limit [40 CFR 63.1258(c)].

7.13.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items

for each affected chemical manufacturing unit to demonstrate compliance with Conditions 5.5.1, 5.5.3(b), 7.13.3, and 7.13.5, pursuant to Section 39.5(7)(b) of the Act:

a. *Records of equipment operation*. Pursuant to 40 CFR 63.1259(b), the owner or operator must keep the following records up-to-date and readily accessible:

   i. Each measurement of a control device operating parameter monitored in accordance with Condition 7.13.8 (see also 40 CFR 63.1258) [40 CFR 63.1259 (b)(1)].

   ii. For each continuous monitoring system used to comply with 40 CFR 63 Subpart GGG, records documenting the completion of calibration checks and maintenance of continuous monitoring systems [40 CFR 63.1259(b)(3)].

   iii. For processes in compliance with the 2,000 lb/yr emission limit of 40 CFR 63.1254(a)(1), records of the rolling annual total emissions [40 CFR 63.1259(b)(4)].

   iv. Pursuant to 40 CFR 63.1259(a)(5), records of the following, as appropriate:

      A. The number of batches per year for each batch process [40 CFR 63.1259(a)(5)(i)].

      B. The operating hours per year for continuous processes [40 CFR 63.1259 (a)(5)(ii)].

   v. Uncontrolled and controlled emissions per batch for each process [40 CFR 63.1259(b)(6)].

   vi. Wastewater concentration per POD or process [40 CFR 63.1259(b)(7)].

   vii. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].

   viii. Description of worst-case operating conditions as determined using the procedures described in 40 CFR 63.1257(b)(8) for control devices [40 CFR 63.1259(b)(10)].

b. *Records of operating scenarios*. The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with 40 CFR 63 Subpart GGG [40 CFR 63.1259(c)].

c. Records of the testing of the efficiency of each capture system and control device pursuant to Condition 7.13.7, which include the following [Section 39.5(7)(e) of the Act]:

   i. The date, place and time of sampling or measurements;

   ii. The date(s) analyses were performed;

   iii. The company or entity that performed the analyses;

   iv. The analytical techniques or methods used;

   v. The results of such analyses; and

   vi. The operating conditions as existing at the time of sampling or measurement.

d. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.13.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

   i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

   ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

   iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

   iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

e. Pursuant to 35 IAC 218.489(c), the following records shall be kept for emission units subject to Condition 7.13.5(a) (see also 35 IAC 218.484) which contain VOL:

   i. For maintenance and inspection:

      A. The date and time each cover is opened [35 IAC 218.489(c)(1)(A)];

      B. The length of time the cover remains open [35 IAC 218.489(c)(1)(B)]; and

      C. The reason why the cover is opened [35 IAC 218.489(c)(1)(C)].

ii. For production and sampling, detailed written procedures or manufacturing directions specifying the circumstances under which covers may be opened and the procedures for opening covers [35 IAC 218.489(c)(2)].

f. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.13.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.13.4(a) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.13.4(a) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

g. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

h. The Permittee shall keep the following records for each product manufactured using the affected chemical manufacturing units. These records shall follow established techniques to calculate emissions:

i. A listing of the raw materials, process materials and associated air pollution control equipment used in making each product manufactured using affected chemical manufacturing units;

ii. A demonstration including engineering calculations for the HAP, PM, and VOM emissions generated for each process per batch of each product manufactured using affected chemical manufacturing units;

iii. A demonstration including engineering calculations for the HAP, PM, and VOM control efficiencies of air pollution control equipment, if any, and emissions to the

atmosphere for any air pollution control equipment operating in a normal manner. This demonstration shall also show compliance with the control requirements of 35 IAC 218 Subpart T, if applicable to any of the affected chemical manufacturing units;

iv. The operating parameters of air pollution control equipment, if any, when operating normally (e.g., temperature of condenser cooling water supply); and

v. Methodologies for recalculating emissions from batches run during the malfunction of control equipment.

i. The Permittee shall keep the following records on a batch basis:

i. Records to show that air pollution control equipment is operated in a normal manner, as specified by the above records for a particular product manufactured using affected chemical manufacturing units;

ii. Records of the number and size of batches run for each product manufactured using affected chemical manufacturing units. For this purpose, a batch shall be considered to run on the day the batch is initiated. Any batch terminated prematurely will be assumed to be a completed batch; and

iii. Records of the times and duration of any malfunction in any air pollution control equipment.

j. The Permittee shall keep the following records on a monthly basis, prepared by the 15th day of the following month:

i. Records of HAP, PM, and VOM emissions for each product manufactured using affected chemical manufacturing units in the month, determined by combining the above records for generated emissions, control efficiency (if control operated in a normal manner) and production rate;

ii. Records of HAP, PM, and VOM emissions for the month for each batch made using affected chemical manufacturing units during any malfunction of air pollution control equipment; and

iii. Records of the aggregate annual HAP, PM, and VOM emissions from the affected chemical manufacturing units for each month, determined from the sum of the current month's emissions and the emissions from the previous 11 months.

k. The Permittee shall maintain an On-Site Implementation Log (OSIL) which shall contain the following information with respect to the equipment changes authorized by Conditions 7.13.11(b) and (c):

i. Name and location of batch process with replacement component(s) or control device(s);

ii. Description of the component(s) or control device(s) replaced;

iii. Asset or identification number of replacement component(s) or control device(s);

iv. The effective size or capacity of the original and each replacement component;

v. The effective efficiencies of the original control device(s) and the replacement control device(s);

vi. Manufacturer(s) and model number(s) of the replacement component(s) or control device(s);

vii. The date of installation of the replacement component(s) or control device(s); and

viii. Other information as needed to show the change is within the scope of Condition 7.13.11(b) or (c).

7.13.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected chemical manufacturing unit with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. *Periodic reports*. Pursuant to 40 CFR 63.1260(g), an owner or operator shall prepare Periodic reports in accordance with Conditions 7.13.10(a)(i) and (ii) (see also 40 CFR 63.1260(g)(1) and (2)) and submit them to the Illinois EPA and/or USEPA.

i. *Submittal schedule*. Pursuant to 40 CFR 63.1260 (g)(1), Except as provided in Conditions 7.13.10 (a)(i)(A), (B), and (C) (see also 40 CFR 63.1260 (g)(1)(i), (ii) and (iii)), an owner or operator shall submit Periodic reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due.

A. When the Illinois EPA and/or USEPA determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source [40 CFR 63.1260 (g)(1)(i)]; or

B. When the monitoring data are used directly for compliance determination and the source experience excess emissions, in which case quarterly reports shall be submitted. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in 40 CFR 63.10(e)(3)(ii) and (iii) shall apply, except that the term "excess emissions and continuous monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of Condition 7.13.10 (see also 40 CFR 63.1260) [40 CFR 63.1260(g)(1)(ii)].

C. When a new operating scenario has been operated since the last report, in which case quarterly reports shall be submitted [40 CFR 63.1260(g)(1)(iii)].

ii. *Content of Periodic report*. Pursuant to 40 CFR 63.1260(g)(2), the owner or operator shall include the information in Conditions 7.13.10 (a)(ii)(A) through (D) (see also 40 CFR 63.1260 (g)(2)(i) through (vii)), as applicable.

A. Each Periodic report must include the information in 40 CFR 63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the information in 40 CFR 63.10(e)(3)(vi)(J) [40 CFR 63.1260(g)(2)(i)].

B. Pursuant to 40 CFR 63.1260(g)(2)(ii), if the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in Conditions 7.13.10(a)(ii)(B)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(ii)(A) through (D)).

   I. Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(A)].

   II. Duration of excursions, as defined in Condition 7.13.8(b)(v) (see also 40 CFR 63.1258(b)(7)) [40 CFR 63.1260(g)(2)(ii)(B)].

   III. Operating logs and operating scenarios for all operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(C)].

   IV. When a continuous monitoring system is used, the information required in 40 CFR 63.10(c)(5) through (13) [40 CFR 63.1260(g)(2)(ii)(D)].

C. Pursuant to 40 CFR 63.1260(g)(2)(v), the information in Conditions 7.13.10

(a)(ii)(C)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(v)(A) through (D)) shall be stated in the Periodic report, when applicable.

I. No excess emissions [40 CFR 63.1260 (g)(2)(v)(A)].

II. No exceedances of a parameter [40 CFR 63.1260(g)(2)(v)(B)].

III. No excursions [40 CFR 63.1260 (g)(2)(v)(C)].

IV. No continuous monitoring system has been inoperative, out of control, repaired, or adjusted [40 CFR 63.1260(g)(2)(v)(D)].

D. Each new operating scenario which has been operated since the time period covered by the last Periodic report. For the initial Periodic report, each operating scenario for each process operated since the compliance date shall be submitted [40 CFR 63.1260(g)(2)(vii)].

b. *Notification of process change*.

i. Pursuant to 40 CFR 63.1260(h)(1), except as specified in Condition 7.13.10(b)(ii) (see also 40 CFR 63.1260(h)(2)), whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report quarterly. The report may be submitted as part of the next Periodic report required under Condition 7.13.10(a) (see also 40 CFR 63.1260(g)). The report shall include:

A. A brief description of the process change [40 CFR 63.1260(h)(1)(i)].

B. A description of any modifications to standard procedures or quality assurance procedures [40 CFR 63.1260(h)(1)(ii)].

C. Revisions to any of the information reported in the original Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) [40 CFR 63.1260(h)(1)(iii)].

D. Information required by the Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) for changes involving the addition of processes or equipment [40 CFR 63.1260(h)(1)(iv)].

ii. Pursuant to 40 CFR 63.1260(h)(2), an owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

A. Any change in the activity covered by the Precompliance report [40 CFR 63.1260 (h)(2)(i)].

B. A change in the status of a control device from small to large [40 CFR 63.1260 (h)(2)(ii)].

c. *Reports of startup, shutdown, and malfunction*. For the purposes of 40 CFR 63 Subpart GGG, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the periodic reports required under Condition 7.13.10(a) (see also 40 CFR 63.1260(g)) instead of the schedule specified in 40 CFR 63.10(d)(5)(i). These reports shall include the information specified in Condition 5.6.2(n)(iii)(A) through (C) (see also 40 CFR 63.1259(a)(3)(i) through (iii)) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in 40 CFR 63.10(d)(4)(ii) [40 CFR 63.1260(i)].

d. *Notification of performance test and test plan*. The owner or operator of an affected source shall notify the Illinois EPA and/or USEPA of the planned date of a performance test at least 60 days before the test in accordance with 40 CFR 63.7(b). The owner or operator also must submit the test plan required by 40 CFR 63.7(c) and the emission profile required by 40 CFR 63.1257(b)(8)(ii) with the notification of the performance test [40 CFR 63.1260(l)].

e. *Request for extension of compliance*. An owner or operator may submit to the Illinois EPA and/or USEPA

a request for an extension of compliance in accordance with 40 CFR 63.1250(f)(4) [40 CFR 63.1260(m)].

f. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

g. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.13.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.13.4(a) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

h. Emissions of PM and/or VOM in excess of the limits in Conditions 5.5.3(b) and/or 7.13.3 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.13.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following changes with respect to the affected chemical manufacturing units without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee’s obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification pursuant to regulations promulgated pursuant to Title I of the CAA (i.e., 40 CFR 52.21 and 35 IAC Part 203):

a. This permit is issued for production of pharmaceuticals, chemical intermediates for pharmaceutical products and pharmaceutical-like products such as hormones, enzymes and antibiotics. In addition to varying the quantities of such materials produced, the Permittee may change the types of such materials produced, making products not previously made in the affected chemical manufacturing units, or changing the process by which such materials are made, provided that Conditions 5.5 or 7.13.3 are not violated.

b. The replacement of component parts for a batch process with the same or functionally similar component parts, provided there is no effective

increase in the capacity of the batch process (i.e., like-kind replacement), provided that the replacements are not so extensive as to constitute reconstruction of the batch process and it can be demonstrated that emissions from the batch process remain in compliance with the limits specified in Conditions 5.5 and 7.13.3 (e.g., reactor, receiver, tank, crystallizer, pump, distillation column, centrifuge, air dryer, vacuum dryer).

c. The replacement of control devices with control devices with the same or better effective efficiency, provided there is no increase in emissions over the limits specified in Conditions 5.5 and 7.13.3 (e.g., vacuum jet, vacuum pump, condenser, scrubber and demister).

7.13.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.13.9 and the emission factors and formulas listed below:

a. Determinations of daily and annual emissions for purposes of Condition 7.13.4(a) (see also 35 IAC 218.480) shall be made using both data on the hourly emission rate (or the emissions per unit of throughput) and appropriate daily and annual data from records of emission unit operation (or material throughput or material consumption data). In the absence of representative test data pursuant to Condition 7.13.7(c) (see also 35 IAC 218.487) for the hourly emission rate (or the emissions per unit of throughput) such items shall be calculated using engineering calculations, including the methods described in Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/2-78-029). This Condition shall not affect the Illinois EPA's or the USEPA's authority to require emission tests to be performed pursuant to Condition 7.13.7(c) (see also 35 IAC 218.487)) [35 IAC 218.480(h)].

b. Compliance with Conditions 7.13.3(b) and (d) is assumed by proper operation of the cyclones, scrubbers, condensers, vacuum pumps, and steam jets, as addressed by Condition 7.13.5(c).

c. To determine compliance with Conditions 5.5.1, 5.5.3(b), and 7.13.3(e), VOM emissions from the affected chemical manufacturing units calculations based on the formulas and procedures listed in either Appendix B of "Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical

Products" (EPA-450/2-78-029) or "Control of Volatile Organic Compound Emissions from Batch Processes-Alternative Control Techniques Information Document" (EPA-450/R-94-020) are acceptable.

d. To determine compliance with Conditions 5.5.1, 5.5.3(b)(ii), and 7.13.3(d), PM emissions from the affected chemical manufacturing units shall be calculated based on the following:

$$ER = (PR) \times ((PRL) \times (100 - e))/100$$

Where:

ER = Emission rate (lb/hr)

PR = Production rate (lb/hr)

PRL = Material lost to the control device, %

e = Efficiency of the control device, %

7.14 Units CAPD C-19 Chemical Manufacturing Building C-19
Controls CAPD C-19 Condensers, Vacuum Pumps, and Steam Jets

7.14.1 Description

The equipment in Building C-19 is used only to perform hydrogenation reactions, the reactors are specifically designed for that purpose and these reactions are performed at high pressure in closed vessels. Separation activities found in other production areas at the source are not performed in Building C-19. Normally, the only separation necessary is to remove catalyst from the reaction solution. No products are isolated in Building C-19. Operations in Building C-19 are dependent upon worldwide drug demand and are quite variable from year-to-year. It is difficult to predict long range operating demands since it is impossible to predict world-wide illness patterns.

A variety of portable equipment is used in Building C-19 for batch process manufacturing. Portable equipment means single pieces of equipment that are mounted on wheels or skids so as to enable them to be moved from one process to another within a manufacturing building and from one manufacturing building to another. Portable equipment is divided into three categories: 1) vessels, including reactors, receivers, and tanks; 2) solid/liquid separation equipment, including dryers, centrifuges, and filters; 3) miscellaneous, including dust collectors, emission control equipment, oscillators, and sifters. Whenever a piece of portable equipment is used in a process, its emissions are calculated and included with the emissions for that process.

7.14.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
B-1584	Process Condenser 883-PC (PC-883)	Inter Condenser 888-IC; Liquid Ring Pump 888-LRP; and Steam Jets 887-SJ, 888-SJ1, and 888-SJ2
B-2414	Process Condenser 884-PC (PC-884)	Inter Condenser 888-IC; Liquid Ring Pump 888-LRP; and Steam Jets 887-SJ, 888-SJ1, and 888-SJ2
Q-3250	Receiver C19R2 (PC-C19)	None

Emission Unit	Description	Emission Control Equipment
Q-3918	750 Gallon Reactor (Reactor 884, PC-884)	Inter Condenser 888-IC; Liquid Ring Pump 888-LRP; and Steam Jets 887-SJ, 888-SJ1, and 888-SJ2
Q-4190	Reactor C19R1 (PC-C19)	None
Q-4201	200 Gallon Mix Tank (Tank C19MT, PC-C19)	None
R-0645	300 Gallon Reactor (Reactor 882, PC-882)	Inter Condenser 888-IC; Liquid Ring Pump 888-LRP; and Steam Jets 887-SJ, 888-SJ1, and 888-SJ2
R-0646	500 Gallon Reactor (Reactor 883, PC-883)	Inter Condenser 888-IC; Liquid Ring Pump 888-LRP; and Steam Jets 887-SJ, 888-SJ1, and 888-SJ2
T-2947	100 Gallon Overflow Tank (Tank TA101T, PC-TA101)	None
Portable Equipment	Portable Vessels, Reactors, Receivers, Tanks, Solid/Liquid Separators, Filters, Centrifuges, Dryers, Mills, Sifters, and Oscillators	Scrubbers, Condensers, or Baghouses (as configured for the process)

7.14.3 Applicability Provisions and Applicable Regulations

a. The Building C-19 process condensers, receivers, reactors, mix tanks, overflow tanks, and portable equipment are "affected chemical manufacturing units" for the purpose of these unit-specific conditions.

b. Each affected chemical manufacturing unit is subject to the emission limits identified in Condition 5.2.2.

c. The affected chemical manufacturing units are subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1254(a) for Process Vents at Existing Sources. The Illinois EPA is administering the NESHAP in Illinois on behalf of the USEPA under a delegation agreement. Pursuant to 40 CFR 63.1250(f)(1), an owner or operator of an existing affected source must comply with the provisions of 40 CFR 63 Subpart GGG within 3 years after September 21, 1998.

d. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

e. The affected chemical manufacturing units are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.14.3 (e)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

ii. Pursuant to 35 IAC 218.302, emissions of organic material in excess of those permitted by Condition 7.14.3(e)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by one of the following methods:

A. A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)]; or

B. Any other air pollution control equipment approved by the Illinois EPA and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere [35 IAC 218.302(c)].

7.14.4 Non-Applicability of Regulations of Concern

a. The affected chemical manufacturing units are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation

units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

b. The affected chemical manufacturing units are not subject to the control requirements of 35 IAC 218.501, Control Requirements for Batch Operations, pursuant to 35 IAC 218.501(b)(2), which excludes any emission unit included within the category specified in 35 IAC 218 Subpart T.

c. The affected chemical manufacturing units are not subject to 35 IAC 212.324, Process Emission Units In Certain Areas, because the source is not located in a non-attainment area for PM_{10}, as identified in 35 IAC 212.324(a)(1).

7.14.5 Operational and Production Limits and Work Practices

a. The owner or operator shall install covers on all in-process tanks used to manufacture pharmaceuticals and containing a VOL at any time. These covers must remain closed, except as production, sampling, maintenance or inspection procedures require operator access [35 IAC 218.484].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The Permittee shall follow good operating practices for the condensers, vacuum pumps, and steam jets including periodic inspection, routine maintenance and prompt repair of defects.

d. The affected chemical manufacturing units are not restricted to using the specific air control equipment listed in Condition 7.14.2, so long as

emissions are kept below the applicable limits specified in Conditions 5.5 and 7.14.3.

7.14.6 Emission Limitations

There are no specific emission limitations for these units, however, there are source wide emission limitations in Condition 5.5 that include these units.

7.14.7 Testing Requirements

a. *General*. Except as specified in 40 CFR 63.1257(a)(5), the procedures specified in 40 CFR 63.1257(d) and (f) are required to demonstrate initial compliance with 40 CFR 63.1254 and 63.1252(e), respectively. The provisions in 40 CFR 63.1257(a)(2) apply to performance tests that are specified in 40 CFR 63.1257(d). The provisions in 40 CFR 63.1257(a)(5) are used to demonstrate initial compliance with the alternative standards specified in 40 CFR 63.1254(c). The provisions in 40 CFR 63.1257(a)(6) are used to comply with the outlet concentration requirements specified in 40 CFR 63.1254(a)(2)(i) and (a)(3)(ii)(B) [40 CFR 63.1257(a)].

b. *Test methods*. When testing is conducted to measure emissions from an affected source, the test methods specified in 40 CFR 63.1257(b)(1) through (10) shall be used [40 CFR 63.1257(b)].

c. Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.14.4(a) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in Condition 7.14.7 (d)(i)(A) (see also 35 IAC 218.105(f)(1)) [35 IAC 218.487].

d. Pursuant to 35 IAC 218.105(d)(1) and Section 39.5(7)(b) of the Act, the control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified below (see also 35 IAC 218.105(f)):

i. Volatile Organic Material Gas Phase Source Test Methods The methods in 40 CFR Part 60, Appendix A, delineated below shall be used to determine control device efficiencies [35 IAC 218.105(f)].

A. CFR Part 60, Appendix A, Method 18, 25 or 25A, as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. The test shall consist of three separate runs, each lasting a minimum of 60 min, unless the Illinois EPA and the USEPA determine that process variables dictate shorter sampling times [35 IAC 218.105(f)(1)].

B. 40 CFR Part 60, Appendix A, Method 1 or 1A shall be used for sample and velocity traverses [35 IAC 218.105(f)(2)].

C. 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D shall be used for velocity and volumetric flow rates [35 IAC 218.105(f)(3)].

D. 40 CFR Part 60, Appendix A, Method 3 shall be used for gas analysis [35 IAC 218.105(f)(4)].

E. 40 CFR Part 60, Appendix A, Method 4 shall be used for stack gas moisture [35 IAC 218.105(f)(5)].

F. 40 CFR Part 60, Appendix A, Methods 2, 2A, 2C, 2D, 3 and 4 shall be performed, as applicable, at least twice during each test run [35 IAC 218.105(f)(6)].

G. Use of an adaptation to any of the test methods specified in Conditions 7.14.7 (d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) may not be used unless approved by the Illinois EPA and the USEPA on a case by case basis. An owner or operator must submit sufficient documentation for the Illinois EPA and the USEPA to find that the test methods specified in Conditions 7.14.7(d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) will yield inaccurate results and that the proposed adaptation is appropriate [35 IAC 218.105(f)(7)].

ii. Notwithstanding other requirements of 35 IAC Part 218, upon request of the Illinois EPA where it is necessary to demonstrate compliance, an owner or operator of an emission unit which is subject to 35 IAC Part 218 shall, at his own expense, conduct tests in accordance with the applicable test methods and procedures specific in 35 IAC Part 218. Nothing in this Condition (see also 35 IAC 218.105) shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing [35 IAC 218.105(i)].

7.14.8 Monitoring Requirements

a. The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard as specified in 40 CFR 63.1258. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish the operating parameter level [40 CFR 63.1258(a)].

b. *Monitoring for control devices*.

i. *Parameters to monitor*. Except as specified in 40 CFR 63.1258(b)(1)(i), for each control device, the owner or operator shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4 of 40 CFR 63 Subpart GGG and in 40 CFR 63.1258(b)(1)(ii) through (xi) [40 CFR 63.1258(b)(1)].

ii. *Averaging periods*. Averaging periods for parametric monitoring levels shall be established according to 40 CFR 63.1258(b)(2)(i) through (iii) [40 CFR 63.1258(b)(2)].

iii. *Monitoring for the alternative standards*. For control devices that are used to comply with the provisions of 40 CFR 63.1254(c), the owner or operator shall monitor and record the outlet TOC concentration and the outlet hydrogen halide and halogen concentration

every 15 minutes during the period in which the device is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG. A TOC monitor meeting the requirements of Performance Specification 8 or 9 of appendix B of 40 CFR Part 60 shall be installed, calibrated, and maintained, according to 40 CFR 63.8. The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens [40 CFR 63.1258(b)(5)].

iv. *Exceedances of operating parameters*. Pursuant to 40 CFR 63.1258(b)(6), an exceedance of an operating parameter is defined as one of the following:

A. If the parameter, averaged over the operating day or block, is below a minimum value established during the initial compliance demonstration [40 CFR 63.1258 (b)(6)(i)].

B. If the parameter, averaged over the operating day or block, is above the maximum value established during the initial compliance demonstration [40 CFR 63.1258(b)(6)(ii)].

C. Each loss of pilot flame for flares [40 CFR 63.1258(b)(6)(iii)].

v. *Excursions*. Pursuant to 40 CFR 63.1258(b)(7), excursions are defined by either of the two cases listed in Conditions 7.14.8(b)(v)(A) or (B) (see also 40 CFR 63.1258(b)(7)(i) or (ii)).

A. When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in Condition 7.14.8 (b)(v)(C) (see also 40 CFR 63.1258 (b)(7)(iii)), for at least 75 percent of the operating hours [40 CFR 63.1258 (b)(7)(i)].

B. When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does

not constitute a valid hour of data due to insufficient monitoring data [40 CFR 63.1258(b)(7)(ii)].

C. Monitoring data are insufficient to constitute a valid hour of data, as used in Conditions 7.14.8(b)(v)(A) and (B) (see also 40 CFR 63.1258(b)(7)(i) and (ii)), if measured values are unavailable for any of the required 15-minute periods within the hour [40 CFR 63.1258(b)(7)(iii)].

vi. *Violations*. Pursuant to 40 CFR 63.1258(b)(8), exceedances of parameters monitored according to the provisions of 40 CFR 63.1258(b)(1)(ii) and (iv) through (ix) or excursions as defined by Conditions 7.14.8(b)(v)(A) through (C) (see also 40 CFR 63.1258(b)(7)(i) through (iii)) constitute violations of the operating limit according to Conditions 7.14.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of 40 CFR 63.1258(b)(1)(x) constitute violations of the emission limit according to Conditions 7.14.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of Condition 7.14.8(b)(iii) (see also 40 CFR 63.1258(b)(5)) constitute violations of the emission limit according to the provisions of Conditions 7.14.8(b)(vi)(C) and (D) (see also 40 CFR 63.1258(b)(8)(iii) and (iv)).

A. Except as provided in Condition 7.14.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process [40 CFR 63.1258(b)(8)(i)].

B. Except as provided in Condition 7.14.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device,

for each process for which the control device is in service [40 CFR 63.1258(b)(8)(ii)].

C. Except as provided in Condition 7.14.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device. Except as provided in Condition 7.14.8(b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv hydrogen halide or halogen outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device [40 CFR 63.1258 (b)(8)(iii)].

D. Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur during a startup, shutdown, or malfunction, and the facility follows its startup, shutdown, and malfunction plan [40 CFR 63.1258 (b)(8)(iv)].

c. *Monitoring for emission limits*. The owner or operator of any affected source complying with the provisions of 40 CFR 63.1254(a)(1) shall demonstrate continuous compliance with the 2,000 lb/yr emission limits by calculating daily a 365-day rolling summation of emissions. For owners and operators opting to switch compliance strategy from the 93 percent control requirement to the 2,000 lb/yr compliance method, as described in 40 CFR 63.1254(a), the rolling average must include emissions from the past 365 days. Each day that the total emissions per process exceeds 2,000 lb/yr will be considered a violation of the emission limit [40 CFR 63.1258(c)].

7.14.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected chemical manufacturing unit to demonstrate compliance with Conditions 5.5.1, 5.5.3(b), 7.14.3, and 7.14.5, pursuant to Section 39.5(7)(b) of the Act:

a. *Records of equipment operation*. Pursuant to 40 CFR 63.1259(b), the owner or operator must keep the following records up-to-date and readily accessible:

i. Each measurement of a control device operating parameter monitored in accordance with Condition 7.14.8 (see also 40 CFR 63.1258) [40 CFR 63.1259 (b)(1)].

ii. For each continuous monitoring system used to comply with 40 CFR 63 Subpart GGG, records documenting the completion of calibration checks and maintenance of continuous monitoring systems [40 CFR 63.1259(b)(3)].

iii. For processes in compliance with the 2,000 lb/yr emission limit of 40 CFR 63.1254(a)(1), records of the rolling annual total emissions [40 CFR 63.1259(b)(4)].

iv. Pursuant to 40 CFR 63.1259(a)(5), records of the following, as appropriate:

A. The number of batches per year for each batch process [40 CFR 63.1259(a)(5)(i)].

B. The operating hours per year for continuous processes [40 CFR 63.1259 (a)(5)(ii)].

v. Uncontrolled and controlled emissions per batch for each process [40 CFR 63.1259(b)(6)].

vi. Wastewater concentration per POD or process [40 CFR 63.1259(b)(7)].

vii. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].

viii. Description of worst-case operating conditions as determined using the procedures described in 40 CFR 63.1257(b)(8) for control devices [40 CFR 63.1259(b)(10)].

b. *Records of operating scenarios*. The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with 40 CFR 63 Subpart GGG [40 CFR 63.1259(c)].

c. Records of the testing of the efficiency of each capture system and control device pursuant to Condition 7.14.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

d. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.14.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

e. Pursuant to 35 IAC 218.489(c), the following records shall be kept for emission units subject to Condition 7.14.5(a) (see also 35 IAC 218.484) which contain VOL:

i. For maintenance and inspection:

A. The date and time each cover is opened [35 IAC 218.489(c)(1)(A)];

B. The length of time the cover remains open [35 IAC 218.489(c)(1)(B)]; and

C. The reason why the cover is opened [35 IAC 218.489(c)(1)(C)].

ii. For production and sampling, detailed written procedures or manufacturing directions specifying the circumstances under which covers may be opened and the procedures for opening covers [35 IAC 218.489(c)(2)].

f. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.14.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall:

   i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.14.4(a) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

   ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.14.4(a) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

g. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

h. The Permittee shall keep the following records for each product manufactured using the affected chemical manufacturing units. These records shall follow established techniques to calculate emissions:

   i. A listing of the raw materials, process materials and associated air pollution control equipment used in making each product manufactured using affected chemical manufacturing units;

   ii. A demonstration including engineering calculations for the HAP, PM, and VOM emissions generated for each process per batch of each product manufactured using affected chemical manufacturing units;

   iii. A demonstration including engineering calculations for the HAP, PM, and VOM control efficiencies of air pollution control equipment, if any, and emissions to the atmosphere for any air pollution control equipment operating in a normal manner. This demonstration shall also show compliance with the control requirements of 35 IAC 218 Subpart

T, if applicable to any of the affected chemical manufacturing units;

iv. The operating parameters of air pollution control equipment, if any, when operating normally (e.g., temperature of condenser cooling water supply); and

v. Methodologies for recalculating emissions from batches run during the malfunction of control equipment.

i. The Permittee shall keep the following records on a batch basis:

i. Records to show that air pollution control equipment is operated in a normal manner, as specified by the above records for a particular product manufactured using affected chemical manufacturing units;

ii. Records of the number and size of batches run for each product manufactured using affected chemical manufacturing units. For this purpose, a batch shall be considered to run on the day the batch is initiated. Any batch terminated prematurely will be assumed to be a completed batch; and

iii. Records of the times and duration of any malfunction in any air pollution control equipment.

j. The Permittee shall keep the following records on a monthly basis, prepared by the 15th day of the following month:

i. Records of HAP, PM, and VOM emissions for each product manufactured using affected chemical manufacturing units in the month, determined by combining the above records for generated emissions, control efficiency (if control operated in a normal manner) and production rate;

ii. Records of HAP, PM, and VOM emissions for the month for each batch made using affected chemical manufacturing units during any malfunction of air pollution control equipment; and

iii. Records of the aggregate annual HAP, PM, and VOM emissions from the affected chemical manufacturing units for each month, determined

from the sum of the current month's emissions and the emissions from the previous 11 months.

k. The Permittee shall maintain an On-Site Implementation Log (OSIL) which shall contain the following information with respect to the equipment changes authorized by Conditions 7.14.11(b) and (c):

i. Name and location of batch process with replacement component(s) or control device(s);

ii. Description of the component(s) or control device(s) replaced;

iii. Asset or identification number of replacement component(s) or control device(s);

iv. The effective size or capacity of the original and each replacement component;

v. The effective efficiencies of the original control device(s) and the replacement control device(s);

vi. Manufacturer(s) and model number(s) of the replacement component(s) or control device(s);

vii. The date of installation of the replacement component(s) or control device(s); and

viii. Other information as needed to show the change is within the scope of Condition 7.14.11(b) or (c).

7.14.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected chemical manufacturing unit with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. *Periodic reports*. Pursuant to 40 CFR 63.1260(g), an owner or operator shall prepare Periodic reports in accordance with Conditions 7.14.10(a)(i) and (ii) (see also 40 CFR 63.1260(g)(1) and (2)) and submit them to the Illinois EPA and/or USEPA.

i. *Submittal schedule*. Pursuant to 40 CFR 63.1260 (g)(1), Except as provided in Conditions 7.14.10 (a)(i)(A), (B), and (C) (see also 40 CFR 63.1260 (g)(1)(i), (ii) and

(iii)), an owner or operator shall submit Periodic reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due.

A. When the Illinois EPA and/or USEPA determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source [40 CFR 63.1260 (g)(1)(i)]; or

B. When the monitoring data are used directly for compliance determination and the source experience excess emissions, in which case quarterly reports shall be submitted. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in 40 CFR 63.10(e)(3)(ii) and (iii) shall apply, except that the term "excess emissions and continuous monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of Condition 7.14.10 (see also 40 CFR 63.1260) [40 CFR 63.1260(g)(1)(ii)].

C. When a new operating scenario has been operated since the last report, in which case quarterly reports shall be submitted [40 CFR 63.1260(g)(1)(iii)].

ii. *Content of Periodic report*. Pursuant to 40 CFR 63.1260(g)(2), the owner or operator shall include the information in Conditions 7.14.10 (a)(ii)(A) through (D) (see also 40 CFR 63.1260 (g)(2)(i) through (vii)), as applicable.

A. Each Periodic report must include the information in 40 CFR 63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the

information in 40 CFR 63.10(e)(3)(vi)(J) [40 CFR 63.1260(g)(2)(i)].

B. Pursuant to 40 CFR 63.1260(g)(2)(ii), if the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in Conditions 7.14.10(a)(ii)(B)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(ii)(A) through (D)).

I. Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(A)].

II. Duration of excursions, as defined in Condition 7.14.8(b)(v) (see also 40 CFR 63.1258(b)(7)) [40 CFR 63.1260(g)(2)(ii)(B)].

III. Operating logs and operating scenarios for all operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(C)].

IV. When a continuous monitoring system is used, the information required in 40 CFR 63.10(c)(5) through (14) [40 CFR 63.1260(g)(2)(ii)(D)].

C. Pursuant to 40 CFR 63.1260(g)(2)(v), the information in Conditions 7.14.10 (a)(ii)(C)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(v)(A) through (D)) shall be stated in the Periodic report, when applicable.

I. No excess emissions [40 CFR 63.1260 (g)(2)(v)(A)].

II. No exceedances of a parameter [40 CFR 63.1260(g)(2)(v)(B)].

III. No excursions [40 CFR 63.1260 (g)(2)(v)(C)].

IV. No continuous monitoring system has been inoperative, out of control, repaired, or adjusted [40 CFR 63.1260(g)(2)(v)(D)].

D. Each new operating scenario which has been operated since the time period covered by the last Periodic report. For the initial Periodic report, each operating scenario for each process operated since the compliance date shall be submitted [40 CFR 63.1260(g)(2)(vii)].

b. *Notification of process change*.

i. Pursuant to 40 CFR 63.1260(h)(1), except as specified in Condition 7.14.10(b)(ii) (see also 40 CFR 63.1260(h)(2)), whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report quarterly. The report may be submitted as part of the next Periodic report required under Condition 7.14.10(a) (see also 40 CFR 63.1260(g)). The report shall include:

A. A brief description of the process change [40 CFR 63.1260(h)(1)(i)].

B. A description of any modifications to standard procedures or quality assurance procedures [40 CFR 63.1260(h)(1)(ii)].

C. Revisions to any of the information reported in the original Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) [40 CFR 63.1260(h)(1)(iii)].

D. Information required by the Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) for changes involving the

addition of processes or equipment [40 CFR 63.1260(h)(1)(iv)].

ii. Pursuant to 40 CFR 63.1260(h)(2), an owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

A. Any change in the activity covered by the Precompliance report [40 CFR 63.1260 (h)(2)(i)].

B. A change in the status of a control device from small to large [40 CFR 63.1260 (h)(2)(ii)].

c. *Reports of startup, shutdown, and malfunction*. For the purposes of 40 CFR 63 Subpart GGG, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the periodic reports required under Condition 7.14.10(a) (see also 40 CFR 63.1260(g)) instead of the schedule specified in 40 CFR 63.10 (d)(5)(i). These reports shall include the information specified in Condition 5.6.2(n)(iii)(A) through (C) (see also 40 CFR 63.1259(a)(3)(i) through (iii)) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in 40 CFR 63.10 (d)(4)(ii) [40 CFR 63.1260(i)].

d. *Notification of performance test and test plan*. The owner or operator of an affected source shall notify the Illinois EPA and/or USEPA of the planned date of a performance test at least 60 days before the test in accordance with 40 CFR 63.7(b). The owner or operator also must submit the test plan required by 40 CFR 63.7(c) and the emission profile required by 40 CFR 63.1257(b)(8)(ii) with the notification of the performance test [40 CFR 63.1260(l)].

e. *Request for extension of compliance*. An owner or operator may submit to the Illinois EPA and/or USEPA a request for an extension of compliance in accordance with 40 CFR 63.1250(f)(4) [40 CFR 63.1260(m)].

f. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

g. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.14.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.14.4(a) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

h. Emissions of PM and/or VOM in excess of the limits in Conditions 5.5.3(b) and/or 7.14.3 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.14.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following changes with respect to the affected chemical manufacturing units without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee’s obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification pursuant to regulations promulgated pursuant to Title I of the CAA (i.e., 40 CFR 52.21 and 35 IAC Part 203):

a. This permit is issued for production of pharmaceuticals, chemical intermediates for pharmaceutical products and pharmaceutical-like products such as hormones, enzymes and antibiotics. In addition to varying the quantities of such materials produced, the Permittee may change the types of such materials produced, making products not previously made in the affected chemical manufacturing units, or changing the process by which such materials are made, provided that Conditions 5.5 or 7.14.3 are not violated.

b. The replacement of component parts for a batch process with the same or functionally similar component parts, provided there is no effective increase in the capacity of the batch process (i.e., like-kind replacement), provided that the replacements are not so extensive as to constitute reconstruction of the batch process and it can be

demonstrated that emissions from the batch process remain in compliance with the limits specified in Conditions 5.5 and 7.14.3 (e.g., reactor, receiver, tank, crystallizer, pump, distillation column, centrifuge, air dryer, vacuum dryer).

c. The replacement of control devices with control devices with the same or better effective efficiency, provided there is no increase in emissions over the limits specified in Conditions 5.5 and 7.14.3 (e.g., vacuum jet, vacuum pump, condenser, scrubber and demister).

7.14.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.14.9 and the emission factors and formulas listed below:

a. Determinations of daily and annual emissions for purposes of Condition 7.14.4(a) (see also 35 IAC 218.480) shall be made using both data on the hourly emission rate (or the emissions per unit of throughput) and appropriate daily and annual data from records of emission unit operation (or material throughput or material consumption data). In the absence of representative test data pursuant to Condition 7.14.7(c) (see also 35 IAC 218.487) for the hourly emission rate (or the emissions per unit of throughput) such items shall be calculated using engineering calculations, including the methods described in Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/2-78-029). This Condition shall not affect the Illinois EPA's or the USEPA's authority to require emission tests to be performed pursuant to Condition 7.14.7(c) (see also 35 IAC 218.487)) [35 IAC 218.480(h)].

b. Compliance with Conditions 7.14.3(b) and (d) is assumed by proper operation of the condensers, vacuum pumps, and steam jets, as addressed by Condition 7.14.5(c).

c. To determine compliance with Conditions 5.5.1, 5.5.3(b), and 7.14.3(e), VOM emissions from the affected chemical manufacturing units calculations based on the formulas and procedures listed in Appendix B of Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products (EPA-450/2-78-029), USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27717 are acceptable.

d. To determine compliance with Conditions 5.5.1, 5.5.3(b)(ii), and 7.14.3(d), PM emissions from the affected chemical manufacturing units shall be calculated based on the following:

$$ER = (PR) \times ((PRL) \times (100 - e))/100$$

Where:

ER = Emission rate (lb/hr)

PR = Production rate (lb/hr)

PRL = Material lost to the control device, %

e = Efficiency of the control device, %

7.15 Units CAPD R-7A & R-7B Chemical Manufacturing Buildings R-7A and R-7B
Controls CAPD R-7A & R-7B Vacuum Pumps, Condensers, Steam Jets, and Filters

7.15.1 Description

The equipment in both Buildings R-7A and R-7B are intended to manufacture of a single low volume, high cost product requiring highly technical and specialized processes. In each case, there is a limited range of chemical and manufacturing techniques utilized. Production is often on a small scale and the product demand is very limited. Normal chemical production techniques are utilized in both Buildings R-7A and R-7B. Separations are accomplished using equipment similar to that seen in the larger scale manufacturing facilities. Drying is done in lyophilizers.

A variety of portable equipment is used in Buildings R-7A and R-7B for batch process manufacturing. Portable equipment means single pieces of equipment that are mounted on wheels or skids so as to enable them to be moved from one process to another within a manufacturing building and from one manufacturing building to another. Portable equipment is divided into three categories: 1) vessels, including reactors, receivers, and tanks; 2) solid/liquid separation equipment, including dryers, centrifuges, and filters; 3) miscellaneous, including dust collectors, emission control equipment, oscillators, and sifters. Whenever a piece of portable equipment is used in a process, its emissions are calculated and included with the emissions for that process.

7.15.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
A-1021	Centrifuge R7BC11 (PC-R7B, Building R-7B)	None
A-1262	Centrifuge R7BC1 (PC-R7B, Building R-7B)	None
B-1912	Process Condenser R7A-PC3 (PC-R7A, Building R-7A)	None
B-1914	Process Condenser R7A-PC2 (PC-R7A, Building R-7A)	None
B-2009	Process Condenser R7B-PC1 (PC-R7B, Building R-7B)	None
D-1471	560 Gallon Dryer (Dryer R7AD, PC-R7A, Building R-7A)	Liquid Ring Pump R7A-LRP5

Emission Unit	Description	Emission Control Equipment
FJ-2097	250 Gallon Evaporator (Evaporator R7BE2, PC-R7B, Building R-7B)	Inter Condenser R7B-AC1; Liquid Ring Pump R7B-LRP1; and Steam Jet R7B-SJ1
FJ-3440	Evaporator R7AE3 (PC-R7A, Building R-7A)	Inter Condenser R7A-AC1; Filters R7A-F2 and R7A-F3; Liquid Ring Pumps R7A-LRP1 and R7A-LRP3; and Steam Jet R7A-SJ1
FJ-5549 R-7B	Evaporator R7BE1 (PC-R7B, Building R-7B)	None
FK-5687	Evaporator R7AE1 (PC-R7A, Building R-7A)	Filter R7A-F2; Inter Condenser R7A-IC1; Liquid Ring Pump R7A-LRP4 and Steam Jet R7A-SJ3
LC-908002	Centrifuge R7BC10 (PC-R7B, Building R-7B)	None
LC-908868	Tank R7AT3 (PC-R7A, Building R-7A)	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
LC-918208	Reactor R7BR4 (PC-R7B, Building R-7B)	None
LC-918412	75 Gallon Reactor (Reactor R7AR8, PC-R7A, Building R-7A)	None
LC-918684	Reactor R7AR3 (PC-R7A, Building R-7A)	None
LC-919100	Mix Tank (Tank R7BMT9, PC-R7B, Building R-7B)	None
NN-3025	Reactor R7BR5 (PC-R7B, Building R-7B)	None
Q-2807	Tank R7AT4 (PC-R7A, Building R-7A)	None

Emission Unit	Description	Emission Control Equipment
Q-2869	150 Gallon Tank (Tank R7AT2, PC-R7A, Building R-7A)	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2870	150 Gallon Receiver (Receiver R7AR7, PC-R7A, Building R-7A)	None
Q-2871	150 Gallon Feed Tank (Tank R7AT7, PC-R7A, Building R-7A)	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2872	125 Gallon Feed Tank (Tank R7AFT4, PC-R7A, Building R-7A)	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2873	125 Gallon Feed Tank (Tank R7AFT3, PC-R7A, Building R-7A)	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2874	125 Gallon Feed Tank (Tank R7AFT5, PC-R7A, Building R-7A)	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2

Emission Unit	Description	Emission Control Equipment
Q-2875	250 Gallon Feed Tank (Tank R7AFT1, PC-R7A, Building R-7A)	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2876	250 Gallon Feed Tank (Tank R7AFT2, PC-R7A, Building R-7A)	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2877	250 Gallon Feed Tank (Tank R7AFT6, PC-R7A, Building R-7A)	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2878	250 Gallon Letsch - SS Model RT-3 Tank (Tank R7AT1, PC-R7A, Building R-7A)	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2879	250 Gallon Receiver (Receiver R7AR6, PC-R7A, Building R-7A)	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2

Emission Unit	Description	Emission Control Equipment
Q-2880	Fraction Tank (Tank R7APFT1, PC-R7A, Building R-7A)	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2881	Fraction Tank (Tank R7APFT3, PC-R7A, Building R-7A)	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2882	Fraction Tank (Tank R7APFT4, PC-R7A, Building R-7A)	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2883	Fraction Tank (Tank R7APFT6, PC-R7A, Building R-7A)	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2884	Fraction Tank (Tank R7APFT2, PC-R7A, Building R-7A)	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2

Emission Unit	Description	Emission Control Equipment
Q-2885	Fraction Tank (Tank R7APFT5, PC-R7A, Building R-7A)	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2889	50 Gallon Finishing Tank (Tank R7AT5, PC-R7A, Building R-7A)	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2890	125 Gallon Mix Tank (Tank R7AMT1, PC-R7A, Building R-7A)	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-2892	150 Gallon Receiver (Receiver R7AR5, PC-R7A, Building R-7A)	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, RA-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
Q-3054	70 Gallon Mix Tank (Tank R7BMT1, PC-R7B, Building R-7B)	None
Q-3055	225 Gallon Reactor (Reactor R7BR1, PC-R7B, Building R-7B)	Inter Condenser R7B-AC1; Liquid Ring Pump R7B-LRP1; and Steam Jet R7B-SJ1
Q-3056	225 Gallon Reactor (Reactor R7BR3, PC-R7B, Building R-7B)	Inter Condenser R7B-AC1; Liquid Ring Pump R7B-LRP1; and Steam Jet R7B-SJ1
Q-3057	250 Gallon Reactor (Reactor R7BR2, Building	None

Emission Unit	Description	Emission Control Equipment
	R-7B)	
R7A-PC1	Process Condenser R7A-PC1 (Asset #LC-******, PC-R7A, Building R-7A)	None
R-0767	30 Gallon Reactor (Reactor R7AR2, PC-R7A, Building R-7A)	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
R-0768	50 Gallon Reactor (Reactor R7AR1, PC-R7A, Building R-7A)	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
R-0769	100 Gallon Reactor (Reactor R7AR4, PC-R7A, Building R-7A)	Inter Condensers R7A-AC1 and R7A-AC2; Filter R7A-F3; Liquid Ring Pumps R7A-LRP1, R7A-LRP2, and R7A-LRP3; and Steam Jets R7A-SJ1 and R7A-SJ2
T-2600	Mix Tank (Tank R7AT6, PC-R7A, Building R-7A)	None
Portable Equipment	Portable Vessels, Reactors, Receivers, Tanks, Solid/Liquid Separators, Filters, Centrifuges, Dryers, Mills, Sifters, and Oscillators	Scrubbers, Condensers, or Baghouses (as configured for the process)

7.15.3 Applicability Provisions and Applicable Regulations

a. The Buildings R-7A and R-7B centrifuges, process condensers, dryers, evaporators, tanks, reactors, mix tanks, receivers, feed tanks, fraction tanks, finishing tanks, and portable equipment are “affected chemical manufacturing units” for the purpose of these unit-specific conditions.

b. Each affected chemical manufacturing unit is subject to the emission limits identified in Condition 5.2.2.

c. The affected chemical manufacturing units are subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1254(a) for Process Vents at Existing Sources. The Illinois EPA is administering the NESHAP in Illinois on behalf of the USEPA under a delegation agreement. Pursuant to 40 CFR 63.1250(f)(1), an owner or operator of an existing affected source must comply with the provisions of 40 CFR 63 Subpart GGG within 3 years after September 21, 1998.

d. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

e. The affected chemical manufacturing units are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.15.3 (e)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

ii. Pursuant to 35 IAC 218.302, emissions of organic material in excess of those permitted by Condition 7.15.3(e)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by one of the following methods:

A. A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)]; or

B. Any other air pollution control equipment approved by the Illinois EPA and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would

be otherwise emitted to the atmosphere [35 IAC 218.302(c)].

7.15.4 Non-Applicability of Regulations of Concern

a. The affected chemical manufacturing units are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

b. The affected chemical manufacturing units are not subject to the control requirements of 35 IAC 218.501, Control Requirements for Batch Operations, pursuant to 35 IAC 218.501(b)(2), which excludes any emission unit included within the category specified in 35 IAC 218 Subpart T.

c. The affected chemical manufacturing units are not subject to 35 IAC 212.324, Process Emission Units In Certain Areas, because the source is not located in a non-attainment area for PM_{10}, as identified in 35 IAC 212.324(a)(1).

7.15.5 Operational and Production Limits and Work Practices

a. The owner or operator shall install covers on all in-process tanks used to manufacture pharmaceuticals and containing a VOL at any time. These covers must remain closed, except as production, sampling, maintenance or inspection procedures require operator access [35 IAC 218.484].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must

then be repaired before the unit is restarted [35 IAC 218.485].

c. The Permittee shall follow good operating practices for the vacuum pumps, condensers, steam jets, and filters including periodic inspection, routine maintenance and prompt repair of defects.

d. The affected chemical manufacturing units are not restricted to using the specific air control equipment listed in Condition 7.15.2, so long as emissions are kept below the applicable limits specified in Conditions 5.5, 7.15.3, and 7.15.6.

7.15.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected chemical manufacturing units are subject to the following:

a. i. Emissions of volatile organic material (VOM) from the R-7A Chromatography Feed Tank (Asset #Q-2870) shall not exceed 0.1 ton/year.

ii. The above limitations were established in Permit 97120045, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

b. i. This permit is issued based on negligible emissions of volatile organic material from the R-7A concentration tank. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hr and 0.44 ton/yr.

ii. The above limitations were established in Permit 96080008, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.15.7 Testing Requirements

a. *General*. Except as specified in 40 CFR 63.1257(a)(5), the procedures specified in 40 CFR 63.1257(d) and (f) are required to demonstrate initial compliance with 40 CFR 63.1254 and 63.1252(e), respectively. The provisions in 40 CFR 63.1257(a)(2) apply to performance tests that are specified in 40 CFR 63.1257(d). The provisions in 40 CFR 63.1257(a)(5) are used to demonstrate initial compliance with the alternative standards specified in 40 CFR 63.1254(c). The provisions in 40 CFR 63.1257(a)(6) are used to comply with the outlet concentration requirements specified in 40 CFR 63.1254(a)(2)(i) and (a)(3)(ii)(B) [40 CFR 63.1257(a)].

b. *Test methods*. When testing is conducted to measure emissions from an affected source, the test methods specified in 40 CFR 63.1257(b)(1) through (10) shall be used [40 CFR 63.1257(b)].

c. Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.15.4(a) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in Condition 7.15.7 (d)(i)(A) (see also 35 IAC 218.105(f)(1)) [35 IAC 218.487].

d. Pursuant to 35 IAC 218.105(d)(1) and Section 39.5(7)(b) of the Act, the control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified below (see also 35 IAC 218.105(f)):

i. Volatile Organic Material Gas Phase Source Test Methods The methods in 40 CFR Part 60, Appendix A, delineated below shall be used to determine control device efficiencies [35 IAC 218.105(f)].

A. CFR Part 60, Appendix A, Method 18, 25 or 25A, as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering

gases. The test shall consist of three separate runs, each lasting a minimum of 60 min, unless the Illinois EPA and the USEPA determine that process variables dictate shorter sampling times [35 IAC 218.105(f)(1)].

B. 40 CFR Part 60, Appendix A, Method 1 or 1A shall be used for sample and velocity traverses [35 IAC 218.105(f)(2)].

C. 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D shall be used for velocity and volumetric flow rates [35 IAC 218.105(f)(3)].

D. 40 CFR Part 60, Appendix A, Method 3 shall be used for gas analysis [35 IAC 218.105(f)(4)].

E. 40 CFR Part 60, Appendix A, Method 4 shall be used for stack gas moisture [35 IAC 218.105(f)(5)].

F. 40 CFR Part 60, Appendix A, Methods 2, 2A, 2C, 2D, 3 and 4 shall be performed, as applicable, at least twice during each test run [35 IAC 218.105(f)(6)].

G. Use of an adaptation to any of the test methods specified in Conditions 7.15.7 (d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) may not be used unless approved by the Illinois EPA and the USEPA on a case by case basis. An owner or operator must submit sufficient documentation for the Illinois EPA and the USEPA to find that the test methods specified in Conditions 7.15.7(d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) will yield inaccurate results and that the proposed adaptation is appropriate [35 IAC 218.105(f)(7)].

ii. Notwithstanding other requirements of 35 IAC Part 218, upon request of the Illinois EPA where it is necessary to demonstrate compliance, an owner or operator of an emission unit which is subject to 35 IAC Part 218 shall, at his own expense, conduct tests in accordance with the applicable test methods and procedures specific in 35 IAC Part 218.

Nothing in this Condition (see also 35 IAC 218.105) shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing [35 IAC 218.105(i)].

7.15.8 Monitoring Requirements

a. The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard as specified in 40 CFR 63.1258. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish the operating parameter level [40 CFR 63.1258(a)].

b. *Monitoring for control devices*.

i. *Parameters to monitor*. Except as specified in 40 CFR 63.1258(b)(1)(i), for each control device, the owner or operator shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4 of 40 CFR 63 Subpart GGG and in 40 CFR 63.1258(b)(1)(ii) through (xi) [40 CFR 63.1258(b)(1)].

ii. *Averaging periods*. Averaging periods for parametric monitoring levels shall be established according to 40 CFR 63.1258(b)(2)(i) through (iii) [40 CFR 63.1258(b)(2)].

iii. *Monitoring for the alternative standards*. For control devices that are used to comply with the provisions of 40 CFR 63.1254(c), the owner or operator shall monitor and record the outlet TOC concentration and the outlet hydrogen halide and halogen concentration every 15 minutes during the period in which the device is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG. A TOC monitor meeting the requirements of Performance Specification 8 or 9 of appendix B of 40 CFR Part 60 shall be installed, calibrated, and maintained, according to 40 CFR 63.8. The owner or operator need not monitor the hydrogen halide and halogen

concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens [40 CFR 63.1258(b)(5)].

iv. *Exceedances of operating parameters*. Pursuant to 40 CFR 63.1258(b)(6), an exceedance of an operating parameter is defined as one of the following:

A. If the parameter, averaged over the operating day or block, is below a minimum value established during the initial compliance demonstration [40 CFR 63.1258 (b)(6)(i)].

B. If the parameter, averaged over the operating day or block, is above the maximum value established during the initial compliance demonstration [40 CFR 63.1258(b)(6)(ii)].

C. Each loss of pilot flame for flares [40 CFR 63.1258(b)(6)(iii)].

v. *Excursions*. Pursuant to 40 CFR 63.1258(b)(7), excursions are defined by either of the two cases listed in Conditions 7.15.8(b)(v)(A) or (B) (see also 40 CFR 63.1258(b)(7)(i) or (ii)).

A. When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in Condition 7.15.8 (b)(v)(C) (see also 40 CFR 63.1258 (b)(7)(iii)), for at least 75 percent of the operating hours [40 CFR 63.1258 (b)(7)(i)].

B. When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data [40 CFR 63.1258(b)(7)(ii)].

C. Monitoring data are insufficient to constitute a valid hour of data, as used in Conditions 7.15.8(b)(v)(A) and (B) (see also 40 CFR 63.1258(b)(7)(i) and (ii)), if measured values are unavailable

for any of the required 15-minute periods within the hour [40 CFR 63.1258(b)(7)(iii)].

vi. *Violations*. Pursuant to 40 CFR 63.1258(b)(8), exceedances of parameters monitored according to the provisions of 40 CFR 63.1258(b)(1)(ii) and (iv) through (ix) or excursions as defined by Conditions 7.15.8(b)(v)(A) through (C) (see also 40 CFR 63.1258(b)(7)(i) through (iii)) constitute violations of the operating limit according to Conditions 7.15.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of 40 CFR 63.1258(b)(1)(x) constitute violations of the emission limit according to Conditions 7.15.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of Condition 7.15.8(b)(iii) (see also 40 CFR 63.1258(b)(5)) constitute violations of the emission limit according to the provisions of Conditions 7.15.8(b)(vi)(C) and (D) (see also 40 CFR 63.1258(b)(8)(iii) and (iv)).

A. Except as provided in Condition 7.15.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process [40 CFR 63.1258(b)(8)(i)].

B. Except as provided in Condition 7.15.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device, for each process for which the control device is in service [40 CFR 63.1258(b)(8)(ii)].

C. Except as provided in Condition 7.15.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more

than one violation per day per control device. Except as provided in Condition 7.15.8(b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv hydrogen halide or halogen outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device [40 CFR 63.1258 (b)(8)(iii)].

D. Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur during a startup, shutdown, or malfunction, and the facility follows its startup, shutdown, and malfunction plan [40 CFR 63.1258 (b)(8)(iv)].

c. *Monitoring for emission limits*. The owner or operator of any affected source complying with the provisions of 40 CFR 63.1254(a)(1) shall demonstrate continuous compliance with the 2,000 lb/yr emission limits by calculating daily a 365-day rolling summation of emissions. For owners and operators opting to switch compliance strategy from the 93 percent control requirement to the 2,000 lb/yr compliance method, as described in 40 CFR 63.1254(a), the rolling average must include emissions from the past 365 days. Each day that the total emissions per process exceeds 2,000 lb/yr will be considered a violation of the emission limit [40 CFR 63.1258(c)].

7.15.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected chemical manufacturing unit to demonstrate compliance with Conditions 5.5.1, 5.5.3(b), 7.15.3, 7.15.5, and 7.15.6, pursuant to Section 39.5(7)(b) of the Act:

a. *Records of equipment operation*. Pursuant to 40 CFR 63.1259(b), the owner or operator must keep the following records up-to-date and readily accessible:

i. Each measurement of a control device operating parameter monitored in accordance with Condition 7.15.8 (see also 40 CFR 63.1258) [40 CFR 63.1259 (b)(1)].

ii. For each continuous monitoring system used to comply with 40 CFR 63 Subpart GGG, records

documenting the completion of calibration checks and maintenance of continuous monitoring systems [40 CFR 63.1259(b)(3)].

iii. For processes in compliance with the 2,000 lb/yr emission limit of 40 CFR 63.1254(a)(1), records of the rolling annual total emissions [40 CFR 63.1259(b)(4)].

iv. Pursuant to 40 CFR 63.1259(a)(5), records of the following, as appropriate:

A. The number of batches per year for each batch process [40 CFR 63.1259(a)(5)(i)].

B. The operating hours per year for continuous processes [40 CFR 63.1259 (a)(5)(ii)].

v. Uncontrolled and controlled emissions per batch for each process [40 CFR 63.1259(b)(6)].

vi. Wastewater concentration per POD or process [40 CFR 63.1259(b)(7)].

vii. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].

viii. Description of worst-case operating conditions as determined using the procedures described in 40 CFR 63.1257(b)(8) for control devices [40 CFR 63.1259(b)(10)].

b. *Records of operating scenarios*. The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with 40 CFR 63 Subpart GGG [40 CFR 63.1259(c)].

c. Records of the testing of the efficiency of each capture system and control device pursuant to Condition 7.15.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

d. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.15.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

e. Pursuant to 35 IAC 218.489(c), the following records shall be kept for emission units subject to Condition 7.15.5(a) (see also 35 IAC 218.484) which contain VOL:

i. For maintenance and inspection:

A. The date and time each cover is opened [35 IAC 218.489(c)(1)(A)];

B. The length of time the cover remains open [35 IAC 218.489(c)(1)(B)]; and

C. The reason why the cover is opened [35 IAC 218.489(c)(1)(C)].

ii. For production and sampling, detailed written procedures or manufacturing directions specifying the circumstances under which covers may be opened and the procedures for opening covers [35 IAC 218.489(c)(2)].

f. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.15.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily

and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.15.4(a) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.15.4(a) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

g. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

h. The Permittee shall keep the following records for each product manufactured using the affected chemical manufacturing units. These records shall follow established techniques to calculate emissions:

i. A listing of the raw materials, process materials and associated air pollution control equipment used in making each product manufactured using affected chemical manufacturing units;

ii. A demonstration including engineering calculations for the HAP, PM, and VOM emissions generated for each process per batch of each product manufactured using affected chemical manufacturing units;

iii. A demonstration including engineering calculations for the HAP, PM, and VOM control efficiencies of air pollution control equipment, if any, and emissions to the atmosphere for any air pollution control equipment operating in a normal manner. This demonstration shall also show compliance with the control requirements of 35 IAC 218 Subpart T, if applicable to any of the affected chemical manufacturing units;

iv. The operating parameters of air pollution control equipment, if any, when operating normally (e.g., temperature of condenser cooling water supply); and

v. Methodologies for recalculating emissions from batches run during the malfunction of control equipment.

i. The Permittee shall keep the following records on a batch basis:

   i. Records to show that air pollution control equipment is operated in a normal manner, as specified by the above records for a particular product manufactured using affected chemical manufacturing units;

   ii. Records of the number and size of batches run for each product manufactured using affected chemical manufacturing units. For this purpose, a batch shall be considered to run on the day the batch is initiated. Any batch terminated prematurely will be assumed to be a completed batch; and

   iii. Records of the times and duration of any malfunction in any air pollution control equipment.

j. The Permittee shall keep the following records on a monthly basis, prepared by the 15th day of the following month:

   i. Records of HAP, PM, and VOM emissions for each product manufactured using affected chemical manufacturing units in the month, determined by combining the above records for generated emissions, control efficiency (if control operated in a normal manner) and production rate;

   ii. Records of HAP, PM, and VOM emissions for the month for each batch made using affected chemical manufacturing units during any malfunction of air pollution control equipment; and

   iii. Records of the aggregate annual HAP, PM, and VOM emissions from the affected chemical manufacturing units for each month, determined from the sum of the current month's emissions and the emissions from the previous 11 months.

k. The Permittee shall maintain an On-Site Implementation Log (OSIL) which shall contain the following information with respect to the equipment changes authorized by Conditions 7.15.11(b) and (c):

   i. Name and location of batch process with replacement component(s) or control device(s);

ii. Description of the component(s) or control device(s) replaced;

iii. Asset or identification number of replacement component(s) or control device(s);

iv. The effective size or capacity of the original and each replacement component;

v. The effective efficiencies of the original control device(s) and the replacement control device(s);

vi. Manufacturer(s) and model number(s) of the replacement component(s) or control device(s);

vii. The date of installation of the replacement component(s) or control device(s); and

viii. Other information as needed to show the change is within the scope of Condition 7.15.11(b) or (c).

7.15.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected chemical manufacturing unit with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. *Periodic reports*. Pursuant to 40 CFR 63.1260(g), an owner or operator shall prepare Periodic reports in accordance with Conditions 7.15.10(a)(i) and (ii) (see also 40 CFR 63.1260(g)(1) and (2)) and submit them to the Illinois EPA and/or USEPA.

i. *Submittal schedule*. Pursuant to 40 CFR 63.1260 (g)(1), Except as provided in Conditions 7.15.10 (a)(i)(A), (B), and (C) (see also 40 CFR 63.1260 (g)(1)(i), (ii) and (iii)), an owner or operator shall submit Periodic reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due.

A. When the Illinois EPA and/or USEPA determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source [40 CFR 63.1260 (g)(1)(i)]; or

B. When the monitoring data are used directly for compliance determination and the source experience excess emissions, in which case quarterly reports shall be submitted. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in 40 CFR 63.10(e)(3)(ii) and (iii) shall apply, except that the term "excess emissions and continuous monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of Condition 7.15.10 (see also 40 CFR 63.1260) [40 CFR 63.1260(g)(1)(ii)].

C. When a new operating scenario has been operated since the last report, in which case quarterly reports shall be submitted [40 CFR 63.1260(g)(1)(iii)].

ii. *Content of Periodic report.* Pursuant to 40 CFR 63.1260(g)(2), the owner or operator shall include the information in Conditions 7.15.10 (a)(ii)(A) through (D) (see also 40 CFR 63.1260 (g)(2)(i) through (vii)), as applicable.

A. Each Periodic report must include the information in 40 CFR 63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the information in 40 CFR 63.10(e)(3)(vi)(J) [40 CFR 63.1260(g)(2)(i)].

B. Pursuant to 40 CFR 63.1260(g)(2)(ii), if the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for

the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in Conditions 7.15.10(a)(ii)(B)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(ii)(A) through (D)).

I. Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(A)].

II. Duration of excursions, as defined in Condition 7.15.8(b)(v) (see also 40 CFR 63.1258(b)(7)) [40 CFR 63.1260(g)(2)(ii)(B)].

III. Operating logs and operating scenarios for all operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(C)].

IV. When a continuous monitoring system is used, the information required in 40 CFR 63.10(c)(5) through (13) [40 CFR 63.1260(g)(2)(ii)(D)].

C. Pursuant to 40 CFR 63.1260(g)(2)(v), the information in Conditions 7.15.10 (a)(ii)(C)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(v)(A) through (D)) shall be stated in the Periodic report, when applicable.

I. No excess emissions [40 CFR 63.1260 (g)(2)(v)(A)].

II. No exceedances of a parameter [40 CFR 63.1260(g)(2)(v)(B)].

III. No excursions [40 CFR 63.1260 (g)(2)(v)(C)].

IV. No continuous monitoring system has been inoperative, out of control, repaired, or adjusted [40 CFR 63.1260(g)(2)(v)(D)].

D. Each new operating scenario which has been operated since the time period covered by the last Periodic report. For the initial Periodic report, each operating scenario for each process operated since the compliance date shall be submitted [40 CFR 63.1260(g)(2)(vii)].

b. *Notification of process change*.

i. Pursuant to 40 CFR 63.1260(h)(1), except as specified in Condition 7.15.10(b)(ii) (see also 40 CFR 63.1260(h)(2)), whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report quarterly. The report may be submitted as part of the next Periodic report required under Condition 7.15.10(a) (see also 40 CFR 63.1260(g)). The report shall include:

A. A brief description of the process change [40 CFR 63.1260(h)(1)(i)].

B. A description of any modifications to standard procedures or quality assurance procedures [40 CFR 63.1260(h)(1)(ii)].

C. Revisions to any of the information reported in the original Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) [40 CFR 63.1260(h)(1)(iii)].

D. Information required by the Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) for changes involving the addition of processes or equipment [40 CFR 63.1260(h)(1)(iv)].

ii. Pursuant to 40 CFR 63.1260(h)(2), an owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

A. Any change in the activity covered by the Precompliance report [40 CFR 63.1260 (h)(2)(i)].

B. A change in the status of a control device from small to large [40 CFR 63.1260 (h)(2)(ii)].

c. *Reports of startup, shutdown, and malfunction*. For the purposes of 40 CFR 63 Subpart GGG, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the periodic reports required under Condition 7.15.10(a) (see also 40 CFR 63.1260(g)) instead of the schedule specified in 40 CFR 63.10 (d)(5)(i). These reports shall include the information specified in Condition 5.6.2(n)(iii)(A) through (C) (see also 40 CFR 63.1259(a)(3)(i) through (iii)) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in 40 CFR 63.10 (d)(4)(ii) [40 CFR 63.1260(i)].

d. *Notification of performance test and test plan*. The owner or operator of an affected source shall notify the Illinois EPA and/or USEPA of the planned date of a performance test at least 60 days before the test in accordance with 40 CFR 63.7(b). The owner or operator also must submit the test plan required by 40 CFR 63.7(c) and the emission profile required by 40 CFR 63.1257(b)(8)(ii) with the notification of the performance test [40 CFR 63.1260(l)].

e. *Request for extension of compliance*. An owner or operator may submit to the Illinois EPA and/or USEPA a request for an extension of compliance in accordance with 40 CFR 63.1250(f)(4) [40 CFR 63.1260(m)].

f. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

g. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a

pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.15.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.15.4(a) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

h. Emissions of PM and/or VOM in excess of the limits in Conditions 5.5.3(b), 7.15.3, and/or 7.15.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.15.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following changes with respect to the affected chemical manufacturing units without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee’s obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification pursuant to regulations promulgated pursuant to Title I of the CAA (i.e., 40 CFR 52.21 and 35 IAC Part 203):

a. This permit is issued for production of pharmaceuticals, chemical intermediates for pharmaceutical products and pharmaceutical-like products such as hormones, enzymes and antibiotics. In addition to varying the quantities of such materials produced, the Permittee may change the types of such materials produced, making products not previously made in the affected chemical manufacturing units, or changing the process by which such materials are made, provided that Conditions 5.5, 7.15.3, or 7.15.6 are not violated.

b. The replacement of component parts for a batch process with the same or functionally similar component parts, provided there is no effective increase in the capacity of the batch process (i.e., like-kind replacement), provided that the replacements are not so extensive as to constitute reconstruction of the batch process and it can be demonstrated that emissions from the batch process remain in compliance with the limits specified in Conditions 5.5, 7.15.3, and 7.15.6 (e.g., reactor, receiver, tank, crystallizer, pump, distillation column, centrifuge, air dryer, vacuum dryer).

c. The replacement of control devices with control devices with the same or better effective efficiency,

provided there is no increase in emissions over the limits specified in Conditions 5.5, 7.15.3, and 7.15.6 (e.g., vacuum jet, vacuum pump, condenser, scrubber and demister).

7.15.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.15.9 and the emission factors and formulas listed below:

a. Determinations of daily and annual emissions for purposes of Condition 7.15.4(a) (see also 35 IAC 218.480) shall be made using both data on the hourly emission rate (or the emissions per unit of throughput) and appropriate daily and annual data from records of emission unit operation (or material throughput or material consumption data). In the absence of representative test data pursuant to Condition 7.15.7(c) (see also 35 IAC 218.487) for the hourly emission rate (or the emissions per unit of throughput) such items shall be calculated using engineering calculations, including the methods described in Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/2-78-029). This Condition shall not affect the Illinois EPA's or the USEPA's authority to require emission tests to be performed pursuant to Condition 7.15.7(c) (see also 35 IAC 218.487)) [35 IAC 218.480(h)].

b. Compliance with Conditions 7.15.3(b) and (d) is assumed by proper operation of the vacuum pumps, condensers, steam jets, and filters, as addressed by Condition 7.15.5(c).

c. To determine compliance with Conditions 5.5.1, 5.5.3(b), 7.15.3(e), and 7.15.6, VOM emissions from the affected chemical manufacturing units calculations based on the formulas and procedures listed in either Appendix B of "Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products" (EPA-450/2-78-029) or "Control of Volatile Organic Compound Emissions from Batch Processes-Alternative Control Techniques Information Document" (EPA-450/R-94-020) are acceptable.

d. To determine compliance with Conditions 5.5.1, 5.5.3(b)(ii), and 7.15.3(d), PM emissions from the affected chemical manufacturing units shall be calculated based on the following:

$$ER = (PR) \times ((PRL) \times (100 - e))/100$$

Where:

ER = Emission rate (lb/hr)

PR = Production rate (lb/hr)

PRL = Material lost to the control device, %

e = Efficiency of the control device, %

7.16 Units CAPD R-7/C-11E Chemical Research & Development Building R-7/C-11E
Controls CAPD R-7/C-11E Condensers, Vacuum Pumps, Steam Jets, and Scrubbers

7.16.1 Description

Building R-7/C-11E is a Chemical Pilot Plant facility which provides small-scale manufacturing for pharmaceutical and pharmaceutical-like products and research and development for evaluating new or improving upon existing production techniques of pharmaceutical and pharmaceutical-like products using batch chemical processing techniques. Typical pharmaceutical compound production requires numerous chemical reactions and mechanical separations to form the needed complex chemical molecules of active drug. The chemical synthesis of pharmaceuticals may require from several days up to several weeks to complete a single batch of product. The number and types of individual process steps varies greatly depending upon the particular pharmaceutical compound. For example, a single piece of process equipment may be used several different times during different stages of the single product research campaign to produce the end-product, and each step will be different from all the others.

The pilot plant batch pharmaceutical production research using chemical synthesis methods typically employs several different unit processes, such as reaction, distillation, crystallization, separation, drying and milling steps. Each step must be carefully controlled to produce the desired product at the desired quality. A batch refers to the preparation of a single pharmaceutical or pharmaceutical-like product from beginning to end. As many as one hundred individual steps or unit processes may be required for a single batch.

Although the end uses of pharmaceuticals are in the milligram per dose range, the bulk production of pharmaceuticals may produce hundreds of pounds of the material per batch. For some products, one batch of a production campaign may produce enough product to satisfy world-wide demand for one or more years. For the more common antibiotics, the demand can exceed thousands of kilograms per year.

The pharmaceutical needs of the world are extremely variable and unpredictable. For example, spring and fall flu seasons will create a seasonal demand for antibiotics. The exact volume will be dependent on how many people get sick. Therefore, it is nearly impossible to predict and subsequently plan the amount of particular pharmaceutical to make in a given year, or part of the year. In summary,

the chemical synthesis of pharmaceutical is, by necessity, a small batch process system which must operate with extreme flexibility, and quick responsiveness to market demands.

A variety of portable equipment is used in Building R-7/C-11E for batch process manufacturing. Portable equipment means single pieces of equipment that are mounted on wheels or skids so as to enable them to be moved from one process to another within a manufacturing building and from one manufacturing building to another. Portable equipment is divided into three categories: 1) vessels, including reactors, receivers, and tanks; 2) solid/liquid separation equipment, including dryers, centrifuges, and filters; 3) miscellaneous, including dust collectors, emission control equipment, oscillators, and sifters. Whenever a piece of portable equipment is used in a process, its emissions are calculated and included with the emissions for that process.

7.16.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
A-0258	Centrifuge (PC-5)	None
A-0897	Centrifuge (PC-3)	None
A-1269	Centrifuge (PC-2)	None
A-1311	Centrifuge (PC-1)	None
B-1578	Process Condenser (PC-1)	Inter Condenser B-2335; Liquid Ring Pumps KK-7217 and NN-6958; Steam Jets KK-7208, FJ-6111, and KK-7209; and Scrubber U-2857
B-1792	Process Condenser (PC-5)	None
B-1796	Process Condenser (PC-1)	Inter Condenser B-2335; Liquid Ring Pumps KK-7217 and NN-6958; Steam Jets KK-7208, FJ-6111, and KK-7209); and Scrubber U-2857
B-1937	Process Condenser (PC-5)	Inter Condensers B-2336 and B-1928; Liquid Ring Pumps KK-7207 and KK-1785; Steam Jets KK-7210, KK-2793, KK-7211, and KK-2792; and Scrubber U-2857

Emission Unit	Description	Emission Control Equipment
B-1938	Process Condenser (PC-5)	Inter Condensers B-2336 and B-1928; Liquid Ring Pumps KK-7207 and KK-1785; Steam Jets KK-7210, KK-2793, KK-7211, and KK-2792; and Scrubber U-2857
B-2389	Process Condenser (PC-4)	Inter Condenser B-2334; Liquid Ring Pumps KK-7213 and KK-4153; Steam Jets KK-7205, KK-4152, and KK-7206; and Scrubber U-2857
B-2519	Process Condenser (PC-2)	Inter Condenser B-2337; Liquid Ring Pumps KK-7214, KK-6485, and KK-6080; Steam Jets KK-7215 and KK-7216; and Scrubber U-2857
B-2520	Process Condenser (PC-2)	Inter Condenser B-2337; Liquid Ring Pumps KK-7214 and KK-6485; Steam Jets KK-7215 and KK-7216; and Scrubber U-2857
B-2521	Process Condenser (PC-2)	Inter Condenser B-2337; Liquid Ring Pump KK-7214 and KK-6485; Steam Jets KK-7215 and KK-7216; and Scrubber U-2857
B-2998	Process Condenser (PC-4)	Inter Condenser B-2334; Liquid Ring Pumps KK-7213 and KK-4153; Steam Jets KK-7205, KK-4152, and KK-7206; and Scrubber U-2857
D-1031	73 Gallon V-Blender Dryer (PC-8)	Inter Condenser U-2998; Liquid Ring Pump U-2998; Steam Jet U-2998; and Scrubber U-2857
D-1175	16.7 Gallon Vacuum Tray Dryer (PC-9)	Inter Condenser U-2997; Liquid Ring Pump U-2997; Steam Jet U-2997; and Scrubber U-2857

Emission Unit	Description	Emission Control Equipment
D-1201	16.7 Gallon Vacuum Tray Dryer (PC-7)	Liquid Ring Pumps NG-0177 and KK-6433
D-1203	16.7 Gallon Vacuum Tray Dryer (PC-10)	Inter Condenser FK-2780; Liquid Ring Pump FK-2780; Steam Jet FK-2780; and Scrubber U-2857
D-1668	16.7 Gallon Vacuum Tray Dryer (PC-6)	Inter Condenser FK-5123; Liquid Ring Pump FK-5123; Steam Jet FK-5123; and Scrubber U-2857
LC-900881	300 Gallon Reactor (PC-3)	Inter Condensers B-2322 and B-1850; Liquid Ring Pumps KK-7212 and KK-6080; Steam Jets KK-7203, KK-4638, and KK-7204; and Scrubber U-2857
LC-900882	200 Gallon Reactor (PC-3)	Inter Condensers B-2322 and B-1850; Liquid Ring Pumps KK-7212 and KK-6080; Steam Jets KK-7203, KK-4638 and KK-7204; and Scrubber U-2857
LC-900883	Process Condenser (PC-3)	Inter Condensers B-2322 and B-1850; Liquid Ring Pumps KK-7212 and KK-6080; Steam Jets KK-7203, KK-4638, and KK-7204; and Scrubber U-2857
LC-902987	50 Gallon Reactor (PC-5)	Inter Condensers B-2336 and B-1928; Liquid Ring Pumps KK-7207 and KK-1785; Steam Jets KK-7210, KK-2793, KK-7211, and KK-2792; and Scrubber U-2857
LC-902988	50 Gallon Reactor (PC-5)	Inter Condensers B-2336 and B-1928; Liquid Ring Pumps KK-7207 and KK-1785; Steam Jets KK-7210, KK-2793, KK-7211, and KK-2792; and Scrubber U-2857

Emission Unit	Description	Emission Control Equipment
LC-909073	100 Gallon Reactor (PC-4)	Inter Condenser B-2334; Liquid Ring Pumps KK-7213 and KK-4153; Steam Jets KK-7205, KK-4152, and KK-7206; and Scrubber U-2857
LC-909074	100 Gallon Reactor (PC-4)	Inter Condenser B-2334; Liquid Ring Pumps KK-7213 and KK-4153; Steam Jets KK-7205, KK-4152, and KK-7206; and Scrubber U-2857
LC-909121	Centrifuge (PC-4)	None
LC-909276	Process Condenser (PC-4, Building R-7)	Inter Condenser B-2334; Liquid Ring Pumps KK-7213 and KK-4153; Steam Jets KK-7205, KK-4152, and KK-7206; and Scrubber U-2857
LC-938217	500 Gallon Reactor (PC-3)	Inter Condensers B-2322 and B-1850; Liquid Ring Pumps KK-7212 and KK-6080; Steam Jets KK-7203, KK-4638, and KK-7204; and Scrubber U-2857
LC-956966	500 Gallon Reactor (PC-1)	Inter Condenser B-2335; Liquid Ring Pumps KK-7217 and NN-6958; Steam Jets KK-7208, FJ-6111, and KK-7209; and Scrubber U-2857
Q-2887	25 Gallon Reactor (PC-C11E)	None
Q-2914	100 Gallon Feed Tank (PC-3)	Inter Condenser B-1850; Liquid Ring Pump KK-6080; and Steam Jet KK-4638
Q-3435	150 Gallon Methanol Tank (Tank TA-121, PC-157)	None

Emission Unit	Description	Emission Control Equipment
Q-3905	50 Gallon Reactor (PC-5)	Inter Condensers B-2336 and B-1928; Liquid Ring Pumps KK-7207 and KK-1785; Steam Jets KK-7210, KK-2793, KK-7211, and KK-2792; and Scrubber U-2857
R-0597	30 Gallon Reactor (PC-C11E)	PC-C11E Steam Jet
R-0599	50 Gallon Reactor (PC-C11E)	PC-C11E Steam Jet
R-0685	50 Gallon Distillation Pot (PC-5)	After Condenser T-2689; Inter Condensers B-1791 and LC-959079; Steam Jet LC-959078; and Liquid Ring Pump LC-959079
R-0689	300 Gallon Reactor (Reactor RA-110, PC-1)	Inter Condenser B-2335; Liquid Ring Pumps KK-7217 and NN-6958; Steam Jets KK-7208, FJ-6111, and KK-7209); and Scrubber U-2857
R-0770	150 Gallon Reactor (PC-4)	Inter Condenser B-2334; Liquid Ring Pumps KK-7213 and KK-4153; Steam Jets KK-7205, KK-4152, and KK-7206; and Scrubber U-2857
R-0782	50 Gallon Reactor (PC-4)	Inter Condenser B-2334; Liquid Ring Pumps KK-7213 and KK-4153; Steam Jets KK-7205, KK-4152, and KK-7206; and Scrubber U-2857
R-1045	75 Gallon Reactor (PC-5)	Inter Condensers B-2336 and B-1928; Liquid Ring Pumps KK-7207 and KK-1785; Steam Jets KK-7210, KK-2793, KK-7211, and KK-2792; and Scrubber U-2857

Emission Unit	Description	Emission Control Equipment
R-1091	50 Gallon Reactor (PC-4)	Inter Condenser B-2334; Liquid Ring Pumps KK-7213 and KK-4153; Steam Jets KK-7205, KK-4152, and KK-7206; and Scrubber U-2857
R-1095	50 Gallon Reactor (PC-4)	Inter Condenser B-2334; Liquid Ring Pumps KK-7213 and KK-4153; Steam Jets KK-7205, KK-4152, and KK-7206; and Scrubber U-2857
T-2628	100 Gallon Reactor (PC-2)	Inter Condenser B-2337; Liquid Ring Pumps KK-7214 and KK-6485; Steam Jets KK-7215 and KK-7216; and Scrubber U-2857
T-2629	300 Gallon Reactor (PC-2)	Inter Condenser B-2337; Liquid Ring Pumps KK-7214, KK-6485, and KK-6080; Steam Jets KK-7215 and KK-7216; and Scrubber U-2857
T-2630	500 Gallon Reactor (PC-2)	Inter Condenser B-2337; Liquid Ring Pump KK-7214 and KK-6485; Steam Jets KK-7215 and KK-7216; and Scrubber U-2857
T-2690	20 Gallon Receiver (PC-5)	None
T-2691	20 Gallon Receiver (PC-5)	None
T-2692	50 Gallon Receiver (PC-5)	None
T-3103	200 Gallon Receiver (PC-1)	Inter Condenser B-2335; Liquid Ring Pumps KK-7217 and NN-6958; Steam Jets KK-7208, FJ-6111, and KK-7209; and Scrubber U-2857
Portable Equipment	Portable Vessels, Reactors, Receivers, Tanks, Solid/Liquid Separators, Filters, Centrifuges, Dryers, Mills, Sifters, and Oscillators	Scrubbers, Condensers, or Baghouses (as configured for the process)

7.16.3 Applicability Provisions and Applicable Regulations

a. The Building R-7 centrifuges, process condensers, blender dryers, tray dryers, reactors, in-process tanks, feed tanks, distillation pots, receivers, and portable equipment are "affected chemical R&D units" for the purpose of these unit-specific conditions.

b. Each affected chemical R&D unit is subject to the emission limits identified in Condition 5.2.2.

c. The affected chemical R&D units are subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1254(a) for Process Vents at Existing Sources. The Illinois EPA is administering the NESHAP in Illinois on behalf of the USEPA under a delegation agreement. Pursuant to 40 CFR 63.1250(f)(1), an owner or operator of an existing affected source must comply with the provisions of 40 CFR 63 Subpart GGG within 3 years after September 21, 1998.

d. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

e. The affected chemical R&D units are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.16.3 (e)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

ii. Pursuant to 35 IAC 218.302, emissions of organic material in excess of those permitted by Condition 7.16.3(e)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by one of the following methods:

A. A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)]; or

B. Any other air pollution control equipment approved by the Illinois EPA and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere [35 IAC 218.302(c)].

7.16.4 Non-Applicability of Regulations of Concern

a. The affected chemical manufacturing units are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (16 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

b. The affected chemical R&D units are not subject to the control requirements of 35 IAC 218.501, Control Requirements for Batch Operations, pursuant to 35 IAC 218.501(b)(2), which excludes any emission unit included within the category specified in 35 IAC 218 Subpart T.

c. The affected chemical R&D units are not subject to 35 IAC 212.324, Process Emission Units In Certain Areas, because the source is not located in a non-attainment area for PM_{10}, as identified in 35 IAC 212.324(a)(1).

7.16.5 Operational And Production Limits And Work Practices

a. The owner or operator shall install covers on all in-process tanks used to manufacture pharmaceuticals and containing a VOL at any time. These covers must remain closed, except as production, sampling,

maintenance or inspection procedures require operator access [35 IAC 218.484].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 16 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The Permittee shall follow good operating practices for the condensers, vacuum pumps, steam jets, and scrubbers including periodic inspection, routine maintenance and prompt repair of defects.

d. The affected chemical manufacturing units are not restricted to using the specific air control equipment listed in Condition 7.16.2, so long as emissions are kept below the applicable limits specified in Conditions 5.5, 7.16.3, and 7.16.6.

7.16.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected chemical R&D units are subject to the following:

a. i. Emissions of VOM from Reactors RA-100 and RA-110 shall not exceed 520 lb VOM per year and 455 lb VOM per year, respectively.

ii. The above limitations contain revisions to previously issued Permit 92120016. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the

information in the CAAPP application contains the most current and accurate information for the source. Specifically, the compliance determination with the above limit has been changed from a from a running total of VOM emissions over 365 days and for VOM emissions per batch to a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1R].

b. i. This permit is issued based on negligible emissions of particulate matter from the Building R-7 Exhaust Scrubber S-120. For this purpose, emissions shall not exceed nominal emission rates of 146 lb/month and 0.44 ton/year.

ii. The above limitations contain revisions to previously issued Permit 93090051. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, the hourly emission limit of 0.10 lb for PM has been replaced the monthly limit of 146 lb without any increase in the annual emissions limit [T1R].

c. i. A. Emissions of VOM shall not exceed 1.05 tons per year from the PC-2 Reactors.

B. This limit is based on example calculations showing the 500 gallon reactor producing eleven batches per year of Clarithromycin (84.42 lb VOM/batch), eleven batches per year of Temafloxacin

(16.89 lb VOM/batch), and 63 cleanings per year (15.75 lb VOM/batch).

ii. A. Emissions of VOM shall not exceed 0.23 tons per year from PC-2 Centrifuge C-206.

B. This limit is based on example calculations showing the centrifuge producing eleven batches per year of Clarithromycin (10.42 lb VOM/batch) and eleven batches per year of Temafloxacin (30.10 lb VOM/batch).

iii. The above limitations contain revisions to previously issued Permit 93120118. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, Conditions 7.16.6(c)(i)(B) and (c)(ii)(B) have been added to explain that the above limits are based on estimates using specific products for example purposes only and do not limit the above-listed equipment to producing only the products used in the example calculations [T1R].

d. i. Emissions of VOM shall not exceed 1.36 tons per year from the PC-4 reactors and centrifuges. This limit is based on an emissions estimate from the 150 gallon and 100 gallon reactors producing eleven batches per year of Clarithromycin (150 gal: 44.35 lb VOM/batch), eleven batches per year of Temafloxacin (150 gal: 11.73 lb VOM/batch and 100 gal: 10.99 lb VOM/batch) and 63 cleanings

per year (150 gal: 12.48 lb VOM/batch and 100 gal: 12.02 lb VOM/batch).

ii. This limit is based on example calculations showing the 150 gallon and 100 gallon reactors producing eleven batches per year of Clarithromycin (150 gal: 44.35 lb VOM/batch), eleven batches per year of Temafloxacin (150 gal: 11.73 lb VOM/batch and 100 gal: 10.99 lb VOM/batch) and 63 cleanings per year (150 gal: 12.48 lb VOM/batch and 100 gal: 12.02 lb VOM/batch).

iii. The above limitations contain revisions to previously issued Permit 96030262. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, Condition 7.16.6(d)(ii) has been added to explain that the above limits are based on estimates using specific products for example purposes only and do not limit the above-listed equipment to producing only the products used in the example calculations [T1R].

e. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.16.7 Testing Requirements

a. *General*. Except as specified in 40 CFR 63.1257(a)(5), the procedures specified in 40 CFR 63.1257(d) and (f) are required to demonstrate initial compliance with 40 CFR 63.1254 and

63.1252(e), respectively. The provisions in 40 CFR 63.1257(a)(2) apply to performance tests that are specified in 40 CFR 63.1257(d). The provisions in 40 CFR 63.1257(a)(5) are used to demonstrate initial compliance with the alternative standards specified in 40 CFR 63.1254(c). The provisions in 40 CFR 63.1257(a)(6) are used to comply with the outlet concentration requirements specified in 40 CFR 63.1254(a)(2)(i) and (a)(3)(ii)(B) [40 CFR 63.1257(a)].

b. *Test methods*. When testing is conducted to measure emissions from an affected source, the test methods specified in 40 CFR 63.1257(b)(1) through (10) shall be used [40 CFR 63.1257(b)].

c. Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.16.4(a) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in Condition 7.16.7 (d)(i)(A) (see also 35 IAC 218.105(f)(1)) [35 IAC 218.487].

d. Pursuant to 35 IAC 218.105(d)(1) and Section 39.5(7)(b) of the Act, the control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified below (see also 35 IAC 218.105(f)):

i. Volatile Organic Material Gas Phase Source Test Methods The methods in 40 CFR Part 60, Appendix A, delineated below shall be used to determine control device efficiencies [35 IAC 218.105(f)].

A. CFR Part 60, Appendix A, Method 18, 25 or 25A, as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. The test shall consist of three separate runs, each lasting a minimum of 60 min, unless the Illinois EPA and the USEPA determine that process variables dictate shorter sampling times [35 IAC 218.105(f)(1)].

B. 40 CFR Part 60, Appendix A, Method 1 or 1A shall be used for sample and velocity traverses [35 IAC 218.105(f)(2)].

C. 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D shall be used for velocity and volumetric flow rates [35 IAC 218.105(f)(3)].

D. 40 CFR Part 60, Appendix A, Method 3 shall be used for gas analysis [35 IAC 218.105(f)(4)].

E. 40 CFR Part 60, Appendix A, Method 4 shall be used for stack gas moisture [35 IAC 218.105(f)(5)].

F. 40 CFR Part 60, Appendix A, Methods 2, 2A, 2C, 2D, 3 and 4 shall be performed, as applicable, at least twice during each test run [35 IAC 218.105(f)(6)].

G. Use of an adaptation to any of the test methods specified in Conditions 7.16.7 (d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) may not be used unless approved by the Illinois EPA and the USEPA on a case by case basis. An owner or operator must submit sufficient documentation for the Illinois EPA and the USEPA to find that the test methods specified in Conditions 7.16.7(d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) will yield inaccurate results and that the proposed adaptation is appropriate [35 IAC 218.105(f)(7)].

ii. Notwithstanding other requirements of 35 IAC Part 218, upon request of the Illinois EPA where it is necessary to demonstrate compliance, an owner or operator of an emission unit which is subject to 35 IAC Part 218 shall, at his own expense, conduct tests in accordance with the applicable test methods and procedures specific in 35 IAC Part 218. Nothing in this Condition (see also 35 IAC 218.105) shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing [35 IAC 218.105(i)].

7.16.8 Monitoring Requirements

a. The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard as specified in 40 CFR 63.1258. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish the operating parameter level [40 CFR 63.1258(a)].

b. *Monitoring for control devices*.

i. *Parameters to monitor*. Except as specified in 40 CFR 63.1258(b)(1)(i), for each control device, the owner or operator shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4 of 40 CFR 63 Subpart GGG and in 40 CFR 63.1258(b)(1)(ii) through (xi) [40 CFR 63.1258(b)(1)].

ii. *Averaging periods*. Averaging periods for parametric monitoring levels shall be established according to 40 CFR 63.1258(b)(2)(i) through (iii) [40 CFR 63.1258(b)(2)].

iii. *Monitoring for the alternative standards*. For control devices that are used to comply with the provisions of 40 CFR 63.1254(c), the owner or operator shall monitor and record the outlet TOC concentration and the outlet hydrogen halide and halogen concentration every 15 minutes during the period in which the device is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG. A TOC monitor meeting the requirements of Performance Specification 8 or 9 of appendix B of 40 CFR Part 60 shall be installed, calibrated, and maintained, according to 40 CFR 63.8. The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens [40 CFR 63.1258(b)(5)].

iv. *Exceedances of operating parameters*. Pursuant to 40 CFR 63.1258(b)(6), an exceedance of an operating parameter is defined as one of the following:

A. If the parameter, averaged over the operating day or block, is below a minimum value established during the initial compliance demonstration [40 CFR 63.1258 (b)(6)(i)].

B. If the parameter, averaged over the operating day or block, is above the maximum value established during the initial compliance demonstration [40 CFR 63.1258(b)(6)(ii)].

C. Each loss of pilot flame for flares [40 CFR 63.1258(b)(6)(iii)].

v. *Excursions*. Pursuant to 40 CFR 63.1258(b)(7), excursions are defined by either of the two cases listed in Conditions 7.16.8(b)(v)(A) or (B) (see also 40 CFR 63.1258(b)(7)(i) or (ii)).

A. When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in Condition 7.16.8 (b)(v)(C) (see also 40 CFR 63.1258 (b)(7)(iii)), for at least 75 percent of the operating hours [40 CFR 63.1258 (b)(7)(i)].

B. When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data [40 CFR 63.1258(b)(7)(ii)].

C. Monitoring data are insufficient to constitute a valid hour of data, as used in Conditions 7.16.8(b)(v)(A) and (B) (see also 40 CFR 63.1258(b)(7)(i) and (ii)), if measured values are unavailable for any of the required 15-minute periods within the hour [40 CFR 63.1258(b)(7)(iii)].

vi. *Violations*. Pursuant to 40 CFR 63.1258(b)(8), exceedances of parameters monitored according to the provisions of 40 CFR 63.1258(b)(1)(ii) and (iv) through (ix) or excursions as defined by Conditions 7.16.8(b)(v)(A) through (C) (see also 40 CFR 63.1258(b)(7)(i) through (iii)) constitute violations of the operating limit according to Conditions 7.16.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of 40 CFR 63.1258(b)(1)(x) constitute violations of the emission limit according to Conditions 7.16.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of Condition 7.16.8(b)(iii) (see also 40 CFR 63.1258(b)(5)) constitute violations of the emission limit according to the provisions of Conditions 7.16.8(b)(vi)(C) and (D) (see also 40 CFR 63.1258(b)(8)(iii) and (iv)).

A. Except as provided in Condition 7.16.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process [40 CFR 63.1258(b)(8)(i)].

B. Except as provided in Condition 7.16.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device, for each process for which the control device is in service [40 CFR 63.1258(b)(8)(ii)].

C. Except as provided in Condition 7.16.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device. Except as provided in Condition 7.16.8(b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv

hydrogen halide or halogen outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device [40 CFR 63.1258 (b)(8)(iii)].

D. Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur during a startup, shutdown, or malfunction, and the facility follows its startup, shutdown, and malfunction plan [40 CFR 63.1258 (b)(8)(iv)].

c. *Monitoring for emission limits*. The owner or operator of any affected source complying with the provisions of 40 CFR 63.1254(a)(1) shall demonstrate continuous compliance with the 2,000 lb/yr emission limits by calculating daily a 365-day rolling summation of emissions. For owners and operators opting to switch compliance strategy from the 93 percent control requirement to the 2,000 lb/yr compliance method, as described in 40 CFR 63.1254(a), the rolling average must include emissions from the past 365 days. Each day that the total emissions per process exceeds 2,000 lb/yr will be considered a violation of the emission limit [40 CFR 63.1258(c)].

7.16.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected chemical R&D unit to demonstrate compliance with Conditions 5.5.1, 5.5.3(c), 7.16.3, 7.16.5, and 7.16.6, pursuant to Section 39.5(7)(b) of the Act:

a. *Records of equipment operation*. Pursuant to 40 CFR 63.1259(b), the owner or operator must keep the following records up-to-date and readily accessible:

i. Each measurement of a control device operating parameter monitored in accordance with Condition 7.16.8 (see also 40 CFR 63.1258) [40 CFR 63.1259 (b)(1)].

ii. For each continuous monitoring system used to comply with 40 CFR 63 Subpart GGG, records documenting the completion of calibration checks and maintenance of continuous monitoring systems [40 CFR 63.1259(b)(3)].

iii. For processes in compliance with the 2,000 lb/yr emission limit of 40 CFR 63.1254(a)(1), records of the rolling annual total emissions [40 CFR 63.1259(b)(4)].

iv. Pursuant to 40 CFR 63.1259(a)(5), records of the following, as appropriate:

A. The number of batches per year for each batch process [40 CFR 63.1259(a)(5)(i)].

B. The operating hours per year for continuous processes [40 CFR 63.1259 (a)(5)(ii)].

v. Uncontrolled and controlled emissions per batch for each process [40 CFR 63.1259(b)(6)].

vi. Wastewater concentration per POD or process [40 CFR 63.1259(b)(7)].

vii. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].

viii. Description of worst-case operating conditions as determined using the procedures described in 40 CFR 63.1257(b)(8) for control devices [40 CFR 63.1259(b)(10)].

b. *Records of operating scenarios*. The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with 40 CFR 63 Subpart GGG [40 CFR 63.1259(c)].

c. Records of the testing of the efficiency of each capture system and control device pursuant to Condition 7.16.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

d. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.16.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

   i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

   ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

   iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

   iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

e. Pursuant to 35 IAC 218.489(c), the following records shall be kept for emission units subject to Condition 7.16.5(a) (see also 35 IAC 218.484) which contain VOL:

   i. For maintenance and inspection:

      A. The date and time each cover is opened [35 IAC 218.489(c)(1)(A)];

      B. The length of time the cover remains open [35 IAC 218.489(c)(1)(B)]; and

      C. The reason why the cover is opened [35 IAC 218.489(c)(1)(C)].

   ii. For production and sampling, detailed written procedures or manufacturing directions specifying the circumstances under which covers may be opened and the procedures for opening covers [35 IAC 218.489(c)(2)].

f. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.16.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall:

   i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.16.4(a) (see also 35 IAC 218.480(a)) for the current

and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.16.4(a) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

g. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

h. The Permittee shall keep the following records for each product manufactured using the affected chemical R&D units. These records shall follow established techniques to calculate emissions:

i. A listing of the raw materials, process materials and associated air pollution control equipment used in making the product;

ii. A demonstration including engineering calculations of the VOM, HAP, and PM emissions generated for each process per batch of each product manufactured;

iii. A demonstration including engineering calculations for the HAP, PM, and VOM control efficiencies of air pollution control equipment, if any, and emissions to the atmosphere for any air pollution control equipment operating in a normal manner. This demonstration shall also show compliance with the control requirements of 35 IAC 218 Subpart T, if applicable to any of the affected chemical R&D units;

iv. The operating parameters of air pollution control equipment, if any, when operating normally (e.g., temperature of condenser cooling water supply); and

v. Methodologies for recalculating emissions from batches run during the malfunction of control equipment.

i. The Permittee shall keep the following records on a batch basis:

i. Records to show that air pollution control equipment is operated in a normal manner, as specified by the above records for a

particular product manufactured using affected chemical R&D units;

ii. Records of the number and size of batches run for each product manufactured using affected chemical R&D units. For this purpose, a batch shall be considered to run on the day the batch is initiated. Any batch terminated prematurely will be assumed to be a completed batch; and

iii. Records of the times and duration of any malfunction in any air pollution control equipment.

j. The Permittee shall keep the following records on a monthly basis, prepared by the 15th day of the following month:

i. Records of HAP, PM, and VOM emissions for each product manufactured using affected chemical R&D units in the month, determined by combining the above records for generated emissions, control efficiency (if control operated in a normal manner) and production rate;

ii. Records of HAP, PM, and VOM emissions for the month for each batch made using affected chemical R&D units during any malfunction of air pollution control equipment; and

iii. Records of the aggregate annual HAP, PM, and VOM emissions from the affected chemical R&D units for each month, determined from the sum of the current month's emissions and the emissions from the previous 11 months.

k. The Permittee shall maintain an On-Site Implementation Log (OSIL) which shall contain the following information with respect to the equipment changes authorized by Conditions 7.16.11(b) and (c):

i. Name and location of batch process with replacement component(s) or control device(s);

ii. Description of the component(s) or control device(s) replaced;

iii. Asset or identification number of replacement component(s) or control device(s);

iv. The effective size or capacity of the original and each replacement component;

v. The effective efficiencies of the original control device(s) and the replacement control device(s);

vi. Manufacturer(s) and model number(s) of the replacement component(s) or control device(s);

vii. The date of installation of the replacement component(s) or control device(s); and

viii. Other information as needed to show the change is within the scope of Condition 7.16.11(b) or (c).

7.16.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected chemical R&D unit with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. *Periodic reports*. Pursuant to 40 CFR 63.1260(g), an owner or operator shall prepare Periodic reports in accordance with Conditions 7.16.10(a)(i) and (ii) (see also 40 CFR 63.1260(g)(1) and (2)) and submit them to the Illinois EPA and/or USEPA.

i. *Submittal schedule*. Pursuant to 40 CFR 63.1260 (g)(1), Except as provided in Conditions 7.16.10 (a)(i)(A), (B), and (C) (see also 40 CFR 63.1260 (g)(1)(i), (ii) and (iii)), an owner or operator shall submit Periodic reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due.

A. When the Illinois EPA and/or USEPA determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source [40 CFR 63.1260 (g)(1)(i)]; or

B. When the monitoring data are used directly for compliance determination and the source experience excess emissions,

in which case quarterly reports shall be submitted. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in 40 CFR 63.10(e)(3)(ii) and (iii) shall apply, except that the term "excess emissions and continuous monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of Condition 7.16.10 (see also 40 CFR 63.1260) [40 CFR 63.1260(g)(1)(ii)].

C. When a new operating scenario has been operated since the last report, in which case quarterly reports shall be submitted [40 CFR 63.1260(g)(1)(iii)].

ii. *Content of Periodic report.* Pursuant to 40 CFR 63.1260(g)(2), the owner or operator shall include the information in Conditions 7.16.10 (a)(ii)(A) through (D) (see also 40 CFR 63.1260 (g)(2)(i) through (vii)), as applicable.

A. Each Periodic report must include the information in 40 CFR 63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the information in 40 CFR 63.10(e)(3)(vi)(J) [40 CFR 63.1260(g)(2)(i)].

B. Pursuant to 40 CFR 63.1260(g)(2)(ii), if the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in Conditions 7.16.10(a)(ii)(B)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(ii)(A) through (D)).

I. Monitoring data, including 15-minute monitoring values as well as

daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(A)].

II. Duration of excursions, as defined in Condition 7.16.8(b)(v) (see also 40 CFR 63.1258(b)(7)) [40 CFR 63.1260(g)(2)(ii)(B)].

III. Operating logs and operating scenarios for all operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(C)].

IV. When a continuous monitoring system is used, the information required in 40 CFR 63.10(c)(5) through (13) [40 CFR 63.1260(g)(2)(ii)(D)].

C. Pursuant to 40 CFR 63.1260(g)(2)(v), the information in Conditions 7.16.10 (a)(ii)(C)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(v)(A) through (D)) shall be stated in the Periodic report, when applicable.

I. No excess emissions [40 CFR 63.1260 (g)(2)(v)(A)].

II. No exceedances of a parameter [40 CFR 63.1260(g)(2)(v)(B)].

III. No excursions [40 CFR 63.1260 (g)(2)(v)(C)].

IV. No continuous monitoring system has been inoperative, out of control, repaired, or adjusted [40 CFR 63.1260(g)(2)(v)(D)].

D. Each new operating scenario which has been operated since the time period covered by the last Periodic report. For the initial Periodic report, each operating scenario for each process

operated since the compliance date shall be submitted [40 CFR 63.1260(g)(2)(vii)].

b. *Notification of process change*.

i. Pursuant to 40 CFR 63.1260(h)(1), except as specified in Condition 7.16.10(b)(ii) (see also 40 CFR 63.1260(h)(2)), whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report quarterly. The report may be submitted as part of the next Periodic report required under Condition 7.16.10(a) (see also 40 CFR 63.1260(g)). The report shall include:

A. A brief description of the process change [40 CFR 63.1260(h)(1)(i)].

B. A description of any modifications to standard procedures or quality assurance procedures [40 CFR 63.1260(h)(1)(ii)].

C. Revisions to any of the information reported in the original Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) [40 CFR 63.1260(h)(1)(iii)].

D. Information required by the Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) for changes involving the addition of processes or equipment [40 CFR 63.1260(h)(1)(iv)].

ii. Pursuant to 40 CFR 63.1260(h)(2), an owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

A. Any change in the activity covered by the Precompliance report [40 CFR 63.1260 (h)(2)(i)].

B. A change in the status of a control device from small to large [40 CFR 63.1260 (h)(2)(ii)].

c. *Reports of startup, shutdown, and malfunction*. For the purposes of 40 CFR 63 Subpart GGG, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the periodic reports required

under Condition 7.16.10(a) (see also 40 CFR 63.1260(g)) instead of the schedule specified in 40 CFR 63.10 (d)(5)(i). These reports shall include the information specified in Condition 5.6.2(n)(iii)(A) through (C) (see also 40 CFR 63.1259(a)(3)(i) through (iii)) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in 40 CFR 63.10 (d)(4)(ii) [40 CFR 63.1260(i)].

d. *Notification of performance test and test plan*. The owner or operator of an affected source shall notify the Illinois EPA and/or USEPA of the planned date of a performance test at least 60 days before the test in accordance with 40 CFR 63.7(b). The owner or operator also must submit the test plan required by 40 CFR 63.7(c) and the emission profile required by 40 CFR 63.1257(b)(8)(ii) with the notification of the performance test [40 CFR 63.1260(l)].

e. *Request for extension of compliance*. An owner or operator may submit to the Illinois EPA and/or USEPA a request for an extension of compliance in accordance with 40 CFR 63.1250(f)(4) [40 CFR 63.1260(m)].

f. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

g. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.16.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.16.4(a) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

h. Emissions of PM and/or VOM in excess of the limits in Conditions 5.5.3(c), 7.16.3, and/or 7.16.6 based on

the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.16.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following changes with respect to the affected chemical R&D units without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification pursuant to regulations promulgated pursuant to Title I of the CAA (i.e., 40 CFR 52.21 and 35 IAC Part 203):

a. This permit is issued for production of pharmaceuticals, chemical intermediates for pharmaceutical products and pharmaceutical-like products such as hormones, enzymes and antibiotics. In addition to varying the quantities of such materials produced, the Permittee may change the types of such materials produced, making products not previously made in the affected chemical R&D units, or changing the process by which such materials are made, provided that Conditions 5.5, 7.16.3, or 7.16.6 are not violated.

b. The replacement of component parts for a batch process with the same or functionally similar component parts, provided there is no effective increase in the capacity of the batch process (i.e., like-kind replacement), provided that the replacements are not so extensive as to constitute reconstruction of the batch process and it can be demonstrated that emissions from the batch process remain in compliance with the limits specified in Conditions 5.5, 7.16.3, and 7.16.6 (e.g., reactor, receiver, tank, crystallizer, pump, distillation column, centrifuge, air dryer, vacuum dryer).

c. The replacement of control devices with control devices with the same or better effective efficiency, provided there is no increase in emissions over the limits specified in Conditions 5.5, 7.16.3, and 7.16.6 (e.g., vacuum jet, vacuum pump, condenser, scrubber and demister).

7.16.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.16.9 and the emission factors and formulas listed below:

a. Determinations of daily and annual emissions for purposes of 35 IAC 218.480 shall be made using both data on the hourly emission rate (or the emissions per unit of throughput) and appropriate daily and annual data from records of emission unit operation (or material throughput or material consumption data). In the absence of representative test data pursuant to Condition 7.16.7(c) (see also 35 IAC 218.487) for the hourly emission rate (or the emissions per unit of throughput) such items shall be calculated using engineering calculations, including the methods described in Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/2-78-029). This Condition shall not affect the Illinois EPA's or the USEPA's authority to require emission tests to be performed pursuant to Condition 7.16.7(c) (see also 35 IAC 218.487)) [35 IAC 218.480(h)].

b. Compliance with Conditions 7.16.3(b) and (d) is assumed by proper operation of the condensers, vacuum pumps, steam jets, and scrubbers, as addressed by Condition 7.16.5(e).

c. To determine compliance with Conditions 5.5.1, 5.5.3(c), 7.16.3(e), and 7.16.6, VOM emissions from the affected chemical R&D units shall be calculated based on the following emission factors and formulas:

VOM Emissions (lb) = (Total Amount of VOM in Raw Materials by Chemical, lb) x (Loss Factor by Chemical, lb) x (Building Control Factor) x (Equipment Usage Factor)

Where:

Loss Factor by Chemical describes the uncontrolled emissions in pounds of VOM emission per VOM chemical usage. The factor is derived from detailed engineering calculations for emissions using Appendix B of "Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products" (EPA-450/2-78-029) and operating schedules of equipment operated in the Chemical Manufacturing Area.

Pollutant	Loss Factor by Chemical
VOM	1.5%

Building Control Factor describes the efficiency of environmental control devices in a particular building. It is derived from the vent options and control efficiencies of a building.

Pollutant	Building R-7 Control Factor
VOM	32.7%

Equipment Usage Factor describes the percent usage of each piece of equipment as it relates to the controlled emissions for the building. It is derived from the available equipment in the building and its standard utilization.

Emission Unit	Equipment Usage Factor
Reactor	65.9%
Centrifuge	6%
Dryer	0.1%
Other	28%

d. To determine compliance with Conditions 5.5.1, 5.5.3(c)(ii), 7.16.3(d), and 7.16.6, PM emissions from the affected chemical R&D units shall be calculated based on the following:

ER = (PR) x ((PRL) x (100 - e))/100

Where:

ER = Emission rate (lb/hr)

PR = Production rate (lb/hr)

PRL = Material lost to the control device, %

e = Efficiency of the control device, %

7.17	Units CAPD R-8/R-12	Chemical Research & Development Building R-8/R-12
	Controls R-8/R-12	Condensers, Scrubbers, Vacuum Pumps, Surge Tank, and Steam Jets

7.17.1 Description

Building R-8/R-12 is a Chemical Pilot Plant facility which provides small-scale manufacturing for pharmaceutical and pharmaceutical-like products and research and development for evaluating new or improving upon existing production techniques of pharmaceutical and pharmaceutical-like products using batch chemical processing techniques. Typical pharmaceutical compound production requires numerous chemical reactions and mechanical separations to form the needed complex chemical molecules of active drug. The chemical synthesis of pharmaceuticals may require from several days up to several weeks to complete a single batch of product. The number and types of individual process steps varies greatly depending upon the particular pharmaceutical compound. For example, a single piece of process equipment may be used several different times during different stages of the single product research campaign to produce the end-product, and each step will be different from all the others.

The pilot plant batch pharmaceutical production research using chemical synthesis methods typically employs several different unit processes, such as reaction, distillation, crystallization, separation, drying and milling steps. Each step must be carefully controlled to produce the desired product at the desired quality. A batch refers to the preparation of a single pharmaceutical or pharmaceutical-like product from beginning to end. As many as one hundred individual steps or unit processes may be required for a single batch. Although the end uses of pharmaceuticals are in the milligram per dose range, the bulk production of pharmaceuticals may produce hundreds of pounds of the material per batch. For some products, one batch of a production campaign may produce enough product to satisfy world-wide demand for one or more years. For the more common antibiotics, the demand can exceed thousands of kilograms per year. The pharmaceutical needs of the world are extremely variable and unpredictable. For example, spring and fall flu seasons will create a seasonal demand for antibiotics. The exact volume will be dependent on how many people get sick. Therefore, it is nearly impossible to predict and subsequently plan the amount of particular pharmaceutical to make in a given year, or part of the year. In summary, the chemical synthesis of pharmaceutical is, by necessity, a small batch process system which must operate with extreme flexibility, and quick responsiveness to market demands.

A variety of portable equipment is used in Building R-8/R-12 for batch process manufacturing. Portable equipment means single pieces of equipment that are mounted on wheels or skids so as to enable them to be moved from one process to another within a manufacturing building and from one manufacturing building to another. Portable equipment is divided into three categories: 1) vessels, including reactors, receivers, and tanks; 2) solid/liquid separation equipment, including dryers, centrifuges, and filters; 3) miscellaneous, including dust collectors, emission control equipment, oscillators, and sifters. Whenever a piece of portable equipment is used in a process, its emissions are calculated and included with the emissions for that process.

Emission Unit	Description	Emission Control Equipment
B-2207	Process Condenser (PC-153)	None
LC-049370	Process Condenser (PC-152)	None
LC-908858	Process Condenser (PC-152)	None
Portable Equipment	Portable Vessels, Reactors, Receivers, Tanks, Solid/Liquid Separators, Filters, Centrifuges, Dryers, Mills, Sifters, and Oscillators	Liquid Ring Pumps KK-3661, KK-3662, KK-6811, KK-6812, KK-6913, KK-6035, and LC921382; PC-156 Inter Condenser; PC-156 Steam Jets; and Scrubber FJ-8160 (as configured for the process)

7.17.3 Applicability Provisions and Applicable Regulations

a. The Building R-8/R-12 process condensers and portable equipment are "affected chemical R&D units" for the purpose of these unit-specific conditions.

b. Each affected chemical R&D unit is subject to the emission limits identified in Condition 5.2.2.

c. The affected chemical R&D units are subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1254(a) for Process Vents at Existing Sources. The Illinois EPA is administering the NESHAP in Illinois on behalf of the USEPA under a delegation agreement. Pursuant to 40 CFR 63.1250(f)(1), an owner or operator of an existing affected source must comply with the provisions of 40 CFR 63 Subpart GGG within 3 years after September 21, 1998.

d. No person shall cause or allow the emission of particulate matter into the atmosphere in any one

hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

e. The affected chemical R&D units are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.17.3(e)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

ii. Pursuant to 35 IAC 218.302, emissions of organic material in excess of those permitted by Condition 7.17.3(e)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by one of the following methods:

A. A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)]; or

B. Any other air pollution control equipment approved by the Illinois EPA and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere [35 IAC 218.302(c)].

f. The affected chemical R&D units are subject to 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, which provides that:

i. Control of Reactors, Distillation Units, Crystallizers, Centrifuges and Vacuum Dryers:

A. Pursuant to 35 IAC 218.481(a), the owner or operator shall equip all reactors, distillation units, crystallizers, centrifuges and vacuum dryers that are

used to manufacture pharmaceuticals with surface condensers or other air pollution control equipment listed in Condition 7.17.3(f)(i)(B) (see also 35 IAC 218.481(b)). If a surface condenser is used, it shall be operated such that the condenser outlet gas temperature does not exceed:

I. 248.2°K (-13°F) when condensing VOM of vapor pressure greater than 40.0 kPa (5.8 psi) at 294.3° K (70°F) [35 IAC 218.481(a)(1)]; or

II. 258.2°K (5°F) when condensing VOM of vapor pressure greater than 20.0 kPa (2.9 psi) at 294.3° K (70°F) [35 IAC 218.481(a)(2)]; or

III. 273.2°K (32°F) when condensing VOM of vapor pressure greater than 10.0 kPa (1.5 psi) at 294.3 K (70°F) [35 IAC 218.481(a)(3)]; or

IV. 283.2°K (50°F) when condensing VOM of vapor pressure greater than 7.0 kPa (1.0 psi) at 294.3°K (70°F) [35 IAC 218.481(a)(4)]; or

V. 298.2°K (77°F) when condensing VOM of vapor pressure greater than 3.45 kPa (0.5 psi) at 294.3° K (70°F) [35 IAC 218.481(a)(5)].

B. If a scrubber, carbon adsorber, thermal afterburner, catalytic afterburner, or other air pollution control equipment other than a surface condenser is used, such equipment shall provide a reduction in the emissions of VOM of 90 percent or more [35 IAC 218.481(b)].

C. The owner or operator shall enclose all centrifuges used to manufacture pharmaceuticals and that have an exposed VOL surface, where the VOM in the VOL has a vapor pressure of 3.45 kPa (0.5 psi) or more at 294.3°K (70°F), except as production, sampling, maintenance, or inspection procedures require operator access [35 IAC 218.481(c)].

ii. Control of Air Dryers, Production Equipment Exhaust Systems and Filters:

A. The owner or operator of an air dryer or production equipment exhaust system used to manufacture pharmaceuticals shall control the emissions of VOM from such emission unit by air pollution control equipment which reduces by 90 percent or more the VOM that would otherwise be emitted into the atmosphere [35 IAC 218.482(a)].

B. The owner or operator shall enclose all rotary vacuum filters and other filters used to manufacture pharmaceuticals and that have an exposed VOL surface, where the VOM in the VOL has a vapor pressure of 3.45 kPa (0.5 psi) or more at 294.3°K (70°F), except as production, sampling, maintenance, or inspection procedures require operator access [35 IAC 218.482(b)].

iii. Pursuant to 35 IAC 218.486, the owner or operator of a washer, laboratory hood, tablet coating operation, mixing operation or any other process emission unit not subject to Conditions 7.17.3(f)(i) through (ii) and 7.17.5(a) and (b) (see also 35 IAC 218.481 through 218.485), and used to manufacture pharmaceuticals shall control the emissions of VOM from such emission units by:

A. Air pollution control equipment which reduces by 81 percent or more the VOM that would otherwise be emitted to the atmosphere [35 IAC 218.486(a)]; or

B. A surface condenser which captures all the VOM which would otherwise be emitted to the atmosphere and which meets the requirements of Condition 7.17.3(f)(i) (see also 35 IAC 218.481(a)) [35 IAC 218.486(b)].

7.17.4 Non-Applicability of Regulations of Concern

a. The affected chemical R&D units are not subject to the control requirements of 35 IAC 218.501, Control Requirements for Batch Operations, pursuant to 35 IAC 218.501(b)(2), which excludes any emission unit included within the category specified in 35 IAC 218 Subpart T.

b. The affected chemical R&D units are not subject to 35 IAC 212.324, Process Emission Units In Certain Areas, because the source is not located in a non-attainment area for PM_{10}, as identified in 35 IAC 212.324(a)(1).

7.17.5 Operational And Production Limits And Work Practices

a. The owner or operator shall install covers on all in-process tanks used to manufacture pharmaceuticals and containing a VOL at any time. These covers must remain closed, except as production, sampling, maintenance or inspection procedures require operator access [35 IAC 218.484].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. Emissions subject to 35 IAC 218 Subpart T shall be controlled at all times consistent with the requirements set forth in 35 IAC 218 Subpart T [35 IAC 218.480(f)].

d. Any control device required pursuant to 35 IAC 218 Subpart T shall be operated at all times when the source it is controlling is operated [35 IAC 218.480(g)].

e. The Permittee shall follow good operating practices for the condensers, scrubbers, vacuum pumps, surge tank, and steam jets including periodic inspection, routine maintenance and prompt repair of defects.

f. The affected chemical manufacturing units are not restricted to using the specific air control equipment listed in Condition 7.17.2, so long as emissions are kept below the applicable limits specified in Conditions 5.5, 7.17.3, and 7.17.6.

7.17.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected chemical R&D units are subject to the following:

a. Emissions and operation of equipment shall not exceed the following limits:

Item of Equipment	Operating Hours (Hr/yr)	Volatile Organic Material Emissions (lb/hr)	(Tons/yr)
Laboratory R-8	4,368	0.9	2.0

These limits are based on the maximum operating hours and maximum emissions.

b. The above limitations were established in Permit 79120037, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.17.7 Testing Requirements

a. *General*. Except as specified in 40 CFR 63.1257(a)(5), the procedures specified in 40 CFR 63.1257(d) and (f) are required to demonstrate initial compliance with 40 CFR 63.1254 and 63.1252(e), respectively. The provisions in 40 CFR 63.1257(a)(2) apply to performance tests that are specified in 40 CFR 63.1257(d). The provisions in 40 CFR 63.1257(a)(5) are used to demonstrate initial compliance with the alternative standards specified in 40 CFR 63.1254(c). The provisions in 40 CFR 63.1257(a)(6) are used to comply with the outlet concentration requirements specified in 40 CFR 63.1254(a)(2)(i) and (a)(3)(ii)(B) [40 CFR 63.1257(a)].

b. *Test methods*. When testing is conducted to measure emissions from an affected source, the test methods specified in 40 CFR 63.1257(b)(1) through (10) shall be used [40 CFR 63.1257(b)].

c. Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of 35 IAC 218.480, at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in Condition 7.17.7(d)(i)(A) (see also 35 IAC 218.105(f)(1)) [35 IAC 218.487].

d. Pursuant to 35 IAC 218.105(d)(1) and Section 39.5(7)(b) of the Act, the control device efficiency

shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified below (see also 35 IAC 218.105(f)):

i. Volatile Organic Material Gas Phase Source Test Methods The methods in 40 CFR Part 60, Appendix A, delineated below shall be used to determine control device efficiencies [35 IAC 218.105(f)].

A. CFR Part 60, Appendix A, Method 18, 25 or 25A, as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. The test shall consist of three separate runs, each lasting a minimum of 60 min, unless the Illinois EPA and the USEPA determine that process variables dictate shorter sampling times [35 IAC 218.105(f)(1)].

B. 40 CFR Part 60, Appendix A, Method 1 or 1A shall be used for sample and velocity traverses [35 IAC 218.105(f)(2)].

C. 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D shall be used for velocity and volumetric flow rates [35 IAC 218.105(f)(3)].

D. 40 CFR Part 60, Appendix A, Method 3 shall be used for gas analysis [35 IAC 218.105(f)(4)].

E. 40 CFR Part 60, Appendix A, Method 4 shall be used for stack gas moisture [35 IAC 218.105(f)(5)].

F. 40 CFR Part 60, Appendix A, Methods 2, 2A, 2C, 2D, 3 and 4 shall be performed, as applicable, at least twice during each test run [35 IAC 218.105(f)(6)].

G. Use of an adaptation to any of the test methods specified in Conditions 7.17.7(d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) may not be used

unless approved by the Illinois EPA and the USEPA on a case by case basis. An owner or operator must submit sufficient documentation for the Illinois EPA and the USEPA to find that the test methods specified in Conditions 7.17.7(d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) will yield inaccurate results and that the proposed adaptation is appropriate [35 IAC 218.105(f)(7)].

ii. Notwithstanding other requirements of 35 IAC Part 218, upon request of the Illinois EPA where it is necessary to demonstrate compliance, an owner or operator of an emission unit which is subject to 35 IAC Part 218 shall, at his own expense, conduct tests in accordance with the applicable test methods and procedures specific in 35 IAC Part 218. Nothing in this Condition (see also 35 IAC 218.105) shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing [35 IAC 218.105(i)].

7.17.8 Monitoring Requirements

a. The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard as specified in 40 CFR 63.1258. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish the operating parameter level [40 CFR 63.1258(a)].

b. *Monitoring for control devices*.

i. *Parameters to monitor*. Except as specified in 40 CFR 63.1258(b)(1)(i), for each control device, the owner or operator shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4 of 40 CFR 63 Subpart GGG and in 40 CFR 63.1258(b)(1)(ii) through (xi) [40 CFR 63.1258(b)(1)].

ii. *Averaging periods*. Averaging periods for parametric monitoring levels shall be established according to 40 CFR 63.1258(b)(2)(i) through (iii) [40 CFR 63.1258(b)(2)].

iii. *Monitoring for the alternative standards*. For control devices that are used to comply with the provisions of 40 CFR 63.1254(c), the owner or operator shall monitor and record the outlet TOC concentration and the outlet hydrogen halide and halogen concentration every 15 minutes during the period in which the device is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG. A TOC monitor meeting the requirements of Performance Specification 8 or 9 of appendix B of 40 CFR Part 60 shall be installed, calibrated, and maintained, according to 40 CFR 63.8. The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens [40 CFR 63.1258(b)(5)].

iv. *Exceedances of operating parameters*. Pursuant to 40 CFR 63.1258(b)(6), an exceedance of an operating parameter is defined as one of the following:

A. If the parameter, averaged over the operating day or block, is below a minimum value established during the initial compliance demonstration [40 CFR 63.1258 (b)(6)(i)].

B. If the parameter, averaged over the operating day or block, is above the maximum value established during the initial compliance demonstration [40 CFR 63.1258(b)(6)(ii)].

C. Each loss of pilot flame for flares [40 CFR 63.1258(b)(6)(iii)].

v. *Excursions*. Pursuant to 40 CFR 63.1258(b)(7), excursions are defined by either of the two cases listed in Conditions 7.17.8(b)(v)(A) or (B) (see also 40 CFR 63.1258(b)(7)(i) or (ii)).

A. When the period of control device operation is 4 hours or greater in an

operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in Condition 7.17.8 (b)(v)(C) (see also 40 CFR 63.1258 (b)(7)(iii)), for at least 75 percent of the operating hours [40 CFR 63.1258 (b)(7)(i)].

B. When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data [40 CFR 63.1258(b)(7)(ii)].

C. Monitoring data are insufficient to constitute a valid hour of data, as used in Conditions 7.17.8(b)(v)(A) and (B) (see also 40 CFR 63.1258(b)(7)(i) and (ii)), if measured values are unavailable for any of the required 15-minute periods within the hour [40 CFR 63.1258(b)(7)(iii)].

vi. *Violations*. Pursuant to 40 CFR 63.1258(b)(8), exceedances of parameters monitored according to the provisions of 40 CFR 63.1258(b)(1)(ii) and (iv) through (ix) or excursions as defined by Conditions 7.17.8(b)(v)(A) through (C) (see also 40 CFR 63.1258(b)(7)(i) through (iii)) constitute violations of the operating limit according to Conditions 7.17.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of 40 CFR 63.1258(b)(1)(x) constitute violations of the emission limit according to Conditions 7.17.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of Condition 7.17.8(b)(iii) (see also 40 CFR 63.1258 (b)(5)) constitute violations of the emission limit according to the provisions of Conditions 7.17.8(b)(vi)(C) and (D) (see also 40 CFR 63.1258 (b)(8)(iii) and (iv)).

A. Except as provided in Condition 7.17.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for episodes occurring more than once per day, exceedances of established parameter limits or

excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process [40 CFR 63.1258(b)(8)(i)].

B. Except as provided in Condition 7.17.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device, for each process for which the control device is in service [40 CFR 63.1258(b)(8)(ii)].

C. Except as provided in Condition 7.17.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device. Except as provided in Condition 7.17.8(b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv hydrogen halide or halogen outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device [40 CFR 63.1258 (b)(8)(iii)].

D. Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur during a startup, shutdown, or malfunction, and the facility follows its startup, shutdown, and malfunction plan [40 CFR 63.1258 (b)(8)(iv)].

c. *Monitoring for emission limits*. The owner or operator of any affected source complying with the provisions of 40 CFR 63.1254(a)(1) shall demonstrate continuous compliance with the 2,000 lb/yr emission limits by calculating daily a 365-day rolling summation of emissions. For owners and operators opting to switch compliance strategy from the 93 percent control requirement to the 2,000 lb/yr compliance method, as described in 40 CFR 63.1254(a), the rolling average must include emissions from the past 365 days. Each day that the total emissions per process exceeds 2,000 lb/yr will be considered a violation of the emission limit [40 CFR 63.1258(c)].

d. Monitoring for Air Pollution Control Equipment:

i. Pursuant to 35 IAC 218.488(a), at a minimum, continuous monitors for the following parameters shall be installed on air pollution control equipment used to control sources subject to 35 IAC Subpart T:

A. Outlet gas temperature of a refrigerated condenser [35 IAC 218.488(a)(4)].

B. Temperature of a non-refrigerated condenser coolant supply system [35 IAC 218.488(a)(5)].

ii. Each monitor shall be equipped with a recording device [35 IAC 218.488(b)].

iii. Each monitor shall be calibrated quarterly [35 IAC 218.488(c)].

iv. Each monitor shall operate at all times while the associated control equipment is operating [35 IAC 218.488(d)].

7.17.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected chemical R&D unit to demonstrate compliance with Conditions 5.5.1, 5.5.3(d), 7.17.3, 7.17.5, and 7.17.6, pursuant to Section 39.5(7)(b) of the Act:

a. *Records of equipment operation*. Pursuant to 40 CFR 63.1259(b), the owner or operator must keep the following records up-to-date and readily accessible:

i. Each measurement of a control device operating parameter monitored in accordance with Condition 7.17.8 (see also 40 CFR 63.1258) [40 CFR 63.1259 (b)(1)].

ii. For each continuous monitoring system used to comply with 40 CFR 63 Subpart GGG, records documenting the completion of calibration checks and maintenance of continuous monitoring systems [40 CFR 63.1259(b)(3)].

iii. For processes in compliance with the 2,000 lb/yr emission limit of 40 CFR 63.1254(a)(1), records of the rolling annual total emissions [40 CFR 63.1259(b)(4)].

iv. Pursuant to 40 CFR 63.1259(a)(5), records of the following, as appropriate:

A. The number of batches per year for each batch process [40 CFR 63.1259(a)(5)(i)].

B. The operating hours per year for continuous processes [40 CFR 63.1259 (a)(5)(ii)].

v. Uncontrolled and controlled emissions per batch for each process [40 CFR 63.1259(b)(6)].

vi. Wastewater concentration per POD or process [40 CFR 63.1259(b)(7)].

vii. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].

viii. Description of worst-case operating conditions as determined using the procedures described in 40 CFR 63.1257(b)(8) for control devices [40 CFR 63.1259(b)(10)].

b. *Records of operating scenarios*. The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with 40 CFR 63 Subpart GGG [40 CFR 63.1259(c)].

c. Records of the testing of the efficiency of each capture system and control device pursuant to Condition 7.17.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

d. Pursuant to 35 IAC 218.489(a), the owner or operator of a pharmaceutical manufacturing source shall maintain the following records:

i. Parameters listed in Condition 7.17.8(d)(i) (see also 35 IAC 218.488(a)) shall be recorded [35 IAC 218.489(a)(1)].

ii. For emission units subject to Condition 7.17.3(f)(i) (see also 35 IAC 218.481), the vapor pressure of VOM being controlled shall be recorded for every process [35 IAC 218.489(a)(2)].

e. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.17.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

f. Pursuant to 35 IAC 218.489(c), the following records shall be kept for emission units subject to Condition 7.17.5(a) (see also 35 IAC 218.484) which contain VOL:

i. For maintenance and inspection:

A. The date and time each cover is opened [35 IAC 218.489(c)(1)(A)];

B. The length of time the cover remains open [35 IAC 218.489(c)(1)(B)]; and

C. The reason why the cover is opened [35 IAC 218.489(c)(1)(C)].

ii. For production and sampling, detailed written procedures or manufacturing directions specifying the circumstances under which covers may be opened and the procedures for opening covers [35 IAC 218.489(c)(2)].

g. Records required under Condition 7.17.9(d) (see also 35 IAC 218.489(a)) shall be maintained by the owner or operator for a minimum of two years after the date on which they are made [35 IAC 218.489(e)].

h. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

i. The Permittee shall keep the following records for each product manufactured using the affected chemical R&D units. These records shall follow established techniques to calculate emissions:

   i. A listing of the raw materials, process materials and associated air pollution control equipment used in making the product;

   ii. A demonstration including engineering calculations of the VOM, HAP, and PM emissions generated for each process per batch of each product manufactured;

   iii. A demonstration including engineering calculations for the HAP, PM, and VOM control efficiencies of air pollution control equipment, if any, and emissions to the atmosphere for any air pollution control equipment operating in a normal manner. This demonstration shall also show compliance with the control requirements of 35 IAC 218 Subpart T, if applicable to any of the affected chemical R&D units;

   iv. The operating parameters of air pollution control equipment, if any, when operating normally (e.g., temperature of condenser cooling water supply); and

   v. Correction factors for the malfunction of control equipment.

j. The Permittee shall keep the following records on a batch basis:

   i. Records to show that air pollution control equipment is operated in a normal manner, as specified by the above records for a particular product manufactured using affected chemical R&D units;

   ii. Records of the number and size of batches run for each product manufactured using affected chemical R&D units. For this purpose, a batch shall be considered to run on the day the batch is initiated. Any batch terminated prematurely will be assumed to be a completed batch; and

iii. Records of the times and duration of any malfunction in any air pollution control equipment.

k. The Permittee shall keep the following records on a monthly basis, prepared by the 15th day of the following month:

i. Records of HAP, PM, and VOM emissions for each product manufactured using affected chemical R&D units in the month, determined by combining the above records for generated emissions, control efficiency (if control operated in a normal manner) and production rate;

ii. Records of HAP, PM, and VOM emissions for the month for each batch made using affected chemical R&D units during any malfunction of air pollution control equipment; and

iii. Records of the aggregate annual HAP, PM, and VOM emissions from the affected chemical R&D units for each month, determined from the sum of the current month's emissions and the emissions from the previous 11 months.

l. The Permittee shall maintain an On-Site Implementation Log (OSIL) which shall contain the following information with respect to the equipment changes authorized by Conditions 7.17.11(b) and (c):

i. Name and location of batch process with replacement component(s) or control device(s);

ii. Description of the component(s) or control device(s) replaced;

iii. Asset or identification number of replacement component(s) or control device(s);

iv. The effective size or capacity of the original and each replacement component;

v. The effective efficiencies of the original control device(s) and the replacement control device(s);

vi. Manufacturer(s) and model number(s) of the replacement component(s) or control device(s);

vii. The date of installation of the replacement component(s) or control device(s); and

viii. Other information as needed to show the change is within the scope of Condition 7.17.11(b) or (c).

7.17.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected chemical R&D unit with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. *Periodic reports*. Pursuant to 40 CFR 63.1260(g), an owner or operator shall prepare Periodic reports in accordance with Conditions 7.17.10(a)(i) and (ii) (see also 40 CFR 63.1260(g)(1) and (2)) and submit them to the Illinois EPA and/or USEPA.

i. *Submittal schedule*. Pursuant to 40 CFR 63.1260 (g)(1), Except as provided in Conditions 7.17.10 (a)(i)(A), (B), and (C) (see also 40 CFR 63.1260 (g)(1)(i), (ii) and (iii)), an owner or operator shall submit Periodic reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due.

A. When the Illinois EPA and/or USEPA determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source [40 CFR 63.1260 (g)(1)(i)]; or

B. When the monitoring data are used directly for compliance determination and the source experience excess emissions, in which case quarterly reports shall be submitted. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in 40 CFR 63.10(e)(3)(ii) and (iii) shall apply, except that the term

"excess emissions and continuous monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of Condition 7.17.10 (see also 40 CFR 63.1260) [40 CFR 63.1260(g)(1)(ii)].

C. When a new operating scenario has been operated since the last report, in which case quarterly reports shall be submitted [40 CFR 63.1260(g)(1)(iii)].

ii. *Content of Periodic report*. Pursuant to 40 CFR 63.1260(g)(2), the owner or operator shall include the information in Conditions 7.17.10 (a)(ii)(A) through (D) (see also 40 CFR 63.1260 (g)(2)(i) through (vii)), as applicable.

A. Each Periodic report must include the information in 40 CFR 63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the information in 40 CFR 63.10(e)(3)(vi)(J) [40 CFR 63.1260(g)(2)(i)].

B. Pursuant to 40 CFR 63.1260(g)(2)(ii), if the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in Conditions 7.17.10(a)(ii)(B)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(ii)(A) through (D)).

I. Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(A)].

II. Duration of excursions, as defined in Condition 7.17.8(b)(v) (see also

40 CFR 63.1258(b)(7)) [40 CFR 63.1260(g)(2)(ii)(B)].

III. Operating logs and operating scenarios for all operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(C)].

IV. When a continuous monitoring system is used, the information required in 40 CFR 63.10(c)(5) through (13) [40 CFR 63.1260(g)(2)(ii)(D)].

C. Pursuant to 40 CFR 63.1260(g)(2)(v), the information in Conditions 7.17.10 (a)(ii)(C)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(v)(A) through (D)) shall be stated in the Periodic report, when applicable.

I. No excess emissions [40 CFR 63.1260 (g)(2)(v)(A)].

II. No exceedances of a parameter [40 CFR 63.1260(g)(2)(v)(B)].

III. No excursions [40 CFR 63.1260 (g)(2)(v)(C)].

IV. No continuous monitoring system has been inoperative, out of control, repaired, or adjusted [40 CFR 63.1260(g)(2)(v)(D)].

D. Each new operating scenario which has been operated since the time period covered by the last Periodic report. For the initial Periodic report, each operating scenario for each process operated since the compliance date shall be submitted [40 CFR 63.1260(g)(2)(vii)].

b. *Notification of process change*.

i. Pursuant to 40 CFR 63.1260(h)(1), except as specified in Condition 7.17.10(b)(ii) (see also 40 CFR 63.1260(h)(2)), whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or

operator shall submit a report quarterly. The report may be submitted as part of the next Periodic report required under Condition 7.17.10(a) (see also 40 CFR 63.1260(g)). The report shall include:

A. A brief description of the process change [40 CFR 63.1260(h)(1)(i)].

B. A description of any modifications to standard procedures or quality assurance procedures [40 CFR 63.1260(h)(1)(ii)].

C. Revisions to any of the information reported in the original Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) [40 CFR 63.1260(h)(1)(iii)].

D. Information required by the Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) for changes involving the addition of processes or equipment [40 CFR 63.1260(h)(1)(iv)].

ii. Pursuant to 40 CFR 63.1260(h)(2), an owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

A. Any change in the activity covered by the Precompliance report [40 CFR 63.1260 (h)(2)(i)].

B. A change in the status of a control device from small to large [40 CFR 63.1260 (h)(2)(ii)].

c. *Reports of startup, shutdown, and malfunction*. For the purposes of 40 CFR 63 Subpart GGG, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the periodic reports required under Condition 7.17.10(a) (see also 40 CFR 63.1260(g)) instead of the schedule specified in 40 CFR 63.10 (d)(5)(i). These reports shall include the information specified in Condition 5.6.2(n)(iii)(A) through (C) (see also 40 CFR 63.1259(a)(3)(i) through (iii)) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not

consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in 40 CFR 63.10 (d)(4)(ii) [40 CFR 63.1260(i)].

d. *Notification of performance test and test plan*. The owner or operator of an affected source shall notify the Illinois EPA and/or USEPA of the planned date of a performance test at least 60 days before the test in accordance with 40 CFR 63.7(b). The owner or operator also must submit the test plan required by 40 CFR 63.7(c) and the emission profile required by 40 CFR 63.1257(b)(8)(ii) with the notification of the performance test [40 CFR 63.1260(l)].

e. *Request for extension of compliance*. An owner or operator may submit to the Illinois EPA and/or USEPA a request for an extension of compliance in accordance with 40 CFR 63.1250(f)(4) [40 CFR 63.1260(m)].

f. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

g. Emissions of PM and/or VOM in excess of the limits in Conditions 5.5.3(d), 7.17.3, and/or 7.17.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.17.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following changes with respect to the affected chemical R&D units without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee’s obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification pursuant to regulations promulgated pursuant to Title I of the CAA (i.e., 40 CFR 52.21 and 35 IAC Part 203):

a. This permit is issued for production of pharmaceuticals, chemical intermediates for pharmaceutical products and pharmaceutical-like products such as hormones, enzymes and antibiotics. In addition to varying the quantities of such materials produced, the Permittee may change the types of such materials produced, making products not previously made in the affected chemical R&D units,

or changing the process by which such materials are made, provided that Conditions 5.5, 7.17.3, or 7.17.6 are not violated.

b. The replacement of component parts for a batch process with the same or functionally similar component parts, provided there is no effective increase in the capacity of the batch process (i.e., like-kind replacement), provided that the replacements are not so extensive as to constitute reconstruction of the batch process and it can be demonstrated that emissions from the batch process remain in compliance with the limits specified in Conditions 5.5, 7.17.3, and 7.17.6 (e.g., reactor, receiver, tank, crystallizer, pump, distillation column, centrifuge, air dryer, vacuum dryer).

c. The replacement of control devices with control devices with the same or better effective efficiency, provided there is no increase in emissions over the limits specified in Conditions 5.5, 7.17.3, and 7.17.6 (e.g., vacuum jet, vacuum pump, condenser, scrubber and demister).

7.17.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.17.9 and the emission factors and formulas listed below:

a. Determinations of daily and annual emissions for purposes of 35 IAC 218.480 shall be made using both data on the hourly emission rate (or the emissions per unit of throughput) and appropriate daily and annual data from records of emission unit operation (or material throughput or material consumption data). In the absence of representative test data pursuant to Condition 7.17.7(c) (see also 35 IAC 218.487) for the hourly emission rate (or the emissions per unit of throughput) such items shall be calculated using engineering calculations, including the methods described in Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/2-78-029). This Condition shall not affect the Illinois EPA's or the USEPA's authority to require emission tests to be performed pursuant to Condition 7.17.7(c) (see also 35 IAC 218.487)) [35 IAC 218.480(h)].

b. Compliance with Conditions 7.17.3(b) and (d) is assumed by proper operation of the condensers, scrubbers, vacuum pumps, surge tank, and steam jets, as addressed by Condition 7.17.5(e).

c. To determine compliance with Conditions 5.5.1, 5.5.3(d), 7.17.3(e), and 7.17.6, VOM emissions from the affected chemical R&D units shall be calculated based on the following emission factors and formulas:

VOM Emissions (lb) = (Total Amount of VOM in Raw Materials by Chemical, lb) x (Loss Factor by Chemical, lb) x (Building Control Factor) x (Equipment Usage Factor)

Where:

Loss Factor by Chemical describes the uncontrolled emissions in pounds of VOM emission per VOM chemical usage. The factor is derived from detailed engineering calculations for emissions using Appendix B of "Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products" (EPA-450/2-78-029) and operating schedules of equipment operated in the Chemical Manufacturing Area.

Pollutant	Loss Factor by Chemical
VOM	1.5%

Building Control Factor describes the efficiency of environmental control devices in a particular building. It is derived from the vent options and control efficiencies of a building.

Pollutant	Building R-8 Control Factor
VOM	32.6%

Equipment Usage Factor describes the percent usage of each piece of equipment as it relates to the controlled emissions for the building. It is derived from the available equipment in the building and its standard utilization.

Emission Unit	Equipment Usage Factor
Reactor	65.9%
Centrifuge	6%
Dryer	0.1%
Other	28%

d. To determine compliance with Conditions 5.5.1, 5.5.3(c)(ii), and 7.17.3(d), PM emissions from the affected chemical R&D units shall be calculated based on the following:

ER = (PR) x ((PRL) x (100 - e))/100

Where:

ER = Emission rate (lb/hr)

PR = Production rate (lb/hr)

PRL = Material lost to the control device, %

e = Efficiency of the control device, %

7.18 Units CAPD R-9 Chemical Research & Development Building R-9
Controls CAPD R-9 Scrubbers, Condensers, Vacuum Pumps, Steam Jets, and Cyclones

7.18.1 Description

Building R-9 is a Chemical Pilot Plant facility which provides small-scale manufacturing for pharmaceutical and pharmaceutical-like products and research and development for evaluating new or improving upon existing production techniques of pharmaceutical and pharmaceutical-like products using batch chemical processing techniques. Typical pharmaceutical compound production requires numerous chemical reactions and mechanical separations to form the needed complex chemical molecules of active drug. The chemical synthesis of pharmaceuticals may require from several days up to several weeks to complete a single batch of product. The number and types of individual process steps varies greatly depending upon the particular pharmaceutical compound. For example, a single piece of process equipment may be used several different times during different stages of the single product research campaign to produce the end-product, and each step will be different from all the others.

The pilot plant batch pharmaceutical production research using chemical synthesis methods typically employs several different unit processes, such as reaction, distillation, crystallization, separation, drying and milling steps. Each step must be carefully controlled to produce the desired product at the desired quality. A batch refers to the preparation of a single pharmaceutical or pharmaceutical-like product from beginning to end. As many as one hundred individual steps or unit processes may be required for a single batch. Although the end uses of pharmaceuticals are in the milligram per dose range, the bulk production of pharmaceuticals may produce hundreds of pounds of the material per batch. For some products, one batch of a production campaign may produce enough product to satisfy world-wide demand for one or more years. For the more common antibiotics, the demand can exceed thousands of kilograms per year. The pharmaceutical needs of the world are extremely variable and unpredictable. For example, spring and fall flu seasons will create a seasonal demand for antibiotics. The exact volume will be dependent on how many people get sick. Therefore, it is nearly impossible to predict and subsequently plan the amount of particular pharmaceutical to make in a given year, or part of the year. In summary, the chemical synthesis of pharmaceutical is, by necessity, a small batch process system which must operate with extreme flexibility, and quick responsiveness to market demands.

A variety of portable equipment is used in Building R-9 for batch process manufacturing. Portable equipment means single pieces of equipment that are mounted on wheels or skids so as to enable them to be moved from one process to another within a manufacturing building and from one manufacturing building to another. Portable equipment is divided into three categories: 1) vessels, including reactors, receivers, and tanks; 2) solid/liquid separation equipment, including dryers, centrifuges, and filters; 3) miscellaneous, including dust collectors, emission control equipment, oscillators, and sifters. Whenever a piece of portable equipment is used in a process, its emissions are calculated and included with the emissions for that process.

7.18.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
B-2324	Process Condenser (PC-901)	None
B-2325	Process Condenser (PC-902)	None
B-2326	Process Condenser (PC-905)	None
B-2327	Process Condenser (PC-903)	None
B-2328	Process Condenser (PC-904)	Scrubber U-2218; PC-904 After Condenser; PC-904 Inter Condenser; Liquid Ring Pump LC909300; Steam Jets LC062116, LC062115, and LC062117; and Vent Condensers B-2318 and B-2317
B-2449	Process Condenser (PC-902)	None
B-2450	Process Condenser (PC-904)	Scrubbers U-2218 and LC-902222; PC-904 After Condenser; PC-904 Inter Condenser; Liquid Ring Pump LC909300; Steam Jets LC062116, LC062115, and LC062117; and Vent Condensers B-2318 and B-2317
B-2451	Process Condenser (PC-903)	None
B-2452	64 Gallon Process Condenser (PC-905)	None
B-2453	Process Condenser (PC-901)	None

Emission Unit	Description	Emission Control Equipment
D-1489	133 Gallon Dryer (PC-922)	Scrubber U-2218; Liquid Ring Pump KK-7110; and Vent Condenser B-2393
D-1490	73 Gallon Dryer (PC-921)	Scrubber U-2218; Cyclone LC-918849; Liquid Ring Pump KK-7124; PC-921 Steam Jet; and Vent Condenser B-2394
D-1666	266 Gallon Dryer (PC-923)	Scrubber U-2218; PC-923 Inter Condenser; Steam Jet LC062123; and Vent Condenser B-2495
D-1667	133 Gallon Dryer (PC-924)	Scrubber U-2218; PC-924 Inter Condenser; Steam Jet LC062122; and Vent Condenser B-2496
FK-5148	Distillation System (Valproic Distillation System, PC-951)	Scrubber U-2218; Inter Condenser KK-9829; Liquid Ring Pump KK-9829; and Steam Jet LC-062118
LC-009201	50 Gallon Receiver (PC-951)	None
LC-013148	Process Condenser (PC-951)	None
LC-903599	175 Gallon Feed Tank (PC-941)	Scrubber U-2218; Inter Condenser LC-903454; Liquid Ring Pump LC-903452; and Steam Jet LC-903455
LC-903600	100 Gallon Feed Tank (PC-941)	Scrubber U-2218; Inter Condenser LC-903454; Liquid Ring Pump LC-903452; and Steam Jet LC-903455
LC-903699	175 Gallon Feed Tank (PC-941)	Scrubber U-2218; Inter Condenser LC-903554; Liquid Ring Pump LC-903552; and Steam Jet LC-903555
LC-903700	100 Gallon Feed Tank (PC-941)	Scrubber U-2218; Inter Condenser LC-903554; Liquid Ring Pump LC-903552; and Steam Jet LC-903555
LC-909229	Centrifuge (PC-931)	Scrubber U-2218

Emission Unit	Description	Emission Control Equipment
LC-918387	260 Gallon Dryer (PC-920)	Scrubber U-2218; Cyclone LC-918849; Liquid Ring Pump KK-7124; PC-921 Steam Jet; and Vent Condenser B-2394
LC937742	300 Gallon Reactor (PC-905)	Scrubber U-2218; PC-905 After Condenser; PC-905 Inter Condenser; Liquid Ring Pump KK-7075; Steam Jets LC062109, LC062111, and LC062110; and Vent Condensers B-2314 and B-2313
LC-938082	Dryer (PC-941)	Scrubber U-2218; Inter Condenser LC-903554; Liquid Ring Pump LC-903552; and Steam Jet LC-903555
NA-7718	100 Gallon Reactor (PC-905)	Scrubber U-2218; PC-905 After Condenser; PC-905 Inter Condenser; Liquid Ring Pump KK-7075; Steam Jets LC062109, LC062111, and LC062110; and Vent Condensers B-2314 and B-2313
NA-7719	100 Gallon Reactor (PC-902)	Scrubber U-2218; PC-902 After Condenser; PC-902 Inter Condenser; Liquid Ring Pump KK-7078; Steam Jets LC062106, LC062108, and LC062107; and Vent Condensers B-2312 and B-2311
NA-7728	75 Gallon Reactor (PC-901)	Scrubber U-2218; PC-901 After Condenser; PC-901 Inter Condenser; Liquid Ring Pump KK-7067; Steam Jets LC062103, LC062104, and LC062105; and Vent Condensers B-2310 and B-2309
NA-7732	200 Gallon Reactor (PC-903)	Scrubber U-2218; PC-903 After Condenser; PC-903 Inter Condenser; Liquid Ring Pump KK-7080; Steam Jets LC062112, LC062114, and LC062113; and Vent Condensers B-2316 and B-2315

Emission Unit	Description	Emission Control Equipment
NA-7733	100 Gallon Reactor (PC-904)	Scrubber U-2218; PC-904 After Condenser; PC-904 Inter Condenser; Liquid Ring Pump LC909300; Steam Jets LC062116, LC062115, and LC062117; and Vent Condensers B-2318 and B-2317
NA-7734	300 Gallon Reactor (PC-904)	Scrubber U-2218; PC-904 After Condenser; PC-904 Inter Condenser; Liquid Ring Pump LC909300; Steam Jets LC062116, LC062115, and LC062117; and Vent Condensers B-2318 and B-2317
PC-952 D1	Dryer (Asset #LC-******, PC-952)	Scrubber U-2218; After Condenser FK-5218; PC-952 Filter; PC-952 Separator; Steam Jet LC062125; and Vent Condensers FK-5227 and LC-******
Q-2913	100 Gallon Reactor (PC-951)	Scrubber U-2218; Inter Condenser KK-9829; Liquid Ring Pump KK-9829; and Steam Jet LC-062118
R-1066	75 Gallon Reactor (PC-901)	Scrubber U-2218; PC-901 After Condenser; PC-901 Inter Condenser; Liquid Ring Pump KK-7067; Steam Jets LC062103, LC062104, and LC062105; and Vent Condensers B-2310 and B-2309
R-1067	100 Gallon Reactor (PC-901)	Scrubber U-2218; PC-901 After Condenser; PC-901 Inter Condenser; Liquid Ring Pump KK-7067; Steam Jets LC062103, LC062104, and LC062105; and Vent Condensers B-2310 and B-2309
R-1068	200 Gallon Reactor (PC-902)	Scrubber U-2218; PC-902 After Condenser; PC-902 Inter Condenser; Liquid Ring Pump KK-7078; Steam Jets LC062106, LC062108, and LC062107; and Vent Condensers B-2312 and B-2311

Emission Unit	Description	Emission Control Equipment
R-1069	200 Gallon Reactor (PC-903)	Scrubber U-2218; PC-903 After Condenser; PC-903 Inter Condenser; Liquid Ring Pump KK-7080; Steam Jets LC062112, LC062114, and LC062113; and Vent Condensers B-2316 and B-2315
R-1070	300 Gallon Reactor (PC-904)	Scrubber U-2218; PC-904 After Condenser; PC-904 Inter Condenser; Liquid Ring Pump LC909300; Steam Jets LC062116, LC062115, and LC062117; and Vent Condensers B-2318 and B-2317
R-1072	500 Gallon Reactor (PC-903)	Scrubber U-2218; PC-903 After Condenser; PC-903 Inter Condenser; Liquid Ring Pump KK-7080; Steam Jets LC062112, LC062114, and LC062113; and Vent Condensers B-2316 and B-2315
R-1073	750 Gallon Reactor (PC-904)	Scrubbers U-2218 and LC-902222; PC-904 After Condenser; PC-904 Inter Condenser; Liquid Ring Pump LC909300; Steam Jets LC062116, LC062115, and LC062117; and Vent Condensers B-2318 and B-2317
R-1075	100 Gallon Reactor (PC-902)	Scrubber U-2218; PC-902 After Condenser; PC-902 Inter Condenser; Liquid Ring Pump KK-7078; Steam Jets LC062106, LC062108, and LC062107; and Vent Condensers B-2312 and B-2311
R-1076	100 Gallon Reactor (PC-905)	Scrubber U-2218; PC-905 After Condenser; PC-905 Inter Condenser; Liquid Ring Pump KK-7075; Steam Jets LC062109, LC062111, and LC062110; and Vent Condensers B-2314 and B-2313

Emission Unit	Description	Emission Control Equipment
Portable Equipment	Portable Vessels, Reactors, Receivers, Tanks, Solid/Liquid Separators, Filters, Centrifuges, Dryers, Mills, Sifters, and Oscillators	Scrubbers, Condensers, or Baghouses (as configured for the process)

7.18.3 Applicability Provisions and Applicable Regulations

a. The Building R-9 process condensers, dryers, distillation system, centrifuges, reactors, receivers, and portable equipment are "affected chemical R&D units" for the purpose of these unit-specific conditions.

b. Each affected chemical R&D unit is subject to the emission limits identified in Condition 5.2.2.

c. The affected chemical R&D units are subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1254(a) for Process Vents at Existing Sources. The Illinois EPA is administering the NESHAP in Illinois on behalf of the USEPA under a delegation agreement. Pursuant to 40 CFR 63.1250(f)(1), an owner or operator of an existing affected source must comply with the provisions of 40 CFR 63 Subpart GGG within 3 years after September 21, 1998.

d. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

e. The affected chemical R&D units are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.18.3 (e)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G

shall apply only to photochemically reactive material [35 IAC 218.301].

ii. Pursuant to 35 IAC 218.302, emissions of organic material in excess of those permitted by Condition 7.18.3(e)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by one of the following methods:

A. A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)]; or

B. Any other air pollution control equipment approved by the Illinois EPA and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere [35 IAC 218.302(c)].

7.18.4 Non-Applicability of Regulations of Concern

a. The affected chemical manufacturing units are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

b. The affected chemical R&D units are not subject to the control requirements of 35 IAC 218.501, Control Requirements for Batch Operations, pursuant to 35 IAC 218.501(b)(2), which excludes any emission unit included within the category specified in 35 IAC 218 Subpart T.

c. The affected chemical R&D units are not subject to 35 IAC 212.324, Process Emission Units In Certain Areas,

because the source is not located in a non-attainment area for PM_{10}, as identified in 35 IAC 212.324(a)(1).

7.18.5 Operational And Production Limits And Work Practices

a. The owner or operator shall install covers on all in-process tanks used to manufacture pharmaceuticals and containing a VOL at any time. These covers must remain closed, except as production, sampling, maintenance or inspection procedures require operator access [35 IAC 218.484].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The Permittee shall follow good operating practices for the scrubbers, condensers, vacuum pumps, steam jets, and cyclones including periodic inspection, routine maintenance and prompt repair of defects.

d. The affected chemical manufacturing units are not restricted to using the specific air control equipment listed in Condition 7.18.2, so long as emissions are kept below the applicable limits specified in Conditions 5.5, 7.18.3, and 7.18.6.

7.18.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected chemical R&D units are subject to the following:

a. i. A. Emissions of VOM from the PC-951 distillation system and the PC-951 Reactor with Process Condenser shall not exceed 0.020 ton/year.

B. This permit is issued based upon the PC-951 distillation system and the PC-951 reactor with process condenser not operating at the same time.

ii. Emissions of VOM from the PC-941 Chromatography Installation (100 gallon and 250 gallon feed tanks and a rotavap controlled by a vacuum system) shall not exceed 0.10 ton/year.

iii. The above limitations contain revisions to previously issued Permits 94120071 and 98070020. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, the PC-951 Reactor with Process Condenser has been added to the 0.020 ton/year VOM emission limit for the PC-951 Distillation System to replace the 0.44 ton/year VOM emission limit for both the PC-951 Distillation System and PC-951 Reactor with Process Condenser, combined. Also the description "Valproic distillation system" and "Hemin reactor with process condenser" have been replaced with the description "PC-951 Distillation System" and "PC-951 Reactor with Process Condenser," respectively [T1R].

b. i. Emissions of volatile organic material (VOM) shall not exceed 0.0637 tons per year from the PC-1 centrifuge and vacuum dryer. This limit is based on an emission estimate of the centrifuge and vacuum dryer each producing 11 batches per year of Clarithromycin (centrifuge: 10.40 lb VOM/batch, vacuum dryer: 0.051 lb VOM/batch) and 11 batches per year of Temafloxacin (centrifuge: 0.310 lb VOM/batch, vacuum dryer 0.821 lb VOM/batch).

ii. A. Emissions of volatile organic material (VOM) shall not exceed 0.0096 tons per year from the PC-921 vacuum dryer.

B. This limit is based on example calculations showing the centrifuge and vacuum dryer each producing 11 batches per year of Clarithromycin (0.102 lb VOM/batch) and 11 batches per year of Temafloxacin (1.641 lb VOM/batch).

iii. Emissions of volatile organic material (VOM) shall not exceed 0.2205 tons per year from the PC-3 centrifuge and vacuum dryer. This limit is based on an emission estimate of the centrifuge and vacuum dryer each producing 11 batches per year of Clarithromycin (centrifuge: 10.42 lb VOM/batch, vacuum dryer: 0.256 lb VOM/batch) and 11 batches per year of Temafloxacin (centrifuge: 25.309 lb VOM/batch, vacuum dryer: 4.103 lb VOM/batch).

iv. Emissions of volatile organic material (VOM) shall not exceed 0.2346 tons per year from the PC-4 centrifuge and vacuum dryer. This limit is based on an emission estimate of the centrifuge and vacuum dryer each producing 11 batches per year of Clarithromycin (centrifuge: 10.42 lb VOM/batch, vacuum dryer: 0.384 lb VOM/batch) and 11 batches per year of Temafloxacin (centrifuge: 25.309 lb VOM/batch, vacuum dryer: 6.539 lb VOM/batch).

v. Emissions of volatile organic material (VOM) shall not exceed 0.2106 tons per year from the PC-5 centrifuge and vacuum dryer. This limit is based on an emission estimate of the centrifuge and vacuum dryer each producing 11 batches per year of Clarithromycin (centrifuge: 10.41 lb VOM/batch, vacuum dryer: 0.102 lb VOM/batch) and 11 batches per year of Temafloxacin (centrifuge: 25.309 lb VOM/batch, vacuum dryer: 2.462 lb VOM/batch).

vi. The above limitations contain revisions to previously issued Permit 93090004. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR

52.21, Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, Condition 7.18.6(b)(ii)(B) has been added to explain that the above limits are based on estimates using specific products for example purposes only and do not limit the above-listed equipment to producing only the products used in the example calculations [T1R].

c. i. This permit is issued based on negligible emissions of particulate matter from the PC-920 tumble dryer. For this purpose, emissions shall not exceed nominal emission rates of 146 lb/month and 0.44 ton/year.

ii. The above limitations contain revisions to previously issued Permit 96100077. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, the hourly emission limit of 0.10 lb for PM has been replaced the monthly limit of 146 lb without any increase in the annual emissions limit [T1R].

d. i. Emissions and operation of the PC-952 Centrifuge Dryer and the R-9 Cogeim Dryer shall not exceed the following limits:

Item of Equipment	Annual Production (Tons/yr)	Volatile Organic Material Emissions lb/1000 lb Product	(Ton/yr)
PC-952 Centrifuge Dryer	55.0	0.46	0.25
R-9 Cogeim Dryer	6.5	3.85	0.25
			0.50

These limits are based on representations of maximum operation and maximum actual emission rates.

ii. The above limitations were established in Permit 98110009, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

e. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.18.7 Testing Requirements

a. *General*. Except as specified in 40 CFR 63.1257(a)(5), the procedures specified in 40 CFR 63.1257(d) and (f) are required to demonstrate initial compliance with 40 CFR 63.1254 and 63.1252(e), respectively. The provisions in 40 CFR 63.1257(a)(2) apply to performance tests that are specified in 40 CFR 63.1257(d). The provisions in 40 CFR 63.1257(a)(5) are used to demonstrate initial compliance with the alternative standards specified in 40 CFR 63.1254(c). The provisions in 40 CFR 63.1257(a)(6) are used to comply with the outlet concentration requirements specified in 40 CFR 63.1254(a)(2)(i) and (a)(3)(ii)(B) [40 CFR 63.1257(a)].

b. *Test methods*. When testing is conducted to measure emissions from an affected source, the test methods specified in 40 CFR 63.1257(b)(1) through (10) shall be used [40 CFR 63.1257(b)].

c. Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC

218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.18.4(a) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in Condition 7.18.7 (d)(i)(A) (see also 35 IAC 218.105(f)(1)) [35 IAC 218.487].

d. Pursuant to 35 IAC 218.105(d)(1) and Section 39.5(7)(b) of the Act, the control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified below (see also 35 IAC 218.105(f)):

i. Volatile Organic Material Gas Phase Source Test Methods The methods in 40 CFR Part 60, Appendix A, delineated below shall be used to determine control device efficiencies [35 IAC 218.105(f)].

A. CFR Part 60, Appendix A, Method 18, 25 or 25A, as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. The test shall consist of three separate runs, each lasting a minimum of 60 min, unless the Illinois EPA and the USEPA determine that process variables dictate shorter sampling times [35 IAC 218.105(f)(1)].

B. 40 CFR Part 60, Appendix A, Method 1 or 1A shall be used for sample and velocity traverses [35 IAC 218.105(f)(2)].

C. 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D shall be used for velocity and volumetric flow rates [35 IAC 218.105(f)(3)].

D. 40 CFR Part 60, Appendix A, Method 3 shall be used for gas analysis [35 IAC 218.105(f)(4)].

E. 40 CFR Part 60, Appendix A, Method 4 shall be used for stack gas moisture [35 IAC 218.105(f)(5)].

F. 40 CFR Part 60, Appendix A, Methods 2, 2A, 2C, 2D, 3 and 4 shall be performed, as applicable, at least twice during each test run [35 IAC 218.105(f)(6)].

G. Use of an adaptation to any of the test methods specified in Conditions 7.18.7 (d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) may not be used unless approved by the Illinois EPA and the USEPA on a case by case basis. An owner or operator must submit sufficient documentation for the Illinois EPA and the USEPA to find that the test methods specified in Conditions 7.18.7(d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) will yield inaccurate results and that the proposed adaptation is appropriate [35 IAC 218.105(f)(7)].

ii. Notwithstanding other requirements of 35 IAC Part 218, upon request of the Illinois EPA where it is necessary to demonstrate compliance, an owner or operator of an emission unit which is subject to 35 IAC Part 218 shall, at his own expense, conduct tests in accordance with the applicable test methods and procedures specific in 35 IAC Part 218. Nothing in this Condition (see also 35 IAC 218.105) shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing [35 IAC 218.105(i)].

7.18.8 Monitoring Requirements

a. The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard as specified in 40 CFR 63.1258. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish the operating parameter level [40 CFR 63.1258(a)].

b. *Monitoring for control devices.*

i. *Parameters to monitor.* Except as specified in 40 CFR 63.1258(b)(1)(i), for each control

device, the owner or operator shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4 of 40 CFR 63 Subpart GGG and in 40 CFR 63.1258(b)(1)(ii) through (xi) [40 CFR 63.1258(b)(1)].

ii. *Averaging periods*. Averaging periods for parametric monitoring levels shall be established according to 40 CFR 63.1258(b)(2)(i) through (iii) [40 CFR 63.1258(b)(2)].

iii. *Monitoring for the alternative standards*. For control devices that are used to comply with the provisions of 40 CFR 63.1254(c), the owner or operator shall monitor and record the outlet TOC concentration and the outlet hydrogen halide and halogen concentration every 15 minutes during the period in which the device is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG. A TOC monitor meeting the requirements of Performance Specification 8 or 9 of appendix B of 40 CFR Part 60 shall be installed, calibrated, and maintained, according to 40 CFR 63.8. The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens [40 CFR 63.1258(b)(5)].

iv. *Exceedances of operating parameters*. Pursuant to 40 CFR 63.1258(b)(6), an exceedance of an operating parameter is defined as one of the following:

A. If the parameter, averaged over the operating day or block, is below a minimum value established during the initial compliance demonstration [40 CFR 63.1258 (b)(6)(i)].

B. If the parameter, averaged over the operating day or block, is above the maximum value established during the initial compliance demonstration [40 CFR 63.1258(b)(6)(ii)].

C. Each loss of pilot flame for flares [40 CFR 63.1258(b)(6)(iii)].

v. *Excursions*. Pursuant to 40 CFR 63.1258(b)(7), excursions are defined by either of the two cases listed in Conditions 7.18.8(b)(v)(A) or (B) (see also 40 CFR 63.1258(b)(7)(i) or (ii)).

A. When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in Condition 7.18.8 (b)(v)(C) (see also 40 CFR 63.1258 (b)(7)(iii)), for at least 75 percent of the operating hours [40 CFR 63.1258 (b)(7)(i)].

B. When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data [40 CFR 63.1258(b)(7)(ii)].

C. Monitoring data are insufficient to constitute a valid hour of data, as used in Conditions 7.18.8(b)(v)(A) and (B) (see also 40 CFR 63.1258(b)(7)(i) and (ii)), if measured values are unavailable for any of the required 15-minute periods within the hour [40 CFR 63.1258(b)(7)(iii)].

vi. *Violations*. Pursuant to 40 CFR 63.1258(b)(8), exceedances of parameters monitored according to the provisions of 40 CFR 63.1258(b)(1)(ii) and (iv) through (ix) or excursions as defined by Conditions 7.18.8(b)(v)(A) through (C) (see also 40 CFR 63.1258(b)(7)(i) through (iii)) constitute violations of the operating limit according to Conditions 7.18.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of 40 CFR 63.1258(b)(1)(x) constitute violations of the emission limit according to Conditions 7.18.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of Condition 7.18.8(b)(iii) (see also 40 CFR 63.1258(b)(5)) constitute violations of the emission limit according to

the provisions of Conditions 7.18.8(b)(vi)(C) and (D) (see also 40 CFR 63.1258(b)(8)(iii) and (iv)).

A. Except as provided in Condition 7.18.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process [40 CFR 63.1258(b)(8)(i)].

B. Except as provided in Condition 7.18.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device, for each process for which the control device is in service [40 CFR 63.1258(b)(8)(ii)].

C. Except as provided in Condition 7.18.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device. Except as provided in Condition 7.18.8(b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv hydrogen halide or halogen outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device [40 CFR 63.1258 (b)(8)(iii)].

D. Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur during a startup, shutdown, or malfunction, and the facility follows its startup, shutdown, and malfunction plan [40 CFR 63.1258 (b)(8)(iv)].

c. *Monitoring for emission limits*. The owner or operator of any affected source complying with the provisions of 40 CFR 63.1254(a)(1) shall demonstrate continuous compliance with the 2,000 lb/yr emission limits by

calculating daily a 365-day rolling summation of emissions. For owners and operators opting to switch compliance strategy from the 93 percent control requirement to the 2,000 lb/yr compliance method, as described in 40 CFR 63.1254(a), the rolling average must include emissions from the past 365 days. Each day that the total emissions per process exceeds 2,000 lb/yr will be considered a violation of the emission limit [40 CFR 63.1258(c)].

7.18.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected chemical R&D unit to demonstrate compliance with Conditions 5.5.1, 5.5.3(a), 5.5.3(c), 7.18.3, 7.18.5, and 7.18.6, pursuant to Section 39.5(7)(b) of the Act:

a. *Records of equipment operation*. Pursuant to 40 CFR 63.1259(b), the owner or operator must keep the following records up-to-date and readily accessible:

i. Each measurement of a control device operating parameter monitored in accordance with Condition 7.18.8 (see also 40 CFR 63.1258) [40 CFR 63.1259 (b)(1)].

ii. For each continuous monitoring system used to comply with 40 CFR 63 Subpart GGG, records documenting the completion of calibration checks and maintenance of continuous monitoring systems [40 CFR 63.1259(b)(3)].

iii. For processes in compliance with the 2,000 lb/yr emission limit of 40 CFR 63.1254(a)(1), records of the rolling annual total emissions [40 CFR 63.1259(b)(4)].

iv. Pursuant to 40 CFR 63.1259(a)(5), records of the following, as appropriate:

A. The number of batches per year for each batch process [40 CFR 63.1259(a)(5)(i)].

B. The operating hours per year for continuous processes [40 CFR 63.1259 (a)(5)(ii)].

v. Uncontrolled and controlled emissions per batch for each process [40 CFR 63.1259(b)(6)].

vi. Wastewater concentration per POD or process [40 CFR 63.1259(b)(7)].

vii. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].

viii. Description of worst-case operating conditions as determined using the procedures described in 40 CFR 63.1257(b)(8) for control devices [40 CFR 63.1259(b)(10)].

b. *Records of operating scenarios*. The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with 40 CFR 63 Subpart GGG [40 CFR 63.1259(c)].

c. Records of the testing of the efficiency of each capture system and control device pursuant to Condition 7.18.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

d. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.18.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

e. Pursuant to 35 IAC 218.489(c), the following records shall be kept for emission units subject to Condition

7.18.5(a) (see also 35 IAC 218.484) which contain VOL:

i. For maintenance and inspection:

A. The date and time each cover is opened [35 IAC 218.489(c)(1)(A)];

B. The length of time the cover remains open [35 IAC 218.489(c)(1)(B)]; and

C. The reason why the cover is opened [35 IAC 218.489(c)(1)(C)].

ii. For production and sampling, detailed written procedures or manufacturing directions specifying the circumstances under which covers may be opened and the procedures for opening covers [35 IAC 218.489(c)(2)].

f. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.18.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.18.4(a) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.18.4(a) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

g. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

h. The Permittee shall keep the following records for each product manufactured using the affected chemical R&D units. These records shall follow established techniques to calculate emissions:

i. A listing of the raw materials, process materials and associated air pollution control equipment used in making the product;

ii. A demonstration including engineering calculations of the VOM, HAP, and PM emissions generated for each process per batch of each product manufactured;

iii. A demonstration including engineering calculations for the HAP, PM, and VOM control efficiencies of air pollution control equipment, if any, and emissions to the atmosphere for any air pollution control equipment operating in a normal manner. This demonstration shall also show compliance with the control requirements of 35 IAC 218 Subpart T, if applicable to any of the affected chemical R&D units;

iv. The operating parameters of air pollution control equipment, if any, when operating normally (e.g., temperature of condenser cooling water supply); and

v. Methodologies for recalculating emissions from batches run during the malfunction of control equipment.

i. The Permittee shall keep the following records on a batch basis:

i. Records to show that air pollution control equipment is operated in a normal manner, as specified by the above records for a particular product manufactured using affected chemical R&D units;

ii. Records of the number and size of batches run for each product manufactured using affected chemical R&D units. For this purpose, a batch shall be considered to run on the day the batch is initiated. Any batch terminated prematurely will be assumed to be a completed batch; and

iii. Records of the times and duration of any malfunction in any air pollution control equipment.

j. The Permittee shall keep the following records on a monthly basis, prepared by the 15th day of the following month:

i. Records of HAP, PM, and VOM emissions for each product manufactured using affected chemical R&D units in the month, determined by combining the above records for generated emissions, control efficiency (if control operated in a normal manner) and production rate;

ii. Records of HAP, PM, and VOM emissions for the month for each batch made using affected chemical R&D units during any malfunction of air pollution control equipment; and

iii. Records of the aggregate annual HAP, PM, and VOM emissions from the affected chemical R&D units for each month, determined from the sum of the current month's emissions and the emissions from the previous 11 months.

k. The Permittee shall maintain an On-Site Implementation Log (OSIL) which shall contain the following information with respect to the equipment changes authorized by Conditions 7.18.11(b) and (c):

i. Name and location of batch process with replacement component(s) or control device(s);

ii. Description of the component(s) or control device(s) replaced;

iii. Asset or identification number of replacement component(s) or control device(s);

iv. The effective size or capacity of the original and each replacement component;

v. The effective efficiencies of the original control device(s) and the replacement control device(s);

vi. Manufacturer(s) and model number(s) of the replacement component(s) or control device(s);

vii. The date of installation of the replacement component(s) or control device(s); and

viii. Other information as needed to show the change is within the scope of Condition 7.18.11(b) or (c).

7.18.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected

chemical R&D unit with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. *Periodic reports*. Pursuant to 40 CFR 63.1260(g), an owner or operator shall prepare Periodic reports in accordance with Conditions 7.18.10(a)(i) and (ii) (see also 40 CFR 63.1260(g)(1) and (2)) and submit them to the Illinois EPA and/or USEPA.

i. *Submittal schedule*. Pursuant to 40 CFR 63.1260 (g)(1), Except as provided in Conditions 7.18.10 (a)(i)(A), (B), and (C) (see also 40 CFR 63.1260 (g)(1)(i), (ii) and (iii)), an owner or operator shall submit Periodic reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due.

A. When the Illinois EPA and/or USEPA determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source [40 CFR 63.1260 (g)(1)(i)]; or

B. When the monitoring data are used directly for compliance determination and the source experience excess emissions, in which case quarterly reports shall be submitted. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in 40 CFR 63.10(e)(3)(ii) and (iii) shall apply, except that the term "excess emissions and continuous monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of Condition 7.18.10 (see also 40 CFR 63.1260) [40 CFR 63.1260(g)(1)(ii)].

C. When a new operating scenario has been operated since the last report, in which

case quarterly reports shall be submitted [40 CFR 63.1260(g)(1)(iii)].

ii. *Content of Periodic report*. Pursuant to 40 CFR 63.1260(g)(2), the owner or operator shall include the information in Conditions 7.18.10 (a)(ii)(A) through (D) (see also 40 CFR 63.1260 (g)(2)(i) through (vii)), as applicable.

A. Each Periodic report must include the information in 40 CFR 63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the information in 40 CFR 63.10(e)(3)(vi)(J) [40 CFR 63.1260(g)(2)(i)].

B. Pursuant to 40 CFR 63.1260(g)(2)(ii), if the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in Conditions 7.18.10(a)(ii)(B)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(ii)(A) through (D)).

I. Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(A)].

II. Duration of excursions, as defined in Condition 7.18.8(b)(v) (see also 40 CFR 63.1258(b)(7)) [40 CFR 63.1260(g)(2)(ii)(B)].

III. Operating logs and operating scenarios for all operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status

report or operating permit [40 CFR 63.1260(g)(2)(ii)(C)].

IV. When a continuous monitoring system is used, the information required in 40 CFR 63.10(c)(5) through (13) [40 CFR 63.1260(g)(2)(ii)(D)].

C. Pursuant to 40 CFR 63.1260(g)(2)(v), the information in Conditions 7.18.10 (a)(ii)(C)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(v)(A) through (D)) shall be stated in the Periodic report, when applicable.

I. No excess emissions [40 CFR 63.1260 (g)(2)(v)(A)].

II. No exceedances of a parameter [40 CFR 63.1260(g)(2)(v)(B)].

III. No excursions [40 CFR 63.1260 (g)(2)(v)(C)].

IV. No continuous monitoring system has been inoperative, out of control, repaired, or adjusted [40 CFR 63.1260(g)(2)(v)(D)].

D. Each new operating scenario which has been operated since the time period covered by the last Periodic report. For the initial Periodic report, each operating scenario for each process operated since the compliance date shall be submitted [40 CFR 63.1260(g)(2)(vii)].

b. *Notification of process change.*

i. Pursuant to 40 CFR 63.1260(h)(1), except as specified in Condition 7.18.10(b)(ii) (see also 40 CFR 63.1260(h)(2)), whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report quarterly. The report may be submitted as part of the next Periodic report required under Condition 7.18.10(a) (see also 40 CFR 63.1260(g)). The report shall include:

A. A brief description of the process change [40 CFR 63.1260(h)(1)(i)].

B. A description of any modifications to standard procedures or quality assurance procedures [40 CFR 63.1260(h)(1)(ii)].

C. Revisions to any of the information reported in the original Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) [40 CFR 63.1260(h)(1)(iii)].

D. Information required by the Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) for changes involving the addition of processes or equipment [40 CFR 63.1260(h)(1)(iv)].

ii. Pursuant to 40 CFR 63.1260(h)(2), an owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

A. Any change in the activity covered by the Precompliance report [40 CFR 63.1260 (h)(2)(i)].

B. A change in the status of a control device from small to large [40 CFR 63.1260 (h)(2)(ii)].

c. *Reports of startup, shutdown, and malfunction*. For the purposes of 40 CFR 63 Subpart GGG, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the periodic reports required under Condition 7.18.10(a) (see also 40 CFR 63.1260(g)) instead of the schedule specified in 40 CFR 63.10(d)(5)(i). These reports shall include the information specified in Condition 5.6.2(n)(iii)(A) through (C) (see also 40 CFR 63.1259(a)(3)(i) through (iii)) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in 40 CFR 63.10(d)(4)(ii) [40 CFR 63.1260(i)].

d. *Notification of performance test and test plan*. The owner or operator of an affected source shall notify

the Illinois EPA and/or USEPA of the planned date of a performance test at least 60 days before the test in accordance with 40 CFR 63.7(b). The owner or operator also must submit the test plan required by 40 CFR 63.7(c) and the emission profile required by 40 CFR 63.1257(b)(8)(ii) with the notification of the performance test [40 CFR 63.1260(l)].

e. *Request for extension of compliance*. An owner or operator may submit to the Illinois EPA and/or USEPA a request for an extension of compliance in accordance with 40 CFR 63.1250(f)(4) [40 CFR 63.1260(m)].

f. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

g. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.18.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.18.4(a) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

h. Emissions of PM and/or VOM in excess of the limits in Conditions 5.5.3(a), 5.5.3(c), 7.18.3 and/or 7.18.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.18.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following changes with respect to the affected chemical R&D units without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee’s obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification pursuant to regulations promulgated pursuant to Title I of the CAA (i.e., 40 CFR 52.21 and 35 IAC Part 203):

a. This permit is issued for production of pharmaceuticals, chemical intermediates for pharmaceutical products and pharmaceutical-like products such as hormones, enzymes and antibiotics.

In addition to varying the quantities of such materials produced, the Permittee may change the types of such materials produced, making products not previously made in the affected chemical R&D units, or changing the process by which such materials are made, provided that Conditions 5.5, 7.18.3, or 7.18.6 are not violated.

b. The replacement of component parts for a batch process with the same or functionally similar component parts, provided there is no effective increase in the capacity of the batch process (i.e., like-kind replacement), provided that the replacements are not so extensive as to constitute reconstruction of the batch process and it can be demonstrated that emissions from the batch process remain in compliance with the limits specified in Conditions 5.5, 7.18.3, and 7.18.6 (e.g., reactor, receiver, tank, crystallizer, pump, distillation column, centrifuge, air dryer, vacuum dryer).

c. The replacement of control devices with control devices with the same or better effective efficiency, provided there is no increase in emissions over the limits specified in Conditions 5.5, 7.18.3, and 7.18.6 (e.g., vacuum jet, vacuum pump, condenser, scrubber and demister).

7.18.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.18.9 and the emission factors and formulas listed below:

a. Determinations of daily and annual emissions for purposes of 35 IAC 218.480 shall be made using both data on the hourly emission rate (or the emissions per unit of throughput) and appropriate daily and annual data from records of emission unit operation (or material throughput or material consumption data). In the absence of representative test data pursuant to Condition 7.18.7(c) (see also 35 IAC 218.487) for the hourly emission rate (or the emissions per unit of throughput) such items shall be calculated using engineering calculations, including the methods described in Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/2-78-029). This Condition shall not affect the Illinois EPA's or the USEPA's authority to require emission tests to be performed pursuant to Condition 7.18.7(c) (see also 35 IAC 218.487)) [35 IAC 218.480(h)].

b. Compliance with Conditions 7.18.3(b) and (d) is assumed by proper operation of the scrubbers, condensers, vacuum pumps, steam jets, and cyclones, as addressed by Condition 7.18.5(c).

c. To determine compliance with Conditions 5.5.1, 5.5.3(a), 5.5.3(c), 7.18.3(e), and 7.18.6, VOM emissions from the affected chemical R&D units shall be calculated based on the following emission factors and formulas:

VOM Emissions (lb) = (Total Amount of VOM in Raw Materials by Chemical, lb) x (Loss Factor by Chemical, lb) x (Building Control Factor) x (Equipment Usage Factor)

Where:

Loss Factor by Chemical describes the uncontrolled emissions in pounds of VOM emission per VOM chemical usage. The factor is derived from detailed engineering calculations for emissions using Appendix B of "Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products" (EPA-450/2-78-029) and operating schedules of equipment operated in the Chemical Manufacturing Area.

Pollutant	Loss Factor by Chemical
VOM	1.5%

Building Control Factor describes the efficiency of environmental control devices in a particular building. It is derived from the vent options and control efficiencies of a building.

Pollutant	Building R-9 Control Factor
VOM	12.3%

Equipment Usage Factor describes the percent usage of each piece of equipment as it relates to the controlled emissions for the building. It is derived from the available equipment in the building and its standard utilization.

Emission Unit	Equipment Usage Factor
Reactor	65.9%
Centrifuge	6%
Dryer	0.1%
Other	28%

d. To determine compliance with Conditions 5.5.1, 5.5.3(c)(ii), 7.18.3(d), and 7.18.6, PM emissions from the affected chemical R&D units shall be calculated based on the following:

$$ER = (PR) \times ((PRL) \times (100 - e))/100$$

Where:

ER = Emission rate (lb/hr)

PR = Production rate (lb/hr)

PRL = Material lost to the control device, %

e = Efficiency of the control device, %

7.19 Units S-34 Chemical Manufacturing Support Area No. S-34
Controls S-34 Conservation Vents

7.19.1 Description

Area S-34 is a tank farm, which primarily supports the production operations in the Chemical Manufacturing area. This area was previously designated C-10TF. The storage tanks are filled from equipment in Building C-10. Certain waste materials collected in some of the S-34 tanks are off-loaded into tank trucks at this location. Tank truck loading is through the bottom valve on the tank truck. No vapor recycle or recovery lines are employed during storage tank loading or tank truck loading. Only waste materials are transferred from S-34 to S-23 tanks.

7.19.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
LC-942926	10,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank LC-942926)	Conservation Vent
Q-1763	5,500 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-3411)	Conservation Vent
Q-2140	5,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-3430)	Conservation Vent
Q-3316	5,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-3316)	Conservation Vent
Q-3317	6,500 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-3401)	Conservation Vent
R-1052	4,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-3420)	Conservation Vent
T-1842	5,500 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-3410)	Conservation Vent

7.19.3 Applicability Provisions and Applicable Regulations

a. The Area S-34 storage tanks are “affected tanks” for the purpose of these unit-specific conditions.

b. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

7.19.4 Non-Applicability of Regulations of Concern

a. The affected tanks are not subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1253 for Storage Tanks,

because each affected tank has a design capacity of less than 38 m^3 (10,000 gallons).

b. The affected tanks are not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subparts A and Ka, because each affected tank has a storage capacity less than 151,416 l (40,000 gal).

c. The affected tanks are not subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subparts A and Kb, because each affected tank has a storage capacity less than 40 cubic meters.

d. The affected tanks are not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119, because the capacity of each affected tank is less than 151 m^3 (40,000 gal).

e. The affected tanks are not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(2), which exempts storage tanks with capacities less than 151.42 m^3 (40,000 gal) and pursuant to 35 IAC 218.123(a)(6), which exempts stationary storage tanks in which volatile petroleum liquid is not stored.

f. The affected tanks are not subject to the requirements of 35 IAC 218.122, Loading Operations, because pursuant to 35 IAC 218.122(c), if no odor nuisance exists the limitations of this 35 IAC 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F).

g. The affected tanks are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year

(2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

7.19.5 Operational and Production Limits and Work Practices

a. The owner or operator of a pharmaceutical manufacturing source shall:

i. Provide a vapor balance system that is at least 90 percent effective in reducing VOM emissions from truck or railcar deliveries to storage tanks with capacities equal to or greater than 7.57 m^3 (2,000 gal) that store VOL with vapor pressures greater than 28.0 kPa (4.1 psi) at 294.3°K (70°F) [35 IAC 218.483(a)]; and

ii. Install, operate, and maintain pressure/vacuum conservation vents set at 0.2 kPa (0.03 psi) or greater on all storage tanks that store VOL with vapor pressures greater than 10 kPa (1.5 psi) at 294.3°K (70°F) [35 IAC 218.483(b)].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The affected tanks shall only be used for the storage of materials with a vapor pressure of less than 2.5 psia at 70°F.

7.19.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected tanks are subject to the following:

a. i. This permit is issued based on negligible emissions of volatile organic material (VOM) from storage tanks Q-1763, T-1842, Q-3316, and Q-3317. For this purpose, emissions from each storage tank shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 tons/yr. These limits are based on standard emission factors

for volatile organic liquid storage tanks and 8,760 hours per year operation.

ii. The above limitations were established in Permit 90030042, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

b. i. This permit is issued based on negligible emissions of VOM from S34 Tank LC94926. For this purpose, emissions shall not exceed nominal emissions rates of 160 lb/month and 0.44 ton/year.

ii. The above limitations were established in Permit 99050010, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.19.7 Testing Requirements

Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.19.4(g) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in 35 IAC 218.105(f)(1) [35 IAC 218.487].

7.19.8 Monitoring Requirements

None

7.19.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected tank to demonstrate compliance with Conditions 5.5.1, 7.19.3, and 7.19.6, pursuant to Section 39.5(7)(b) of the Act:

a. Records of the testing of the affected tanks pursuant to Condition 7.19.7, which include the following [Section 39.5(7)(e) of the Act]:

   i. The date, place and time of sampling or measurements;

   ii. The date(s) analyses were performed;

   iii. The company or entity that performed the analyses;

   iv. The analytical techniques or methods used;

   v. The results of such analyses; and

   vi. The operating conditions as existing at the time of sampling or measurement.

b. Each storage vessel with a design capacity less than 40,000 gallons is subject to no provisions of 35 IAC Part 218 other than those required by maintaining readily accessible records of the dimensions of the storage vessel and analysis of the capacity of the storage vessel [35 IAC 218.129(f)];

c. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.19.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

   i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

   ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

   iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

   iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

d. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.19.4(g) (see also 35 IAC 218.480(a)), the owner or operator shall:

   i. Maintain a demonstration including detailed engineering calculations of the maximum daily

and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.19.4(g) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.19.4(g) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

e. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

f. Identification of the material stored in each affected tank;

g. The throughput of each affected tank, gal/mo and gal/yr;

h. The average monthly vapor pressure of the material stored in each affected tank, psia; and

i. The monthly and aggregate annual VOM and HAP emissions from the affected tanks based on the material stored, the tank throughput, and the applicable emission factors and formulas with supporting calculations.

7.19.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected tank with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

b. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.19.4(g) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the

Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.19.4(g) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

c. The storage of any VOL or VPL other than the materials specified in Condition 7.19.5(c) for the affected tanks within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

d. Emissions of VOM in excess of the limitations in Condition 7.19.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.19.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.19.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.19.9 and the emission factors and formulas listed below:

For the purpose of estimating VOM emissions from each affected tank to determine compliance with Conditions 5.5.1, 7.19.3, 7.19.4(g), and 7.19.6, Version 3.1 of the TANKS program is acceptable.

7.20 Units M-4 Chemical Manufacturing Support Area No. M-4

7.20.1 Description

Building M-4 is primarily a packaged product and material warehouse. Only two storage tanks are located within this building.

7.20.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
T-1701	6,000 Gallon Acetic Acid Storage Tank (Tank T-1701)	None
T-1858	6,000 Gallon Acetic Acid Storage Tank (Tank T-1858)	None

7.20.3 Applicability Provisions and Applicable Regulations

a. Tanks T-1701 and T-1858 are "affected tanks" for the purpose of these unit-specific conditions.

b. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

7.20.4 Non-Applicability of Regulations of Concern

a. The affected tanks are not subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1253 for Storage Tanks, because each affected tank has a design capacity of less than 38 m^3 (10,000 gallons).

b. The affected tanks are not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subparts A and Ka, because each affected tank has a storage capacity less than 151,416 l (40,000 gal).

c. The affected tanks are not subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subparts A and Kb, because each affected tank has a storage capacity less than 40 cubic meters.

d. The affected tanks are not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119, because the capacity of each affected tank is less than 151 m^3 (40,000 gal).

e. The affected tanks are not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(2), which exempts storage tanks with capacities less than 151.42 m^3 (40,000 gal) and pursuant to 35 IAC 218.123(a)(6), which exempts stationary storage tanks in which volatile petroleum liquid is not stored.

f. The affected tanks are not subject to the requirements of 35 IAC 218.122, Loading Operations, because pursuant to 35 IAC 218.122(c), if no odor nuisance exists the limitations of this 35 IAC 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F).

g. The affected tanks are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

7.20.5 Operational and Production Limits and Work Practices

a. The owner or operator of a pharmaceutical manufacturing source shall:

i. Provide a vapor balance system that is at least 90 percent effective in reducing VOM emissions from truck or railcar deliveries to storage tanks with capacities equal to or greater than 7.57 m^3 (2,000 gal) that store VOL with vapor pressures greater than 28.0 kPa

(4.1 psi) at 294.3°K (70°F) [35 IAC 218.483(a)]; and

ii. Install, operate, and maintain pressure/vacuum conservation vents set at 0.2 kPa (0.03 psi) or greater on all storage tanks that store VOL with vapor pressures greater than 10 kPa (1.5 psi) at 294.3°K (70°F) [35 IAC 218.483(b)].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The affected tank shall only be used for the storage of materials with a vapor pressure of less than 2.5 psia at 70°F.

7.20.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected tanks are subject to the following:

a. Emissions of VOM from Tanks T-1701 and T-1858 shall not exceed 0.1 tons/year, combined.

b. The above limitations were established in Permit 98070020, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 (see Attachment 4) [T1].

c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.20.7 Testing Requirements

Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.20.4(g) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or

procedures listed in 35 IAC 218.105(f)(1) [35 IAC 218.487].

7.20.8 Monitoring Requirements

None

7.20.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected tank to demonstrate compliance with Conditions 5.5.1, 5.5.3(a), 7.20.3, and 7.20.6, pursuant to Section 39.5(7)(b) of the Act:

a. Records of the testing of the affected tank pursuant to Condition 7.20.7, which include the following [Section 39.5(7)(e) of the Act]:

   i. The date, place and time of sampling or measurements;

   ii. The date(s) analyses were performed;

   iii. The company or entity that performed the analyses;

   iv. The analytical techniques or methods used;

   v. The results of such analyses; and

   vi. The operating conditions as existing at the time of sampling or measurement.

b. Each storage vessel with a design capacity less than 40,000 gallons is subject to no provisions of 35 IAC Part 218 other than those required by maintaining readily accessible records of the dimensions of the storage vessel and analysis of the capacity of the storage vessel [35 IAC 218.129(f)];

c. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.20.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

   i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

   ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

   iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

d. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.20.4(g) (see also 35 IAC 218.480(a)), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.20.4(g) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489 (d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.20.4(g) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

e. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

f. Identification of the material stored in each affected tank;

g. The throughput of each affected tank, gal/mo and gal/yr;

h. The vapor pressure of the material stored in each affected tank, psia; and

i. The monthly and aggregate annual VOM and HAP emissions from the affected tanks based on the material stored, the tank throughput, and the applicable emission factors and formulas with supporting calculations.

7.20.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected tank with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

b. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.20.4(g) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.20.4(g) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

c. The storage of any VOL or VPL other than the materials specified in Condition 7.20.5(c) for the affected tank within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

d. Emissions of VOM in excess of the limits in Conditions 5.5.3(a) or 7.20.6(a) based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.20.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.20.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.1.9 and the emission factors and formulas listed below:

For the purpose of estimating VOM emissions from the affected tank to determine compliance with Conditions 5.5.1, 5.5.3(a), 7.20.3, 7.20.4(g), and 7.20.6, Version 3.1 of the TANKS program is acceptable.

7.21 Units R-3TF Fermentation Support Area No. R-3TF (Building R-3 Solvent Storage Tanks)

7.21.1 Description

Area R-3TF is a tank farm area near the R-3 Fermentation Operations Building. These storage tanks hold materials used in all fermentation areas and each tank has a capacity of less than 40 m^3 (10,566.8 gal).

7.21.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Q-1827	4,800 Gallon Amyl Acetate Storage Tank (Tank 48A)	None
Q2862	Ethyl Acetate Storage Tank (Tank 45, PC-754)	None
Q2863	1,820 Gallon Amyl Alcohol Storage Tank (Tank 46, PC-754)	None
Q2864	1,820 Gallon Amyl Acetate Storage Tank (Tank 44, PC-754)	None
T3010	2,000 Gallon Ethylene Glycol Storage Tank (TK#93, PC-101)	None

7.21.3 Applicability Provisions and Applicable Regulations

a. The Building R-3/Area R-3TF tanks are "affected tanks" for the purpose of these unit-specific conditions.

b. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

7.21.4 Non-Applicability of Regulations of Concern

a. The affected tanks are not subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1253 for Storage Tanks, because each affected tank has a design capacity of less than 38 m^3 (10,000 gallons).

b. The affected tanks are not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subparts A and Ka, because each

affected tank has a storage capacity less than 151,416 l (40,000 gal).

c. The affected tanks are not subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subparts A and Kb, because each affected tank has a storage capacity less than 40 cubic meters.

d. The affected tanks are not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119, because the capacity of each affected tank is less than 151 m^3 (40,000 gal).

e. The affected tanks are not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(2), which exempts storage tanks with capacities less than 151.42 m^3 (40,000 gal) and pursuant to 35 IAC 218.123(a)(6), which exempts stationary storage tanks in which volatile petroleum liquid is not stored.

f. The affected tanks are not subject to the requirements of 35 IAC 218.122, Loading Operations, because pursuant to 35 IAC 218.122(c), if no odor nuisance exists the limitations of this 35 IAC 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F).

g. The affected tanks are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

7.21.5 Operational and Production Limits and Work Practices

a. The owner or operator of a pharmaceutical manufacturing source shall:

   i. Provide a vapor balance system that is at least 90 percent effective in reducing VOM emissions from truck or railcar deliveries to storage tanks with capacities equal to or greater than 7.57 m^3 (2,000 gal) that store VOL with vapor pressures greater than 28.0 kPa (4.1 psi) at 294.3°K (70°F) [35 IAC 218.483(a)]; and

   ii. Install, operate, and maintain pressure/vacuum conservation vents set at 0.2 kPa (0.03 psi) or greater on all storage tanks that store VOL with vapor pressures greater than 10 kPa (1.5 psi) at 294.3°K (70°F) [35 IAC 218.483(b)].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The affected tanks shall only be used for the storage of materials with a vapor pressure of less than 2.5 psia at 70°F.

7.21.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected tanks are subject to the following:

a. Emission of volatile organic material from tanks 44, 45, and 46 shall not exceed 0.33 tons/year.

b. The above limitations were established in Permit 83050057, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.21.7 Testing Requirements

Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.21.4(g) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in 35 IAC 218.105(f)(1) [35 IAC 218.487].

7.21.8 Monitoring Requirements

None

7.21.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected tank to demonstrate compliance with Conditions 5.5.1, 7.21.3, and 7.21.6, pursuant to Section 39.5(7)(b) of the Act:

a. Records of the testing of the affected tank pursuant to Condition 7.21.7, which include the following [Section 39.5(7)(e) of the Act]:

   i. The date, place and time of sampling or measurements;

   ii. The date(s) analyses were performed;

   iii. The company or entity that performed the analyses;

   iv. The analytical techniques or methods used;

   v. The results of such analyses; and

   vi. The operating conditions as existing at the time of sampling or measurement.

b. Each storage vessel with a design capacity less than 40,000 gallons is subject to no provisions of 35 IAC Part 218 other than those required by maintaining readily accessible records of the dimensions of the storage vessel and analysis of the capacity of the storage vessel [35 IAC 218.129(f)];

c. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.21.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

d. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.21.4(g) (see also 35 IAC 218.480(a)), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.21.4(g) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.21.4(g) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

e. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

f. Identification of the material stored in the affected tank;

g. The throughput of each affected tank, gal/mo and gal/yr;

h. The vapor pressure of the material stored in each affected tank, psia; and

i. The monthly and aggregate annual VOM and HAP emissions from the affected tank based on the material stored, the tank throughput, and the applicable emission factors and formulas with supporting calculations.

7.21.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected tank with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

b. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.21.4(g) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.21.4(g) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

c. The storage of any VOL or VPL other than the materials specified in Condition 7.21.5(c) for the affected tanks within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

d. Emissions of VOM, in excess of the limits in Conditions 7.21.3, and/or 7.21.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.21.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.21.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.21.9 and the emission factors and formulas listed below:

For the purpose of estimating VOM emissions from the affected tanks to determine compliance with

Conditions 5.5.1, 7.21.3, and 7.21.4(g), Version 3.1 of the TANKS program is acceptable.

7.22 Units S-3 Chemical Manufacturing Support Area No. S-3
Control S-3 Condenser and Conservation Vents

7.22.1 Description

Area S-3 is a tank farm area used for production operations support. The storage tanks are filled from tank trucks at this location. Certain waste materials collected in some of the S-3 tanks are off-loaded into tank trucks at this location. Also, certain S-5 storage tanks are emptied into tank trucks via piping the material to the tank truck loading/unloading area for this S-3 tank farm. Tank truck loading is through the bottom valve on the tank truck. No vapor recycle or recovery lines are employed during storage tank loading, or tank truck loading.

7.22.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Q-3319	5,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-300)	Condenser and Conservation Vent
Q-3320	5,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-301)	Conservation Vent
Q-3321	5,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-302)	Conservation Vent
Q-3322	5,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-306)	Conservation Vent
Q-3375	10,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-303)	Conservation Vent
Q-3376	10,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-305)	Conservation Vent
Q-3377	10,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-304)	Conservation Vent

7.22.3 Applicability Provisions and Applicable Regulations

a. The Area S-3 storage tanks are “affected tanks” for the purpose of these unit-specific conditions.

b. The affected tanks are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.22.3 (b)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

ii. Pursuant to 35 IAC 218.302, emissions of organic material in excess of those permitted by Condition 7.22.3(b)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by one of the following methods:

A. A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)]; or

B. Any other air pollution control equipment approved by the Illinois EPA and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere [35 IAC 218.302(c)].

7.22.4 Non-Applicability of Regulations of Concern

a. The affected tanks are not subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1253 for Storage Tanks, because the affected tanks are not used to store organic liquids that contain one or more HAP as feedstocks or products of a PMPU.

b. The affected tanks are not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subparts A and Ka, because each affected tank was constructed after July 23, 1984 and has a storage capacity less than 151,416 l (40,000 gal).

c. The affected tanks are not subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subparts A and Kb, because each affected tank has a storage capacity less than 40 m^3 (10,588.8 gallons).

d. The affected tanks are not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119, because the capacity of each affected tank is less than 151 m^3 (40,000 gal).

e. The affected tanks are not subject to the requirements of 35 IAC 218.121, Storage Containers of

VPL, pursuant to 35 IAC 218.123(a)(2), which exempts storage tanks with capacities less than 151.42 m^3 (40,000 gal) and pursuant to 35 IAC 218.123(a)(6), which exempts stationary storage tanks in which volatile petroleum liquid is not stored.

f. The affected tanks are not subject to the requirements of 35 IAC 218.122, Loading Operations, because pursuant to 35 IAC 218.122(c), if no odor nuisance exists the limitations of this 35 IAC 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F).

g. The affected tanks are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

7.22.5 Operational and Production Limits and Work Practices

a. The owner or operator of a pharmaceutical manufacturing source shall:

i. Provide a vapor balance system that is at least 90 percent effective in reducing VOM emissions from truck or railcar deliveries to storage tanks with capacities equal to or greater than 7.57 m^3 (2,000 gal) that store VOL with vapor pressures greater than 28.0 kPa (4.1 psi) at 294.3°K (70°F) [35 IAC 218.483(a)]; and

ii. Install, operate, and maintain pressure/vacuum conservation vents set at 0.2 kPa (0.03 psi) or greater on all storage tanks that store VOL with vapor pressures greater than 10 kPa (1.5 psi) at 294.3°K (70°F) [35 IAC 218.483(b)].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The Permittee shall follow good operating practices for the condenser including periodic inspection, routine maintenance and prompt repair of defects.

d. The affected tanks shall only be used for the storage of materials with a vapor pressure of less than 2.5 psia at 70°F.

7.22.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected tanks is subject to the following:

a. This permit is issued based on negligible emissions of volatile organic material (VOM) from storage tanks TA-300, TA-301, TA-302, TA-303, and TA-304. For this purpose, emissions from each storage tank shall not exceed nominal emissions rates of 0.1 lb/hour and 0.44 ton/yr. These limits are based on standard emission factors for volatile organic liquid storage tanks and 8,760 hours per year operation.

b. Emissions and operation of tanks shall not exceed the following limits:

Tank Number	Product	VOM Emissions lb/hour	VOM Emissions Ton/yr
Q-3322	Clari THF	0.13	0.58
TA-305	Aceto/Di/Ipac/Raffin	0.11	0.49

These limits are based on standard emission factors for volatile organic liquid storage tanks and 8,760 hours per year operation.

c. The above limitations were established in Permit 90030042, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

d. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.22.7 Testing Requirements

Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.22.4(g) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in 35 IAC 218.105(f)(1) [35 IAC 218.487].

7.22.8 Monitoring Requirements

None

7.22.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected tank to demonstrate compliance with Conditions 5.5.1, 7.22.3, 7.22.4(g), and 7.22.6, pursuant to Section 39.5(7)(b) of the Act:

a. Records of the testing of the affected tanks pursuant to Condition 7.22.7, which include the following [Section 39.5(7)(e) of the Act]:

   i. The date, place and time of sampling or measurements;

   ii. The date(s) analyses were performed;

   iii. The company or entity that performed the analyses;

   iv. The analytical techniques or methods used;

   v. The results of such analyses; and

   vi. The operating conditions as existing at the time of sampling or measurement.

b. Each storage vessel with a design capacity less than 40,000 gallons is subject to no provisions of 35 IAC Part 218 other than those required by maintaining readily accessible records of the dimensions of the storage vessel and analysis of the capacity of the storage vessel [35 IAC 218.129(f)];

c. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.22.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

   i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

   ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

   iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

   iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

d. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.22.4(g) (see also 35 IAC 218.480(a)), the owner or operator shall:

   i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.22.4(g) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

   ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.22.4(g) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

e. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

f. Records addressing use of good operating practices for the condenser:

   i. Records for periodic inspection of the condenser with date, individual performing the inspection, and nature of inspection; and

   ii. Records for prompt repair of defects, with identification and description of defect,

effect on emissions, date identified, date repaired, and nature of repair.

g. Identification of the material stored in each affected tank;

h. The throughput of each affected tank, gal/mo and gal/yr;

i. The average monthly vapor pressure of the material stored in each affected tank, psia; and

j. The monthly and aggregate annual VOM and HAP emissions from the affected tanks based on the material stored, the tank throughput, and the applicable emission factors and formulas with supporting calculations.

7.22.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected tank with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

b. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.22.4(g) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.22.4(g) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

c. The storage of any VOL or VPL other than the materials specified in Condition 7.22.5(c) for the affected tank within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

d. Emissions of VOM in excess of the limits in Conditions 7.22.3(b) and/or 7.22.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.22.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.22.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.22.9 and the emission factors and formulas listed below:

For the purpose of estimating VOM emissions from each affected tank to determine compliance with Conditions 5.5.1, 7.22.3, 7.22.4(g), and 7.22.6, Version 3.1 of the TANKS program is acceptable.

7.23 Units S-5 Chemical Manufacturing Support Area No. S-5
Controls S-5 Conservation Vents and Condensers

7.23.1 Description

Area S-5 is a tank farm area for production operations support.

7.23.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Q-1379	6,500 Gallon VOM/HAP Mixed Waste Storage Tank (TA-541)	Conservation Vent
Q-1380	6,500 Gallon VOM/HAP Mixed Waste Storage Tank (TA-540)	Conservation Vent
Q-1863	8,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-520)	Conservation Vent and Condenser
Q-2137	6,500 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-511)	Conservation Vent
Q-2138	6,500 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-510)	Conservation Vent
Q-2141	5,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-532)	Conservation Vent
Q-3323	6,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-501)	Conservation Vent
Q-3408	6,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-500)	Conservation Vent
T-1155	6,500 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-531)	Conservation Vent
T-1156	6,500 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-530)	Conservation Vent
T-1843	5,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank TA-521)	Conservation Vent and Condenser

7.23.3 Applicability Provisions and Applicable Regulations

a. The Area S-5 Tanks are “affected tanks” for the purpose of these unit-specific conditions.

b. The affected tanks are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.23.3 (b)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G

shall apply only to photochemically reactive material [35 IAC 218.301].

ii. Pursuant to 35 IAC 218.302, emissions of organic material in excess of those permitted by Condition 7.23.3(b)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by one of the following methods:

A. A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)]; or

B. Any other air pollution control equipment approved by the Illinois EPA and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere [35 IAC 218.302(c)].

7.23.4 Non-Applicability of Regulations of Concern

a. The affected tanks are not subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1253 for Storage Tanks, because the affected tanks are not used to store organic liquids that contain one or more HAP as feedstocks or products of a PMPU.

b. The affected tanks are not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subparts A and Ka, because each affected tank was constructed after July 23, 1984 or has a storage capacity less than 151,416 l (40,000 gal).

c. The affected tanks are not subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subparts A and Kb, because each affected tank is has a storage capacity less than 40 m^3 (10,588.8 gallons).

d. The affected tanks are not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119, because the capacity of each affected tank is less than 151 m^3 (40,000 gal).

e. The affected tanks are not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(2), which exempts storage tanks with capacities less than 151.42 m^3 (40,000 gal) and pursuant to 35 IAC 218.123(a)(6), which exempts stationary storage tanks in which volatile petroleum liquid is not stored.

f. The affected tanks are not subject to the requirements of 35 IAC 218.122, Loading Operations, because pursuant to 35 IAC 218.122(c), if no odor nuisance exists the limitations of this 35 IAC 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F).

g. The affected tanks are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

7.23.5 Operational and Production Limits and Work Practices

a. The owner or operator of a pharmaceutical manufacturing source shall:

i. Provide a vapor balance system that is at least 90 percent effective in reducing VOM emissions from truck or railcar deliveries to storage tanks with capacities equal to or greater than 7.57 m^3 (2,000 gal) that store VOL with vapor pressures greater than 28.0 kPa (4.1 psi) at 294.3°K (70°F) [35 IAC 218.483(a)]; and

ii. Install, operate, and maintain pressure/vacuum conservation vents set at 0.2 kPa (0.03 psi) or greater on all storage tanks that store VOL

with vapor pressures greater than 10 kPa (1.5 psi) at 294.3°K (70°F) [35 IAC 218.483(b)].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The Permittee shall follow good operating practices for the conservation vents and condensers including periodic inspection, routine maintenance and prompt repair of defects.

d. The affected tanks shall only be used for the storage of materials with a vapor pressure of less than 2.5 psia at 70°F.

7.23.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected tanks are subject to the following:

a. i. This permit is issued based on negligible emissions of volatile organic material (VOM) from storage tanks Q-1379, Q-1380, T-1843, T-1155, T-1156, Q-2141, Q-2138, Q-2137, and Q-3323. For this purpose, emissions from each storage tank shall not exceed nominal emissions rates of 0.1 lb/hour and 0.44 ton/yr. These limits are based on standard emission factors for volatile organic liquid storage tanks and 8,760 hours per year operation.

ii. The above limitations were established in Permit 90030042, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

b. i. Emissions of VOM from Tank Q-1863 shall not exceed 0.15 ton/yr.

ii. The above limitations were established in Permit 98070020, pursuant to 35 IAC Part 203.

These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.23.7 Testing Requirements

Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.23.4(g) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in 35 IAC 218.105(f)(1) [35 IAC 218.487].

7.23.8 Monitoring Requirements

None

7.23.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected tank to demonstrate compliance with Conditions 5.5.1, 5.5.3(a), 7.23.3, and 7.23.6, pursuant to Section 39.5(7)(b) of the Act:

a. Records of the testing of the affected tanks pursuant to Condition 7.23.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

b. Each storage vessel with a design capacity less than 40,000 gallons is subject to no provisions of 35 IAC Part 218 other than those required by maintaining readily accessible records of the dimensions of the storage vessel and analysis of the capacity of the storage vessel [35 IAC 218.129(f)];

c. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.23.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

   i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

   ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

   iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

   iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

d. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.23.4(g) (see also 35 IAC 218.480(a)), the owner or operator shall:

   i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.23.4(g) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

   ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.23.4(g) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

e. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

f. Records addressing use of good operating practices for the conservation vents and condensers:

i. Records for periodic inspection of the conservation vents and condensers with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

g. Identification of the material stored in each affected tank;

h. The throughput of each affected tank, gal/mo and gal/yr; and

i. The average monthly vapor pressure of the material stored in each affected tank, psia; and

j. The monthly and aggregate annual VOM and HAP emissions from the affected tanks based on the material stored, the tank throughput, and the applicable emission factors and formulas with supporting calculations.

7.23.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected tank with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

b. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.23.4(g) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.23.4(g) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

c. The storage of any VOL or VPL other than the materials specified in Condition 7.23.5(c) for each

affected tank within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

d. Emissions of VOM in excess of the limits in Conditions 5.5.3(a), 7.23.3(c) and/or 7.23.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.23.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.23.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.23.9 and the emission factors and formulas listed below:

For the purpose of estimating VOM emissions from each affected tank to determine compliance with Conditions 5.5.1, 5.5.3(a), 7.23.3, 7.23.4(g), and 7.23.6, Version 3.1 of the TANKS program is acceptable.

7.24 Units S-7.1 Chemical Manufacturing Support Area No. S-7 (Tanks Smaller than 40 m^3 or Constructed Prior to July 23, 1984)

Controls S-7.1 Conservation Vents

7.24.1 Description

Area S-7 is a tank farm area for production operations support. Each of these storage tanks has a capacity of less than 40 m^3 (10,566.8 gal) or were constructed prior to July 23, 1984. These tanks store solvents that are used as raw materials for processes. Solvents can be dispensed either by hard piped connections to the processes or via drums.

7.24.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Q-1458	8,000 Gallon Ethanol (w/0.5% Toluene) Storage Tank (Tank TA-0700)	Conservation Vent
Q-2184	8,000 Gallon Isopropyl Acetate Storage Tank (Tank TA-0715)	Conservation Vent
Q-2185	8,000 Gallon Ethyl Acetate Storage Tank (Tank TA-0716)	Conservation Vent
Q-3371	10,000 Gallon N-Methyl Pyrrolidinone Storage Tank (Tank TA-733)	Conservation Vent
R-1083	10,000 Gallon Formic Acid Storage Tank (Tank TA-0723)	Conservation Vent
T-1638	14,000 Gallon Empty Storage Tank (Tank TA-0760)	Conservation Vent
T-1792	8,000 Gallon Empty Storage Tank (Tank TA-0701)	Conservation Vent
T-1877	20,000 Gallon Isopropanol Storage Tank (Tank TA-0702)	Conservation Vent
T-1968	20,000 Gallon Ethyl Acetate Storage Tank (Tank TA-0711)	Conservation Vent
T-1969	20,000 Gallon Ethanol (w/5% Methylene Hydroxide) Storage Tank (Tank TA-0712)	Conservation Vent
T-2064	10,000 Gallon Heptane Storage Tank (Tank TA-0714)	Conservation Vent

7.24.3 Applicability Provisions and Applicable Regulations

a. The Area S-7 storage tanks listed in Condition 7.24.2 are “affected tanks” for the purpose of these unit-specific conditions.

b. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

7.24.4 Non-Applicability of Regulations of Concern

a. The affected tanks are not subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1253 for Storage Tanks, because the affected tanks are not used to store liquids for which the maximum true vapor pressure of total HAP is greater than or equal to 13.1 kPa (1.9 psia).

b. The affected tanks are not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subparts A and Ka, because each affected tank has a storage capacity less than 151,416 l (40,000 gal).

c. The affected tanks are not subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subparts A and Kb, because each affected tank has a storage capacity less than 40 cubic meters.

d. The affected tanks are not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119, because the capacity of each affected tank is less than 151 m^3 (40,000 gal).

e. The affected tanks are not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(2), which exempts storage tanks with capacities less than 151.42 m^3 (40,000 gal) and pursuant to 35 IAC 218.123(a)(6), which exempts stationary storage tanks in which volatile petroleum liquid is not stored.

f. The affected tanks are not subject to the requirements of 35 IAC 218.122, Loading Operations, because pursuant to 35 IAC 218.122(c), if no odor nuisance exists the limitations of this 35 IAC 218.122 shall only apply to the loading of VOL with a

vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F).

g. The affected tanks are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

7.24.5 Operational and Production Limits and Work Practices

a. The owner or operator of a pharmaceutical manufacturing source shall:

i. Provide a vapor balance system that is at least 90 percent effective in reducing VOM emissions from truck or railcar deliveries to storage tanks with capacities equal to or greater than 7.57 m^3 (2,000 gal) that store VOL with vapor pressures greater than 28.0 kPa (4.1 psi) at 294.3°K (70°F) [35 IAC 218.483(a)]; and

ii. Install, operate, and maintain pressure/vacuum conservation vents set at 0.2 kPa (0.03 psi) or greater on all storage tanks that store VOL with vapor pressures greater than 10 kPa (1.5 psi) at 294.3°K (70°F) [35 IAC 218.483(b)].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The Permittee shall follow good operating practices for the conservation vents including periodic

inspection, routine maintenance and prompt repair of defects.

d. The affected tanks shall only be used for the storage of materials with a vapor pressure of less than 2.5 psia at 70°F.

7.24.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected tanks are subject to the following:

a. This permit is issued based on negligible emissions of volatile organic material (VOM) from storage tanks Q-2185, Q-3371, T-1638, T-1792, T-1877, T-1968, T-1969 and T-2064. For this purpose, emissions from each storage tank shall not exceed nominal emissions rates of 0.1 lb/hour and 0.44 ton/yr. These limits are based on standard emission factors for volatile organic liquid storage tanks and 8,760 hours per year operation.

b. Emissions and operation of tanks shall not exceed the following limits:

Tank		VOM Emissions	
Number	Product	lb/hour	Ton/yr
Q-1458	Ethanol	0.18	0.78
T-2064	Heptane	0.14	0.61
Q-2184	IPAC	0.13	0.57

These limits are based on standard emission factors for volatile organic liquid storage tanks and 8,760 hours per year operation.

c. The above limitations were established in Permit 90030042, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

d. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.24.7 Testing Requirements

Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of

the provisions of Condition 7.24.4(g) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in 35 IAC 218.105(f)(1) [35 IAC 218.487].

7.24.8 Monitoring Requirements

None

7.24.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected tank to demonstrate compliance with Conditions 5.5.1, 7.24.3, 7.24.4(g), and 7.24.6, pursuant to Section 39.5(7)(b) of the Act:

a. Records of the testing of the affected tanks pursuant to Condition 7.24.7, which include the following [Section 39.5(7)(e) of the Act]:

   i. The date, place and time of sampling or measurements;

   ii. The date(s) analyses were performed;

   iii. The company or entity that performed the analyses;

   iv. The analytical techniques or methods used;

   v. The results of such analyses; and

   vi. The operating conditions as existing at the time of sampling or measurement.

b. Each storage vessel with a design capacity less than 40,000 gallons is subject to no provisions of 35 IAC Part 218 other than those required by maintaining readily accessible records of the dimensions of the storage vessel and analysis of the capacity of the storage vessel [35 IAC 218.129(f)];

c. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.24.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

   i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

   ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

d. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.24.4(g) (see also 35 IAC 218.480(a)), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.24.4(g) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.24.4(g) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

e. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

f. Records addressing use of good operating practices for the conservation vents:

i. Records for periodic inspection of the conservation vents with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

g. Identification of the material stored in each affected tank;

h. The throughput of each affected tank, gal/mo and gal/yr; and

i. The monthly and aggregate annual VOM and HAP emissions from the affected tanks based on the material stored, the tank throughput, and the applicable emission factors and formulas with supporting calculations.

7.24.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected tank with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

b. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.24.4(g) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.24.4(g) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

c. The storage of any VOL or VPL other than the materials specified in Condition 7.24.5(d) for the affected tanks within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

d. Emissions of VOM in excess of the limits in Condition 7.24.3(b) and/or 7.24.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.24.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.24.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.24.9 and the emission factors and formulas listed below:

For the purpose of estimating VOM emissions from the affected tanks to determine compliance with Conditions 5.5.1, 7.24.3(b), 7.24.4(g), and 7.24.6, Version 3.1 of the TANKS program is acceptable.

7.25 Units S-7.2 Chemical Manufacturing Support Area No. S-7 (Non-MACT Tanks 40 m^3 or Larger)
Controls S-7.2 Conservation Vents

7.25.1 Description

Area S-7 is a tank farm area for production operations support. These storage tanks have capacities of 40 m^3 (10,566.8 gal) or greater and were constructed after July 23, 1984. These tanks are used to store solvents that are used as raw materials for production processes. Solvents are dispensed either by hard piped connections to the process or via drums.

7.25.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Q-0676	12,000 Gallon VOM Storage Tank (Tank TA-741)	Conservation Vent
Q-0677	15,000 Gallon Sodium Hydroxide Storage Tank (Tank TA-740)	Conservation Vent
Q-3352	15,000 Gallon Tetrahydrofuran Storage Tank (Tank TA-0721)	Conservation Vent
Q-3353	15,000 Gallon Tetrahydrofuran Storage Tank (Tank TA-0722)	Conservation Vent
Q-3459	15,000 Gallon DMSO Storage Tank (Tank TA-0724)	Conservation Vent

7.25.3 Applicability Provisions and Applicable Regulations

a. The Area S-7 storage tanks listed in Condition 7.25.2 are "affected tanks" for the purpose of these unit-specific conditions.

b. The affected tanks are subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subpart Kb, because each affected tank has a capacity greater than or equal to 40 m^3 and is used to store VOLs for which construction, reconstruction, or modification is commenced after July 23, 1984.

c. No person shall cause or allow the loading of any organic material into any stationary tank having a storage capacity of greater than 946 1 (250 gal), unless such tank is equipped with a permanent submerged loading pipe or an equivalent device approved by the Illinois EPA according to the provisions of 35 IAC 201, and further processed consistent with 35 IAC 218.108, or unless such tank

is a pressure tank as described in 35 IAC 218.121(a) or is fitted with a recovery system as described in 35 IAC 218.121(b)(2) [35 IAC 218.122(b)].

d. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

7.25.4 Non-Applicability of Regulations of Concern

a. The affected tanks are not subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1253 for Storage Tanks, because the affected tanks are not used to store liquids for which the maximum true vapor pressure of total HAP is greater than or equal to 13.1 kPa (1.9 psia).

b. The affected tanks are not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subparts A and Ka, because each affected tank has a storage capacity less than 151,416 l (40,000 gal).

c. Except as provided in Condition 7.25.9(a) (see also 40 CFR 60.116b) storage vessels with design capacity less than 75 m^3 are exempt from the General Provisions of the NSPS and from the provisions of 40 CFR 60 Subpart Kb [40 CFR 60.110b(b)].

d. The affected tanks are not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119, because the affected tanks have capacities less than 151 m^3 (40,000 gal).

e. The affected tanks are not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(2), which exempts stationary storage tanks with a capacity less than 151.42 m^3 (40,000 gal) and pursuant to 35 IAC 218.123(a)(6), which exempts stationary storage tanks in which volatile petroleum liquid is not stored.

f. The affected tanks are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except

for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

7.25.5 Operational and Production Limits and Work Practices

a. The owner or operator of a pharmaceutical manufacturing source shall:

i. Provide a vapor balance system that is at least 90 percent effective in reducing VOM emissions from truck or railcar deliveries to storage tanks with capacities equal to or greater than 7.57 m^3 (2,000 gal) that store VOL with vapor pressures greater than 28.0 kPa (4.1 psi) at 294.3°K (70°F) [35 IAC 218.483(a)]; and

ii. Install, operate, and maintain pressure/vacuum conservation vents set at 0.2 kPa (0.03 psi) or greater on all storage tanks that store VOL with vapor pressures greater than 10 kPa (1.5 psi) at 294.3°K (70°F) [35 IAC 218.483(b)].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The Permittee shall follow good operating practices for the conservation vents including periodic inspection, routine maintenance and prompt repair of defects.

7.25.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected tanks are subject to the following:

a. This permit is issued based on negligible emissions of volatile organic material (VOM) from storage tank Q-3459. For this purpose, emissions shall not exceed nominal emissions rates of 0.1 lb/hour and 0.44 ton/yr. These limits are based on standard emission factors for volatile organic liquid storage tanks and 8,760 hours per year operation.

b. Emissions and operation of tanks shall not exceed the following limits:

Tank		VOM Emissions	
Number	Product	lb/hour	Ton/yr
Q-3352	THF-Rec.	0.12	0.52
Q-3353	THF-Rec.	0.12	0.52

These limits are based on standard emission factors for volatile organic liquid storage tanks and 8,760 hours per year operation.

c. The above limitations were established in Permit 90030042, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

d. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.25.7 Testing Requirements

Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.25.4(f) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in 35 IAC 218.105(f)(1) [35 IAC 218.487].

7.25.8 Monitoring Requirements

None

7.25.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected tank to demonstrate compliance with Conditions 5.5.1, 7.25.3, 7.25.4, and 7.25.6, pursuant to Section 39.5(7)(b) of the Act:

a. The owner or operator of each storage vessel for which construction, reconstruction, or modification is commenced after July 23, 1984 with a design capacity greater than or equal to 40 m^3, but less than 75 m^3 shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Each storage vessel with a design capacity less than 75 m^3 is subject to no other provision of 40 CFR 60 Subpart Kb other than those required by this paragraph. This record shall be kept for the life of the source [40 CFR 60.110b(a), 60.116b(a), and 60.116b(b)].

b. Records of the testing of the affected tanks pursuant to Condition 7.25.7, which include the following [Section 39.5(7)(e) of the Act]:

   i. The date, place and time of sampling or measurements;

   ii. The date(s) analyses were performed;

   iii. The company or entity that performed the analyses;

   iv. The analytical techniques or methods used;

   v. The results of such analyses; and

   vi. The operating conditions as existing at the time of sampling or measurement.

c. Each storage vessel with a design capacity less than 40,000 gallons is subject to no provisions of 35 IAC Part 218 other than those required by maintaining readily accessible records of the dimensions of the storage vessel and analysis of the capacity of the storage vessel [35 IAC 218.129(f)];

d. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.25.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

   i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

e. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.25.4(f) (see also 35 IAC 218.480(a)), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.25.4(f) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.25.4(f) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

f. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

g. Records addressing use of good operating practices for the conservation vents:

i. Records for periodic inspection of the conservation vents with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

h. Design information for the tank showing the presence of a permanent submerged loading pipe or vapor recovery system;

i. Maintenance and repair records for the affected tanks, as related to the repair or replacement of the loading pipe or vapor recovery system;

j. Identification of the material stored in each affected tank;

k. The throughput of each affected tank, gal/mo and gal/yr; and

l. The monthly and aggregate annual VOM and HAP emissions from the affected tanks based on the material stored, the tank throughput, and the applicable emission factors and formulas with supporting calculations.

7.25.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected tank with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

b. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.25.4(f) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.25.4(f) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

c. Any storage of VOL in an affected tank that is not in compliance with the requirements of Condition 7.25.3(c) (see also 35 IAC 218.122(b)), e.g., no "permanent submerged loading pipe or vapor recovery system," within five days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps taken to avoid future non-compliance.

d. Emissions of VOM in excess of the limitations in Conditions 7.25.3 and/or 7.25.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.25.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.25.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.25.9 and the emission factors and formulas listed below:

For the purpose of estimating VOM emissions from each affected tank to determine compliance with Conditions 5.5.1, 7.25.3, 7.25.4(f), and 7.25.6, Version 3.1 of the TANKS program is acceptable.

7.26 Units S-7.3 Chemical Manufacturing Support Area No. S-7 (MACT Tanks)
Controls S-7.3 Conservation Vents

7.26.1 Description

Area S-7 is a tank farm area for production operations support. This storage tank has a capacity of 10,000 gallons and is used to store HAP materials. This tank is used to store solvents that are used as raw materials for production processes. Solvents are dispensed either by hard piped connections to the process or via drums.

7.26.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
T-1878	20,000 Gallon Methanol Storage Tank (Tank TA-0703)	Conservation Vent
T-1970	10,000 Gallon Toluene Storage Tank (Tank TA-0713)	Conservation Vent
T-2206	10,000 Gallon Carbon Tetrachloride Storage Tank (Tank TA-0732)	Conservation Vent

7.26.3 Applicability Provisions and Applicable Regulations

a. The Area S-7 storage tanks listed in Condition 7.26.2 are "affected tanks" for the purpose of these unit-specific conditions.

b. The affected tanks are subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1253 for Storage Tanks, because each affected tank has a design capacity of greater than or equal 38 m^3 (10,000 gallons). The Illinois EPA is administering the NESHAP in Illinois on behalf of the USEPA under a delegation agreement. Pursuant to 40 CFR 63.1250(f)(1), an owner or operator of an existing affected source must comply with the provisions of 40 CFR 63 Subpart GGG within 3 years after September 21, 1998.

c. The affected tanks are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.26.3 (c)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G

shall apply only to photochemically reactive material [35 IAC 218.301].

ii. Pursuant to 35 IAC 218.302, emissions of organic material in excess of those permitted by Condition 7.26.3(c)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by one of the following methods:

A. A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)]; or

B. Any other air pollution control equipment approved by the Illinois EPA and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere [35 IAC 218.302(c)].

7.26.4 Non-Applicability of Regulations of Concern

a. The affected tanks are not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subparts A and Ka, because each affected tank was constructed prior to May 18, 1978 and has a storage capacity less than 151,416 l (40,000 gal).

b. The affected tanks are not subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subparts A and Kb, because each affected tank was constructed prior to July 23, 1984.

c. The affected tanks are not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119, because the capacity of each affected tank is less than 151 m^3 (40,000 gal).

d. The affected tanks are not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(2), which exempts storage tanks with capacities less than 151.42 m^3 (40,000 gal) and pursuant to 35 IAC 218.123(a)(6),

which exempts stationary storage tanks in which volatile petroleum liquid is not stored.

e. The affected tanks are not subject to the requirements of 35 IAC 218.122, Loading Operations, because pursuant to 35 IAC 218.122(c), if no odor nuisance exists the limitations of this 35 IAC 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F).

f. The affected tanks are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

7.26.5 Operational and Production Limits and Work Practices

a. The owner or operator of a pharmaceutical manufacturing source shall:

i. Provide a vapor balance system that is at least 90 percent effective in reducing VOM emissions from truck or railcar deliveries to storage tanks with capacities equal to or greater than 7.57 m^3 (2,000 gal) that store VOL with vapor pressures greater than 28.0 kPa (4.1 psi) at 294.3°K (70°F) [35 IAC 218.483(a)]; and

ii. Install, operate, and maintain pressure/vacuum conservation vents set at 0.2 kPa (0.03 psi) or greater on all storage tanks that store VOL with vapor pressures greater than 10 kPa (1.5 psi) at 294.3°K (70°F) [35 IAC 218.483(b)].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no

later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The Permittee shall follow good operating practices for the conservation vents including periodic inspection, routine maintenance and prompt repair of defects.

d. The affected tanks shall only be used for the storage of materials with a vapor pressure of less than 2.5 psia at 70°F.

7.26.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected tanks are subject to the following:

a. This permit is issued based on negligible emissions of volatile organic material (VOM) from storage tanks T-1878, T-1970, and T-2206. For this purpose, emissions from each storage tank shall not exceed nominal emissions rates of 0.1 lb/hour and 0.44 ton/yr. These limits are based on standard emission factors for volatile organic liquid storage tanks and 8,760 hours per year operation.

b. The above limitations were established in Permit 90030042, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.26.7 Testing Requirements

a. *General*. Except as specified in 40 CFR 63.1257(a)(5), the procedures specified in 40 CFR 63.1257(d) and (f) are required to demonstrate initial compliance with 40 CFR 63.1254 and 63.1252(e), respectively. The provisions in 40 CFR 63.1257(a)(2) apply to performance tests that are specified in 40 CFR 63.1257(d). The provisions in 40 CFR 63.1257(a)(5) are used to demonstrate initial compliance with the alternative standards specified

in 40 CFR 63.1254(c). The provisions in 40 CFR 63.1257(a)(6) are used to comply with the outlet concentration requirements specified in 40 CFR 63.1254(a)(2)(i) and (a)(3)(ii)(B) [40 CFR 63.1257(a)].

b. *Test methods*. When testing is conducted to measure emissions from an affected source, the test methods specified in 40 CFR 63.1257(b)(1) through (10) shall be used [40 CFR 63.1257(b)].

c. Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.26.4(f) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in 35 IAC 218.105(f)(1) [35 IAC 218.487].

7.26.8 Monitoring Requirements

a. The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard as specified in 40 CFR 63.1258. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish the operating parameter level [40 CFR 63.1258(a)].

b. *Monitoring for control devices*.

i. *Parameters to monitor*. Except as specified in 40 CFR 63.1258(b)(1)(i), for each control device, the owner or operator shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4 of 40 CFR 63 Subpart GGG and in 40 CFR 63.1258(b)(1)(ii) through (xi) [40 CFR 63.1258(b)(1)].

ii. *Averaging periods*. Averaging periods for parametric monitoring levels shall be established according to 40 CFR 63.1258(b)(2)(i) through (iii) [40 CFR 63.1258(b)(2)].

iii. *Monitoring for the alternative standards*. For control devices that are used to comply with the provisions of 40 CFR 63.1254(c), the owner or operator shall monitor and record the outlet TOC concentration and the outlet hydrogen halide and halogen concentration every 15 minutes during the period in which the device is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG. A TOC monitor meeting the requirements of Performance Specification 8 or 9 of appendix B of 40 CFR Part 60 shall be installed, calibrated, and maintained, according to 40 CFR 63.8. The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens [40 CFR 63.1258(b)(5)].

iv. *Exceedances of operating parameters*. Pursuant to 40 CFR 63.1258(b)(6), an exceedance of an operating parameter is defined as one of the following:

A. If the parameter, averaged over the operating day or block, is below a minimum value established during the initial compliance demonstration [40 CFR 63.1258 (b)(6)(i)].

B. If the parameter, averaged over the operating day or block, is above the maximum value established during the initial compliance demonstration [40 CFR 63.1258(b)(6)(ii)].

C. Each loss of pilot flame for flares [40 CFR 63.1258(b)(6)(iii)].

v. *Excursions*. Pursuant to 40 CFR 63.1258(b)(7), excursions are defined by either of the two cases listed in Conditions 7.26.8(b)(v)(A) or (B) (see also 40 CFR 63.1258(b)(7)(i) or (ii)).

A. When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in Condition 7.26.8 (b)(v)(C) (see also 40 CFR 63.1258 (b)(7)(iii)), for at least 75 percent of

the operating hours [40 CFR 63.1258 (b)(7)(i)].

B. When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data [40 CFR 63.1258(b)(7)(ii)].

C. Monitoring data are insufficient to constitute a valid hour of data, as used in Conditions 7.26.8(b)(v)(A) and (B) (see also 40 CFR 63.1258(b)(7)(i) and (ii)), if measured values are unavailable for any of the required 15-minute periods within the hour [40 CFR 63.1258(b)(7)(iii)].

vi. *Violations*. Pursuant to 40 CFR 63.1258(b)(8), exceedances of parameters monitored according to the provisions of 40 CFR 63.1258(b)(1)(ii) and (iv) through (ix) or excursions as defined by Conditions 7.26.8(b)(v)(A) through (C) (see also 40 CFR 63.1258(b)(7)(i) through (iii)) constitute violations of the operating limit according to Conditions 7.26.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of 40 CFR 63.1258(b)(1)(x) constitute violations of the emission limit according to Conditions 7.26.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of Condition 7.26.8(b)(iii) (see also 40 CFR 63.1258(b)(5)) constitute violations of the emission limit according to the provisions of Conditions 7.26.8(b)(vi)(C) and (D) (see also 40 CFR 63.1258(b)(8)(iii) and (iv)).

A. Except as provided in Condition 7.26.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process [40 CFR 63.1258(b)(8)(i)].

B. Except as provided in Condition 7.26.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device, for each process for which the control device is in service [40 CFR 63.1258(b)(8)(ii)].

C. Except as provided in Condition 7.26.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device. Except as provided in Condition 7.26.8(b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv hydrogen halide or halogen outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device [40 CFR 63.1258 (b)(8)(iii)].

D. Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur during a startup, shutdown, or malfunction, and the facility follows its startup, shutdown, and malfunction plan [40 CFR 63.1258 (b)(8)(iv)].

c. *Monitoring for emission limits*. The owner or operator of any affected source complying with the provisions of 40 CFR 63.1254(a)(1) shall demonstrate continuous compliance with the 2,000 lb/yr emission limits by calculating daily a 365-day rolling summation of emissions. For owners and operators opting to switch compliance strategy from the 93 percent control requirement to the 2,000 lb/yr compliance method, as described in 40 CFR 63.1254(a), the rolling average must include emissions from the past 365 days. Each day that the total emissions per process exceeds 2,000 lb/yr will be considered a violation of the emission limit [40 CFR 63.1258(c)].

7.26.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items

for each affected tank to demonstrate compliance with Conditions 5.5.1, 7.26.3, 7.26.4(f), and 7.26.6, pursuant to Section 39.5(7)(b) of the Act:

a. *Records of equipment operation*. Pursuant to 40 CFR 63.1259(b), the owner or operator must keep the following records up-to-date and readily accessible:

   i. Each measurement of a control device operating parameter monitored in accordance with Condition 7.26.8 (see also 40 CFR 63.1258) [40 CFR 63.1259 (b)(1)].

   ii. For each continuous monitoring system used to comply with 40 CFR 63 Subpart GGG, records documenting the completion of calibration checks and maintenance of continuous monitoring systems [40 CFR 63.1259(b)(3)].

   iii. Pursuant to 40 CFR 63.1259(a)(5), records of the following, as appropriate:

      A. The number of batches per year for each batch process [40 CFR 63.1259(a)(5)(i)].

      B. The operating hours per year for continuous processes [40 CFR 63.1259 (a)(5)(ii)].

   iv. Uncontrolled and controlled emissions per batch for each process [40 CFR 63.1259(b)(6)].

   v. Wastewater concentration per POD or process [40 CFR 63.1259(b)(7)].

   vi. Number of storage tank turnovers per year, if used in an emissions average [40 CFR 63.1259(b)(8)].

   vii. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].

   viii. Description of worst-case operating conditions as determined using the procedures described in 40 CFR 63.1257(b)(8) for control devices [40 CFR 63.1259(b)(10)].

b. *Records of operating scenarios*. The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with 40 CFR 63 Subpart GGG [40 CFR 63.1259(c)].

c. Records of the testing of the efficiency of each affected tank pursuant to Condition 7.26.7, which include the following [Section 39.5(7)(e) of the Act]:

   i. The date, place and time of sampling or measurements;

   ii. The date(s) analyses were performed;

   iii. The company or entity that performed the analyses;

   iv. The analytical techniques or methods used;

   v. The results of such analyses; and

   vi. The operating conditions as existing at the time of sampling or measurement.

d. The owner or operator of each storage vessel shall maintain readily accessible records of the dimension of the storage vessel and an analysis of the capacity of the storage vessel [35 IAC 218.129(f)];

e. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.26.4(f) (see also 35 IAC 218.480(a)), the owner or operator shall:

   i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.26.4(f) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

   ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.26.4(f) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

f. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

g. Records addressing use of good operating practices for the conservation vents:

i. Records for periodic inspection of the conservation vents with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

h. Identification of the material stored in each affected tank;

i. The throughput of each affected tank, gal/mo and gal/yr;

j. The vapor pressure of the material stored in each affected tank, psia; and

k. The monthly and aggregate annual VOM and HAP emissions from the affected tanks based on the material stored, the tank throughput, and the applicable emission factors and formulas with supporting calculations.

7.26.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected tank with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. *Periodic reports*. Pursuant to 40 CFR 63.1260(g), an owner or operator shall prepare Periodic reports in accordance with Conditions 7.26.10(a)(i) and (ii) (see also 40 CFR 63.1260(g)(1) and (2)) and submit them to the Illinois EPA and/or USEPA.

i. *Submittal schedule*. Pursuant to 40 CFR 63.1260 (g)(1), Except as provided in Conditions 7.26.10 (a)(i)(A), (B), and (C) (see also 40 CFR 63.1260 (g)(1)(i), (ii) and (iii)), an owner or operator shall submit Periodic reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due.

A. When the Illinois EPA and/or USEPA determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source [40 CFR 63.1260 (g)(1)(i)]; or

B. When the monitoring data are used directly for compliance determination and the source experience excess emissions, in which case quarterly reports shall be submitted. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in 40 CFR 63.10(e)(3)(ii) and (iii) shall apply, except that the term "excess emissions and continuous monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of Condition 7.26.10 (see also 40 CFR 63.1260) [40 CFR 63.1260(g)(1)(ii)].

C. When a new operating scenario has been operated since the last report, in which case quarterly reports shall be submitted [40 CFR 63.1260(g)(1)(iii)].

ii. *Content of Periodic report*. Pursuant to 40 CFR 63.1260(g)(2), the owner or operator shall include the information in Conditions 7.26.10 (a)(ii)(A) through (D) (see also 40 CFR 63.1260 (g)(2)(i) through (vii)), as applicable.

A. Each Periodic report must include the information in 40 CFR 63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the information in 40 CFR 63.10(e)(3)(vi)(J) [40 CFR 63.1260(g)(2)(i)].

B. Pursuant to 40 CFR 63.1260(g)(2)(ii), if the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total

continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in Conditions 7.26.10(a)(ii)(B)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(ii)(A) through (D)).

I. Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(A)].

II. Duration of excursions, as defined in Condition 7.26.8(b)(v) (see also 40 CFR 63.1258(b)(7)) [40 CFR 63.1260(g)(2)(ii)(B)].

III. Operating logs and operating scenarios for all operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(C)].

IV. When a continuous monitoring system is used, the information required in 40 CFR 63.10(c)(5) through (13) [40 CFR 63.1260(g)(2)(ii)(D)].

C. Pursuant to 40 CFR 63.1260(g)(2)(v), the information in Conditions 7.26.10 (a)(ii)(C)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(v)(A) through (D)) shall be stated in the Periodic report, when applicable.

I. No excess emissions [40 CFR 63.1260 (g)(2)(v)(A)].

II. No exceedances of a parameter [40 CFR 63.1260(g)(2)(v)(B)].

III. No excursions [40 CFR 63.1260 (g)(2)(v)(C)].

IV. No continuous monitoring system has been inoperative, out of control, repaired, or adjusted [40 CFR 63.1260(g)(2)(v)(D)].

D. Each new operating scenario which has been operated since the time period covered by the last Periodic report. For the initial Periodic report, each operating scenario for each process operated since the compliance date shall be submitted [40 CFR 63.1260(g)(2)(vii)].

b. *Notification of process change*.

i. Pursuant to 40 CFR 63.1260(h)(1), except as specified in Condition 7.26.10(b)(ii) (see also 40 CFR 63.1260(h)(2)), whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report quarterly. The report may be submitted as part of the next Periodic report required under Condition 7.26.10(a) (see also 40 CFR 63.1260(g)). The report shall include:

A. A brief description of the process change [40 CFR 63.1260(h)(1)(i)].

B. A description of any modifications to standard procedures or quality assurance procedures [40 CFR 63.1260(h)(1)(ii)].

C. Revisions to any of the information reported in the original Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) [40 CFR 63.1260(h)(1)(iii)].

D. Information required by the Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) for changes involving the addition of processes or equipment [40 CFR 63.1260(h)(1)(iv)].

ii. Pursuant to 40 CFR 63.1260(h)(2), an owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

A. Any change in the activity covered by the Precompliance report [40 CFR 63.1260 (h)(2)(i)].

B. A change in the status of a control device from small to large [40 CFR 63.1260 (h)(2)(ii)].

c. *Reports of startup, shutdown, and malfunction*. For the purposes of 40 CFR 63 Subpart GGG, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the periodic reports required under Condition 7.26.10(a) (see also 40 CFR 63.1260(g)) instead of the schedule specified in 40 CFR 63.10(d)(5)(i). These reports shall include the information specified in Condition 5.6.2(n)(iii)(A) through (C) (see also 40 CFR 63.1259(a)(3)(i) through (iii)) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in 40 CFR 63.10(d)(4)(ii) [40 CFR 63.1260(i)].

d. *Notification of performance test and test plan*. The owner or operator of an affected source shall notify the Illinois EPA and/or USEPA of the planned date of a performance test at least 60 days before the test in accordance with 40 CFR 63.7(b). The owner or operator also must submit the test plan required by 40 CFR 63.7(c) and the emission profile required by 40 CFR 63.1257(b)(8)(ii) with the notification of the performance test [40 CFR 63.1260(l)].

e. *Request for extension of compliance*. An owner or operator may submit to the Illinois EPA and/or USEPA a request for an extension of compliance in accordance with 40 CFR 63.1250(f)(4) [40 CFR 63.1260(m)].

f. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.26.4(f) (see also 35 IAC 218.480(a)) the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a

determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.26.4(f) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

g. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

h. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.26.4(f) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.26.4(f) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

i. The storage of any VOL or VPL other than the materials specified in Condition 7.26.5(d) for the affected tanks within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

j. Emissions of VOM in excess of the limitations in Conditions 7.26.3 and/or 7.26.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.26.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.26.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.26.9 and the emission factors and formulas listed below:

For the purpose of estimating VOM emissions from the affected tanks to determine compliance with Conditions 5.5.1, 7.26.3, 7.26.4(f), and 7.26.6, Version 3.1 of the TANKS program is acceptable.

7.27 Unit S-7.4 Chemical Manufacturing Support Area No. S-7 (MACT Tanks 40 m^3 or Larger)
Control S-7.4 Conservation Vents and Condenser

7.27.1 Description

Area S-7 is a tank farm area for production operations support. These storage tanks have capacities of 40 m^3 (10,566.8 gal) or greater and were constructed after July 23, 1984. These storage tanks are used to store HAP materials. These tanks are used to store solvents that are used as raw materials for production processes. Solvents are dispensed either by hard piped connections to the process or via drums.

7.27.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Q-3351	15,000 Gallon Acetonitrile Storage Tank (Tank TA-0720)	Conservation Vent
Q-3454	15,000 Gallon Methylene Chloride Storage Tank (Tank TA-0731)	Conservation Vent and Condenser

7.27.3 Applicability Provisions and Applicable Regulations

a. The Area S-7 storage tanks are "affected tanks" for the purpose of these unit-specific conditions.

b. The affected tanks are subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1253 for Storage Tanks, because each affected tank has a design capacity of greater than or equal to 38 m^3 (10,000 gallons). The Illinois EPA is administering the NESHAP in Illinois on behalf of the USEPA under a delegation agreement. Pursuant to 40 CFR 63.1250(f)(1), an owner or operator of an existing affected source must comply with the provisions of 40 CFR 63 Subpart GGG within 3 years after September 21, 1998.

c. The affected tanks are subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subpart Kb, because each affected tank has a capacity greater than or equal to 40 m^3 and is used to store VOLs for which construction, reconstruction, or modification is commenced after July 23, 1984.

d. The affected tanks are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.27.3 (d)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

ii. Pursuant to 35 IAC 218.302, emissions of organic material in excess of those permitted by Condition 7.27.3(d)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by one of the following methods:

A. A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)]; or

B. Any other air pollution control equipment approved by the Illinois EPA and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere [35 IAC 218.302(c)].

7.27.4 Non-Applicability of Regulations of Concern

a. The affected tanks are not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subparts A and Ka, because each affected tank has a storage capacity less than 151,416 l (40,000 gal).

b. Except as provided in Condition 7.27.9(c) (see also 40 CFR 60.116b) storage vessels with design capacity less than 75 m^3 are exempt from the General Provisions of the NSPS and from the provisions of 40 CFR 60 Subpart Kb [40 CFR 60.110b(b)].

c. The affected tanks are not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119, because the materials stored in the affected tanks have maximum true vapor pressures of less than 0.5

psia and the capacity of each affected tank is less than 151 m^3 (40,000 gal).

d. The affected tanks are not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(2), which exempts stationary storage tanks with a capacity less than 151.42 m^3 (40,000 gal) and pursuant to 35 IAC 218.123(a)(6), which exempts stationary storage tanks in which volatile petroleum liquid is not stored.

e. The affected tanks are not subject to the requirements of 35 IAC 218.122, Loading Operations, because pursuant to 35 IAC 218.122(c), if no odor nuisance exists the limitations of this 35 IAC 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F).

f. The affected tanks are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

7.27.5 Operational and Production Limits and Work Practices

a. The owner or operator of a pharmaceutical manufacturing source shall:

i. Provide a vapor balance system that is at least 90 percent effective in reducing VOM emissions from truck or railcar deliveries to storage tanks with capacities equal to or greater than 7.57 m^3 (2,000 gal) that store VOL with vapor pressures greater than 28.0 kPa (4.1 psi) at 294.3°K (70°F) [35 IAC 218.483(a)]; and

ii. Install, operate, and maintain pressure/vacuum conservation vents set at 0.2 kPa (0.03 psi)

or greater on all storage tanks that store VOL with vapor pressures greater than 10 kPa (1.5 psi) at 294.3°K (70°F) [35 IAC 218.483(b)].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The Permittee shall follow good operating practices for the conservation vents and condenser including periodic inspection, routine maintenance and prompt repair of defects.

d. The affected tanks shall only be used for the storage of materials with a vapor pressure of less than 2.5 psia at 70°F.

7.27.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected tanks are subject to the following:

a. This permit is issued based on negligible emissions of volatile organic material (VOM) from storage tank Q-3454. For this purpose, emissions shall not exceed nominal emissions rates of 0.1 lb/hour and 0.44 ton/yr. These limits are based on standard emission factors for volatile organic liquid storage tanks and 8,760 hours per year operation.

b. Emissions and operation of tanks shall not exceed the following limits:

Tank		VOM Emissions	
Number	Product	lb/hour	Ton/yr
Q-3351	Fresh THF	0.18	0.80

These limits are based on standard emission factors for volatile organic liquid storage tanks and 8,760 hours per year operation.

c. The above limitations were established in Permit 90030042, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification

pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

d. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.27.7 Testing Requirements

a. *General*. Except as specified in 40 CFR 63.1257(a)(5), the procedures specified in 40 CFR 63.1257(d) and (f) are required to demonstrate initial compliance with 40 CFR 63.1254 and 63.1252(e), respectively. The provisions in 40 CFR 63.1257(a)(2) apply to performance tests that are specified in 40 CFR 63.1257(d). The provisions in 40 CFR 63.1257(a)(5) are used to demonstrate initial compliance with the alternative standards specified in 40 CFR 63.1254(c). The provisions in 40 CFR 63.1257(a)(6) are used to comply with the outlet concentration requirements specified in 40 CFR 63.1254(a)(2)(i) and (a)(3)(ii)(B) [40 CFR 63.1257(a)].

b. *Test methods*. When testing is conducted to measure emissions from an affected source, the test methods specified in 40 CFR 63.1257(b)(1) through (10) shall be used [40 CFR 63.1257(b)].

c. Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.27.4(f) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in 35 IAC 218.105(f)(1) [35 IAC 218.487].

7.27.8 Monitoring Requirements

a. The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard as specified in 40 CFR 63.1258. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish the operating parameter level [40 CFR 63.1258(a)].

b. *Monitoring for control devices*.

i. *Parameters to monitor*. Except as specified in 40 CFR 63.1258(b)(1)(i), for each control device, the owner or operator shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4 of 40 CFR 63 Subpart GGG and in 40 CFR 63.1258(b)(1)(ii) through (xi) [40 CFR 63.1258(b)(1)].

ii. *Averaging periods*. Averaging periods for parametric monitoring levels shall be established according to 40 CFR 63.1258(b)(2)(i) through (iii) [40 CFR 63.1258(b)(2)].

iii. *Monitoring for the alternative standards*. For control devices that are used to comply with the provisions of 40 CFR 63.1254(c), the owner or operator shall monitor and record the outlet TOC concentration and the outlet hydrogen halide and halogen concentration every 15 minutes during the period in which the device is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG. A TOC monitor meeting the requirements of Performance Specification 8 or 9 of appendix B of 40 CFR Part 60 shall be installed, calibrated, and maintained, according to 40 CFR 63.8. The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens [40 CFR 63.1258(b)(5)].

iv. *Exceedances of operating parameters*. Pursuant to 40 CFR 63.1258(b)(6), an exceedance of an operating parameter is defined as one of the following:

A. If the parameter, averaged over the operating day or block, is below a minimum value established during the initial compliance demonstration [40 CFR 63.1258 (b)(6)(i)].

B. If the parameter, averaged over the operating day or block, is above the maximum value established during the initial compliance demonstration [40 CFR 63.1258(b)(6)(ii)].

C. Each loss of pilot flame for flares [40 CFR 63.1258(b)(6)(iii)].

v. *Excursions*. Pursuant to 40 CFR 63.1258(b)(7), excursions are defined by either of the two cases listed in Conditions 7.27.8(b)(v)(A) or (B) (see also 40 CFR 63.1258(b)(7)(i) or (ii)).

A. When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in Condition 7.27.8 (b)(v)(C) (see also 40 CFR 63.1258 (b)(7)(iii)), for at least 75 percent of the operating hours [40 CFR 63.1258 (b)(7)(i)].

B. When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data [40 CFR 63.1258(b)(7)(ii)].

C. Monitoring data are insufficient to constitute a valid hour of data, as used in Conditions 7.27.8(b)(v)(A) and (B) (see also 40 CFR 63.1258(b)(7)(i) and (ii)), if measured values are unavailable for any of the required 15-minute periods within the hour [40 CFR 63.1258(b)(7)(iii)].

vi. *Violations*. Pursuant to 40 CFR 63.1258(b)(8), exceedances of parameters monitored according to the provisions of 40 CFR 63.1258(b)(1)(ii) and (iv) through (ix) or excursions as defined by Conditions 7.27.8(b)(v)(A) through (C) (see also 40 CFR 63.1258(b)(7)(i) through (iii)) constitute violations of the operating limit according to Conditions 7.27.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of 40 CFR 63.1258(b)(1)(x) constitute violations of the emission limit according to Conditions 7.27.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the

provisions of Condition 7.27.8(b)(iii) (see also 40 CFR 63.1258(b)(5)) constitute violations of the emission limit according to the provisions of Conditions 7.27.8(b)(vi)(C) and (D) (see also 40 CFR 63.1258(b)(8)(iii) and (iv)).

A. Except as provided in Condition 7.27.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process [40 CFR 63.1258(b)(8)(i)].

B. Except as provided in Condition 7.27.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device, for each process for which the control device is in service [40 CFR 63.1258(b)(8)(ii)].

C. Except as provided in Condition 7.27.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device. Except as provided in Condition 7.27.8(b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv hydrogen halide or halogen outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device [40 CFR 63.1258 (b)(8)(iii)].

D. Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur during a startup, shutdown, or malfunction, and the facility follows its startup, shutdown, and malfunction plan [40 CFR 63.1258 (b)(8)(iv)].

c. *Monitoring for emission limits*. The owner or operator of any affected source complying with the provisions of 40 CFR 63.1254(a)(1) shall demonstrate continuous compliance with the 2,000 lb/yr emission limits by calculating daily a 365-day rolling summation of emissions. For owners and operators opting to switch compliance strategy from the 93 percent control requirement to the 2,000 lb/yr compliance method, as described in 40 CFR 63.1254(a), the rolling average must include emissions from the past 365 days. Each day that the total emissions per process exceeds 2,000 lb/yr will be considered a violation of the emission limit [40 CFR 63.1258(c)].

7.27.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected tank to demonstrate compliance with Conditions 5.5.1, 7.27.3, 7.27.4(f), and 7.27.6, pursuant to Section 39.5(7)(b) of the Act:

a. *Records of equipment operation*. Pursuant to 40 CFR 63.1259(b), the owner or operator must keep the following records up-to-date and readily accessible:

i. Each measurement of a control device operating parameter monitored in accordance with Condition 7.27.8 (see also 40 CFR 63.1258) [40 CFR 63.1259 (b)(1)].

ii. For each continuous monitoring system used to comply with 40 CFR 63 Subpart GGG, records documenting the completion of calibration checks and maintenance of continuous monitoring systems [40 CFR 63.1259(b)(3)].

iii. Pursuant to 40 CFR 63.1259(a)(5), records of the following, as appropriate:

A. The number of batches per year for each batch process [40 CFR 63.1259(a)(5)(i)].

B. The operating hours per year for continuous processes [40 CFR 63.1259 (a)(5)(ii)].

iv. Uncontrolled and controlled emissions per batch for each process [40 CFR 63.1259(b)(6)].

v. Wastewater concentration per POD or process [40 CFR 63.1259(b)(7)].

vi. Number of storage tank turnovers per year, if used in an emissions average [40 CFR 63.1259(b)(8)].

vii. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].

viii. Description of worst-case operating conditions as determined using the procedures described in 40 CFR 63.1257(b)(8) for control devices [40 CFR 63.1259(b)(10)].

b. *Records of operating scenarios*. The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with 40 CFR 63 Subpart GGG [40 CFR 63.1259(c)].

c. The owner or operator of each storage vessel for which construction, reconstruction, or modification is commenced after July 23, 1984 with a design capacity greater than or equal to 40 m^3, but less than 75 m^3 shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Each storage vessel with a design capacity less than 75 m^3 is subject to no other provision of 40 CFR 60 Subpart Kb other than those required by this paragraph. This record shall be kept for the life of the source [40 CFR 60.110b(a), 60.116b(a), and 60.116b(b)].

d. Records of the testing of the affected tanks pursuant to Condition 7.27.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

e. The owner or operator of each storage vessel shall maintain readily accessible records of the dimension

of the storage vessel and an analysis of the capacity of the storage vessel [35 IAC 218.129(f)];

f. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.27.4(f) (see also 35 IAC 218.480(a)), the owner or operator shall:

   i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.27.4(f) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

   ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.27.4(f) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

g. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

h. Records addressing use of good operating practices for the conservation vents and condenser:

   i. Records for periodic inspection of the conservation vents and condenser with date, individual performing the inspection, and nature of inspection; and

   ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

i. Identification of the material stored in each affected tank;

j. The throughput of each affected tank, gal/mo and gal/yr;

k. The vapor pressure of the material stored in each affected tank, psia; and

l. The monthly and aggregate annual VOM and HAP emissions from the affected tanks based on the

material stored, the tank throughput, and the applicable emission factors and formulas with supporting calculations.

7.27.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected tank with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. *Periodic reports*. Pursuant to 40 CFR 63.1260(g), an owner or operator shall prepare Periodic reports in accordance with Conditions 7.27.10(a)(i) and (ii) (see also 40 CFR 63.1260(g)(1) and (2)) and submit them to the Illinois EPA and/or USEPA.

i. *Submittal schedule*. Pursuant to 40 CFR 63.1260 (g)(1), Except as provided in Conditions 7.27.10 (a)(i)(A), (B), and (C) (see also 40 CFR 63.1260 (g)(1)(i), (ii) and (iii)), an owner or operator shall submit Periodic reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due.

A. When the Illinois EPA and/or USEPA determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source [40 CFR 63.1260 (g)(1)(i)]; or

B. When the monitoring data are used directly for compliance determination and the source experience excess emissions, in which case quarterly reports shall be submitted. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in 40 CFR 63.10(e)(3)(ii) and (iii) shall apply, except that the term "excess emissions and continuous

monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of Condition 7.27.10 (see also 40 CFR 63.1260) [40 CFR 63.1260(g)(1)(ii)].

C. When a new operating scenario has been operated since the last report, in which case quarterly reports shall be submitted [40 CFR 63.1260(g)(1)(iii)].

ii. *Content of Periodic report*. Pursuant to 40 CFR 63.1260(g)(2), the owner or operator shall include the information in Conditions 7.27.10 (a)(ii)(A) through (D) (see also 40 CFR 63.1260 (g)(2)(i) through (vii)), as applicable.

A. Each Periodic report must include the information in 40 CFR 63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the information in 40 CFR 63.10(e)(3)(vi)(J) [40 CFR 63.1260(g)(2)(i)].

B. Pursuant to 40 CFR 63.1260(g)(2)(ii), if the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in Conditions 7.27.10(a)(ii)(B)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(ii)(A) through (D)).

I. Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(A)].

II. Duration of excursions, as defined in Condition 7.27.8(b)(v) (see also

40 CFR 63.1258(b)(7)) [40 CFR 63.1260(g)(2)(ii)(B)].

III. Operating logs and operating scenarios for all operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(C)].

IV. When a continuous monitoring system is used, the information required in 40 CFR 63.10(c)(5) through (13) [40 CFR 63.1260(g)(2)(ii)(D)].

C. Pursuant to 40 CFR 63.1260(g)(2)(v), the information in Conditions 7.27.10 (a)(ii)(C)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(v)(A) through (D)) shall be stated in the Periodic report, when applicable.

I. No excess emissions [40 CFR 63.1260 (g)(2)(v)(A)].

II. No exceedances of a parameter [40 CFR 63.1260(g)(2)(v)(B)].

III. No excursions [40 CFR 63.1260 (g)(2)(v)(C)].

IV. No continuous monitoring system has been inoperative, out of control, repaired, or adjusted [40 CFR 63.1260(g)(2)(v)(D)].

D. Each new operating scenario which has been operated since the time period covered by the last Periodic report. For the initial Periodic report, each operating scenario for each process operated since the compliance date shall be submitted [40 CFR 63.1260(g)(2)(vii)].

b. *Notification of process change*.

i. Pursuant to 40 CFR 63.1260(h)(1), except as specified in Condition 7.27.10(b)(ii) (see also 40 CFR 63.1260(h)(2)), whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or

operator shall submit a report quarterly. The report may be submitted as part of the next Periodic report required under Condition 7.27.10(a) (see also 40 CFR 63.1260(g)). The report shall include:

A. A brief description of the process change [40 CFR 63.1260(h)(1)(i)].

B. A description of any modifications to standard procedures or quality assurance procedures [40 CFR 63.1260(h)(1)(ii)].

C. Revisions to any of the information reported in the original Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) [40 CFR 63.1260(h)(1)(iii)].

D. Information required by the Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) for changes involving the addition of processes or equipment [40 CFR 63.1260(h)(1)(iv)].

ii. Pursuant to 40 CFR 63.1260(h)(2), an owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

A. Any change in the activity covered by the Precompliance report [40 CFR 63.1260 (h)(2)(i)].

B. A change in the status of a control device from small to large [40 CFR 63.1260 (h)(2)(ii)].

c. *Reports of startup, shutdown, and malfunction*. For the purposes of 40 CFR 63 Subpart GGG, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the periodic reports required under Condition 7.27.10(a) (see also 40 CFR 63.1260(g)) instead of the schedule specified in 40 CFR 63.10 (d)(5)(i). These reports shall include the information specified in Condition 5.6.2(n)(iii)(A) through (C) (see also 40 CFR 63.1259(a)(3)(i) through (iii)) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not

consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in 40 CFR 63.10 (d)(4)(ii) [40 CFR 63.1260(i)].

d. *Notification of performance test and test plan*. The owner or operator of an affected source shall notify the Illinois EPA and/or USEPA of the planned date of a performance test at least 60 days before the test in accordance with 40 CFR 63.7(b). The owner or operator also must submit the test plan required by 40 CFR 63.7(c) and the emission profile required by 40 CFR 63.1257(b)(8)(ii) with the notification of the performance test [40 CFR 63.1260(l)].

e. *Request for extension of compliance*. An owner or operator may submit to the Illinois EPA and/or USEPA a request for an extension of compliance in accordance with 40 CFR 63.1250(f)(4) [40 CFR 63.1260(m)].

f. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.27.4(f) (see also 35 IAC 218.480(a)) the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.27.4(f) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

g. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

h. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.27.4(f) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.27.4(f) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

i. The storage of any VOL or VPL other than the materials specified in Condition 7.27.5(d) for the affected tanks within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

j. Emissions of VOM in excess of the limitations in Conditions 7.27.3 and/or 7.27.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.27.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.27.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.27.9 and the emission factors and formulas listed below:

For the purpose of estimating VOM emissions from the affected tanks to determine compliance with Conditions 5.5.1, 7.27.3, 7.27.4(f), and 7.27.6, Version 3.1 of the TANKS program is acceptable.

7.28 Units S-16 Fermentation Support Area No. S-16
Controls S-16 Baghouses

7.28.1 Description

Area S-16 is a tank farm area used for fermentation production operations support. Dry powdered raw materials, as well as soybean oil, are stored in this area. Dry powder raw material loading occurs from tank truck or railcar using pneumatic methods. The exhaust air stream from dry powder loading/unloading operations is directed to a baghouse on top of each silo. The baghouse controls particulate matter emissions, which are primarily soy grits or flour.

The kinetic air vacuum receiver acts as a receiver tank between the truck unloading and silos 1, 2, 4, and 6.

7.28.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
KAVR	Kinetic Air Vacuum Receiver	Baghouse/Filter
S6	175,000 cu. ft. Imperial Industries, Inc. Silo (Tk #S6)	Silo #6 Baghouse
T2095	175,000 cu. ft. SEB Semco Silo (Tk #S5)	Silo #5 Baghouse
T2096	175,000 cu. ft. SEB Semco Silo (Tk #S4)	Silo #4 Baghouse
T2097	175,000 cu. ft. SEB Semco Silo (Tk #S3)	Silo #3 Baghouse
T2098	175,000 cu. ft. SEB Semco Silo (Tk #S2)	Silo #2 Baghouse
T2099	175,000 cu. ft. SEB Semco Silo (Tk #S1)	Silo #1 Baghouse

7.28.3 Applicability Provisions and Applicable Regulations

a. The Area S-16 Silos are "affected dry storage units" for the purpose of these unit-specific conditions.

b. Each affected dry storage unit is subject to the emission limits identified in Condition 5.2.2.

c. Silo S6 and the Kinetic Air Vacuum Receiver are subject to 35 IAC 212.321(a), which provides that:

i. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or

after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

ii. The expected process weight rates for each affected dry storage unit and the allowable PM emission rates for each affected dry storage unit set by 35 IAC 212.321 are as follows:

Emission Unit(s)	Process Weight Rate (T/hr)	Allowable PM Emissions (lb/hr)
Silo S6	20	12.58
Kinetic Air Vacuum Receiver	20	12.58

d. Silos S1 - S5 are subject to 35 IAC 212.322(a), which provides that:

i. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit for which construction or modification commenced prior to April 14, 1972, which, either alone or in combination with the emission of particulate matter from all other similar process emission at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 (see also Attachment 2) [35 IAC 212.322(a)].

ii. Because the expected process weight rate for the Silos S1 - S5 is 200,000 pounds per hour, combined, the allowable PM emission rate for Silos S1 - S5 set by 35 IAC 212.322 is 51.28 pounds per hour, combined.

7.28.4 Non-Applicability of Regulations of Concern

a. The process vents associated with the affected dry storage units are not subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1254(a) for Process Vents at Existing Sources. The process vents associated with the affected dry storage units do not meet the definition of process vent in 40 CFR 63.1251 because each affected dry storage unit does not meet the definition of unit operation in 40 CFR 63.1251.

b. The affected dry storage units are not subject to the 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, apply to all emission

units of VOM. The affected dry storage units do not emit VOM, therefore these rules will not apply.

c. The affected dry storage units are not subject to 35 IAC 212.324, Process Emission Units In Certain Areas, because the source is not located in a non-attainment area for PM_{10}, as identified in 35 IAC 212.324(a)(1).

d. The affected dry storage units are not subject to 35 IAC 218 Subpart G, Use of Organic Material, because the affected dry storage units are used only for dry material which contains no organic material.

7.28.5 Operational and Production Limits and Work Practices

a. The Permittee shall follow good operating practices for the baghouses and filter including periodic inspection, routine maintenance and prompt repair of defects.

b. The affected dry storage units shall only be used to store, handle, and process dry materials which contain no organic material.

7.28.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected dry storage units subject to the following:

a i. Emissions of particulate matter from each baghouse (Silos S1 - S5) shall not exceed 346 lb/month and 1.04 ton/yr.

ii. The above limitations contain revisions to previously issued Permit 72100537. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the

information in the CAAPP application contains the most current and accurate information for the source. Specifically, the hourly emission limits of 1.0 lb for PM from each Silo has been replaced with monthly limits of 346 lb from each Silo without any increase in the annual emissions limit. Also, the limit on the maximum operating hours has been eliminated and compliance with the annual PM emission limits will be determined using records of the raw material throughput of these silos, as specified by Conditions 7.28.9(c) and the compliance procedures specified in Condition 7.28.12(b) [T1R].

b. i. Emissions and operation of silo #6 and the Kinetic-Air vacuum receiver shall not exceed the following limits:

Item of Equipment	PM Emissions (lb/mo)	PM Emissions (T/yr)
Silo #6	376	1.13
Kinetic-Air Vacuum Receiver	1,723	5.17
Total		6.30

These limits are based on representations of the maximum actual emission rates determined from the maximum process rates, and the maximum hours of operation.

ii. The above limitations contain revisions to previously issued Permit 98030037. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, the hourly emission limit of 1.09 lb for PM from Silo S6 has been

replaced with a monthly limit of 376 lb without any increase in the annual emissions limit and the hourly emission limit of 4.97 lb for PM from the Kinetic-Air Vacuum Receiver has been replace with a monthly limit of 1,723 lb without any increase in the annual emissions limit. Also, the limits on process rates and the maximum operating hours have been eliminated and compliance with the annual PM emission limits will be determined using records of the raw material throughput of the silo and kinetic-air vacuum receiver, as specified by Conditions 7.28.9(c) and the compliance procedures specified in Condition 7.28.12(b) [T1R].

c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.28.7 Testing Requirements

Pursuant to 35 IAC 212.110 and Section 39.5(7)(b) of the Act, testing for PM emissions shall be performed as follows:

a. Measurement of particulate matter emissions from stationary emission units subject to 35 IAC Part 212 shall be conducted in accordance with 40 CFR part 60, Appendix A, Methods 5, 5A, 5D, or 5E [35 IAC 212.110(a)].

b. The volumetric flow rate and gas velocity shall be determined in accordance with 40 CFR part 60, Appendix A, Methods 1, 1A, 2, 2A, 2C, 2D, 3, and 4 [35 IAC 212.110(b)].

c. Upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 IAC Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA [35 IAC 212.110(c)].

7.28.8 Monitoring Requirements

None

7.28.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected dry storage unit to demonstrate compliance with Conditions 5.5.1, 7.28.3, and 7.28.6, pursuant to Section 39.5(7)(b) of the Act:

a. Pursuant to 35 IAC 212.110(e) and Section 39.5(7)(e) of the Act, the owner or operator of an emission unit subject 35 IAC Part 212 shall retain records of all tests which are performed. These records shall be retained for at least three (3) years after the date a test is performed and shall include the following:

   i. The date, place and time of sampling or measurements;

   ii. The date(s) analyses were performed;

   iii. The company or entity that performed the analyses;

   iv. The analytical techniques or methods used;

   v. The results of such analyses; and

   vi. The operating conditions as existing at the time of sampling or measurement.

b. Records addressing use of good operating practices for the baghouses and filter:

   i. Records for periodic inspection of the baghouses and filter with date, individual performing the inspection, and nature of inspection; and

   ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

c. Raw material throughput for each affected dry storage unit, ton/mo and ton/yr;

d. The operating schedule of the affected dry storage unit or number of hours the affected dry storage units have been operated; and

e. The monthly and aggregate annual PM emissions from the affected dry storage units based on the material throughput and air pollution control equipment efficiencies, with supporting calculations.

7.28.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected dry storage unit with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. A person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from Condition 7.28.7 (see also 35 IAC 212.110) that will be used [35 IAC 212.110(d)].

b. Emissions of PM in excess of the allowable from Conditions 7.28.3 and/or 7.28.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

c. The storage, handling, or processing of any OM, VOM, VOL, or VPL other than the materials specified in Condition 7.28.5(b) for the affected dry storage units within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

7.28.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.28.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.28.9 and the emission factors and formulas listed below:

a. Compliance with Conditions 7.28.3(b), (c) and (d) is assumed by proper operation of the baghouses and filter, as addressed by Condition 7.28.5(c).

b. To determine compliance with Conditions 5.5.1, 7.28.3(c) and (d), and 7.28.6, PM emissions from the affected dry storage units shall be calculated based on the following:

$$ER = (PR) \times ((PRL) \times (100 - e))/100$$

Where:

ER = Emission rate (lb/hr)

PR = Production rate (lb/hr)

PRL = Material lost to the control device, %

e = Efficiency of the control device, %

7.29 Units S-23 Chemical Manufacturing Support Area No. S-23 (Smaller than 40 m^3)

Controls S-23 Conservation Vents and Scrubber

7.29.1 Description

Area S-23 is a tank farm area which handles waste liquids generated from production operations. Materials are variable and dependent upon the particular products under production. Materials collected in the S-23 tanks are off-loaded into tank trucks at this location. Tank truck loading is through the bottom valve on the tank truck. Vapor recycle or recovery lines are employed during tank truck loading. These tanks have storage capacities of less than 40 m^3.

7.29.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Q-3431	10,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank T-2302)	Conservation Vent and Scrubber SC-701
Q-3432	10,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank T-2303)	Conservation Vent and Scrubber SC-701
Q-3549	10,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank T-2311)	Conservation Vent and Scrubber SC-701
Q-3550	10,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank T-2312)	Conservation Vent and Scrubber SC-701
Q-3551	10,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank T-2313)	Conservation Vent and Scrubber SC-701
Q-3730	10,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank T-2301)	Conservation Vent and Scrubber SC-701
Q-3774	10,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank T-2304)	Conservation Vent and Scrubber SC-701

7.29.3 Applicability Provisions and Applicable Regulations

a. The Area S-23 storage tanks are “affected tanks” for the purpose of these unit-specific conditions.

b. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

7.29.4 Non-Applicability of Regulations of Concern

a. The affected tanks are not subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1253 for Storage Tanks, because the affected tanks are not used to store organic liquids that contain one or more HAP as feedstocks or products of a PMPU.

b. The affected tanks are not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subparts A and Ka, because each affected tank was constructed after July 23, 1984 and has a storage capacity less than 151,416 l (40,000 gal).

c. The affected tanks are not subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subparts A and Kb, because each affected tank is has a storage capacity less than 40 m^3 (10,588.8 gallons).

d. The affected tanks are not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119, because the capacity of each affected tank is less than 151 m^3 (40,000 gal).

e. The affected tanks are not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(2), which exempts storage tanks with capacities less than 151.42 m^3 (40,000 gal) and pursuant to 35 IAC 218.123(a)(6), which exempts stationary storage tanks in which volatile petroleum liquid is not stored.

f. The affected tanks are not subject to the requirements of 35 IAC 218.122, Loading Operations, because pursuant to 35 IAC 218.122(c), if no odor nuisance exists the limitations of this 35 IAC 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F).

g. The affected tanks are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all

emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

7.29.5 Operational and Production Limits and Work Practices

a. The owner or operator of a pharmaceutical manufacturing source shall:

i. Provide a vapor balance system that is at least 90 percent effective in reducing VOM emissions from truck or railcar deliveries to storage tanks with capacities equal to or greater than 7.57 m^3 (2,000 gal) that store VOL with vapor pressures greater than 28.0 kPa (4.1 psi) at 294.3°K (70°F) [35 IAC 218.483(a)]; and

ii. Install, operate, and maintain pressure/vacuum conservation vents set at 0.2 kPa (0.03 psi) or greater on all storage tanks that store VOL with vapor pressures greater than 10 kPa (1.5 psi) at 294.3°K (70°F) [35 IAC 218.483(b)].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The affected tanks shall only be used for the storage of materials with a vapor pressure of less than 2.5 psia at 70°F.

d. The Permittee shall follow good operating practices for the conservation vents and scrubber including periodic inspection, routine maintenance and prompt repair of defects.

7.29.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected tanks are subject to the following:

a. i. Emissions and operation of equipment shall not exceed the following limits:

Item of Equipment	Operating Hours (Hour/Year)	VOM Emissions lb/hr	VOM Emissions Ton/yr
7 Storage Tanks	8,760	0.512	2.245
Truck Loading	2,400	0.125	0.150

These limits are based on standard emission factors for working and breathing losses of VOM from storage tanks.

ii. The above limitations were established in Permit 91030065, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

b. i. This permit is issued based on negligible emissions of volatile organic material (VOM) from storage tanks TA-2311, TA-2312, TA-2313, TA-2302, and TA-2303. For this purpose, emissions from each storage tank shall not exceed nominal emissions rates of 0.1 lb/hour and 0.44 ton/yr. These limits are based on standard emission factors for volatile organic liquid storage tanks and 8,760 hours per year operation.

ii. Emissions and operation of tanks shall not exceed the following limits:

Tank Number	Product	VOM Emissions lb/hour	VOM Emissions Ton/yr
TA-2301	Acetone	0.15	0.64
TA-2304	Acetone	0.15	0.64

These limits are based on standard emission factors for volatile organic liquid storage tanks and 8,760 hours per year operation.

iii. The above limitations were established in Permit 90030042, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the

aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.29.7 Testing Requirements

Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.29.4(g) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in 35 IAC 218.105(f)(1) [35 IAC 218.487].

7.29.8 Monitoring Requirements

None

7.29.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected tank to demonstrate compliance with Conditions 5.5.1, 7.29.3, 7.29.4(g), and 7.29.6, pursuant to Section 39.5(7)(b) of the Act:

a. Records of the testing of the affected tanks pursuant to Condition 7.29.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

b. Each storage vessel with a design capacity less than 40,000 gallons is subject to no provisions of 35 IAC

Part 218 other than those required by maintaining readily accessible records of the dimensions of the storage vessel and analysis of the capacity of the storage vessel [35 IAC 218.129(f)];

c. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.29.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

   i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

   ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

   iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

   iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

d. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.29.4(g) (see also 35 IAC 218.480(a)), the owner or operator shall:

   i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.29.4(g) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

   ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.29.4(g) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

e. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

f. Records addressing use of good operating practices for the conservation vents and scrubber:

   i. Records for periodic inspection of the conservation vents and scrubber with date,

individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

g. Identification of the material stored in each affected tank;

h. The throughput of each affected tank, gal/mo and gal/yr;

i. The average monthly vapor pressure of the material stored in each affected tank, psia; and

j. The monthly and aggregate annual VOM and HAP emissions from the affected tanks based on the material stored, the tank throughput, and the applicable emission factors and formulas with supporting calculations.

7.29.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected tank with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

b. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.29.4(g) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.29.4(g) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

c. The storage of any VOL or VPL other than the materials specified in Condition 7.29.5(c) for the affected tanks within 30 days of becoming aware of the non-compliance status. This notification shall

include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

d. Emissions of VOM in excess of the limitations in Condition 7.29.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.29.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.29.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.29.9 and the emission factors and formulas listed below:

For the purpose of estimating VOM emissions from each affected tank to determine compliance with Conditions 5.5.1, 7.29.3, 7.29.4(g), and 7.29.6, Version 3.1 of the TANKS program is acceptable.

7.30 Unit T-2314 Chemical Manufacturing Support Area No. S-23
Storage Tank T-2314
Controls T-2314 Conservation Vents and Scrubber

7.30.1 Description

Area S-23 is a tank farm area which handles waste liquids generated from production operations. Materials are variable and dependent upon the particular products under production. Materials collected in the S-23 tanks are off-loaded into tank trucks at this location. Tank truck loading is through the bottom valve on the tank truck. Vapor recycle or recovery lines are employed during tank truck loading. This tank has a storage capacity greater than 40 m^3.

7.30.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Q-3554	15,000 Gallon VOM/HAP Mixed Waste Storage Tank (Tank T-2314, Area S-23)	Conservation Vent and Scrubber SC-701

7.30.3 Applicability Provisions and Applicable Regulations

a. Tank T-2314 is an "affected tank" for the purpose of these unit-specific conditions.

b. The affected tank is subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subpart Kb, because the affected tank has a capacity greater than or equal to 40 m^3 and is used to store VOLs for which construction, reconstruction, or modification is commenced after July 23, 1984.

c. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

7.30.4 Non-Applicability of Regulations of Concern

a. The affected tank is not subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1253 for Storage Tanks, because the affected tank is not used to store

organic liquids that contain one or more HAP as feedstocks or products of a PMPU.

b. The affected tank is not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subparts A and Ka, because the affected tank has a storage capacity less than 151,416 l (40,000 gal).

c. Except as provided in Condition 7.30.9(a) (see also 40 CFR 60.116b) storage vessels with design capacity less than 75 m^3 are exempt from the General Provisions of the NSPS and from the provisions of 40 CFR 60 Subpart Kb [40 CFR 60.110b(b)].

d. The affected tank is not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119, because the materials stored in the affected tank has maximum capacity less than 151 m^3 (40,000 gal).

e. The affected tank is not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(2), which exempts stationary storage tanks with a capacity less than 151.42 m^3 (40,000 gal) and pursuant to 35 IAC 218.123(a)(6), which exempts stationary storage tanks in which volatile petroleum liquid is not stored.

f. The affected tank is not subject to the requirements of 35 IAC 218.122, Loading Operations, because pursuant to 35 IAC 218.122(c), if no odor nuisance exists the limitations of this 35 IAC 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F).

g. The affected tank is not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM,

the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

7.30.5 Operational and Production Limits and Work Practices

a. The owner or operator of a pharmaceutical manufacturing source shall:

i. Provide a vapor balance system that is at least 90 percent effective in reducing VOM emissions from truck or railcar deliveries to storage tanks with capacities equal to or greater than 7.57 m^3 (2,000 gal) that store VOL with vapor pressures greater than 28.0 kPa (4.1 psi) at 294.3°K (70°F) [35 IAC 218.483(a)]; and

ii. Install, operate, and maintain pressure/vacuum conservation vents set at 0.2 kPa (0.03 psi) or greater on all storage tanks that store VOL with vapor pressures greater than 10 kPa (1.5 psi) at 294.3°K (70°F) [35 IAC 218.483(b)].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The affected tank shall only be used for the storage of materials with a vapor pressure of less than 2.5 psia at 70°F.

d. The Permittee shall follow good operating practices for the conservation vent and scrubber including periodic inspection, routine maintenance and prompt repair of defects.

7.30.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected tank is subject to the following:

a. Emissions and operation of Tank TA-2314 shall not exceed the following limits:

Item of Equipment	Product	VOM Emissions lb/hour	Ton/yr

TA-2314	Acetonitile/Heptane	0.12	0.51

These limits are based on standard emission factors for volatile organic liquid storage tanks and 8,760 hours per year operation.

b. The above limitations were established in Permit 97080047, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.30.7 Testing Requirements

Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.30.4(g) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in 35 IAC 218.105(f)(1) [35 IAC 218.487].

7.30.8 Monitoring Requirements

None

7.30.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected tank to demonstrate compliance with Conditions 5.5.1, 7.30.3, 7.30.4(g), and 7.30.6, pursuant to Section 39.5(7)(b) of the Act:

a. The owner or operator of each storage vessel for which construction, reconstruction, or modification is commenced after July 23, 1984 with a design capacity greater than or equal to 40 m^3, but less than 75 m^3 shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Each storage vessel with a design capacity less than 75 m^3 is subject to no other provision of 40 CFR 60 Subpart Kb other than those required by this paragraph. This record shall be kept for the life of

the source [40 CFR 60.110b(a), 60.116b(a), and 60.116b(b)].

b. Records of the testing of the affected tank pursuant to Condition 7.30.7, which include the following [Section 39.5(7)(e) of the Act]:

   i. The date, place and time of sampling or measurements;

   ii. The date(s) analyses were performed;

   iii. The company or entity that performed the analyses;

   iv. The analytical techniques or methods used;

   v. The results of such analyses; and

   vi. The operating conditions as existing at the time of sampling or measurement.

c. Each storage vessel with a design capacity less than 40,000 gallons is subject to no provisions of 35 IAC Part 218 other than those required by maintaining readily accessible records of the dimensions of the storage vessel and analysis of the capacity of the storage vessel [35 IAC 218.129(f)];

d. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.30.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

   i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

   ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

   iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

   iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

e. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.30.4(g) (see also 35 IAC 218.480(a)), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.30.4(g) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.30.4(g) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

f. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

g. Records addressing use of good operating practices for the conservation vent and scrubber:

i. Records for periodic inspection of the conservation vent and scrubber with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

h. Identification of the material stored in the affected tank;

i. The throughput of the affected tank, gal/mo and gal/yr;

j. The average monthly vapor pressure of the material stored in the affected tank, psia; and

k. The monthly and aggregate annual VOM and HAP emissions from the affected tank based on the material stored, the tank throughput, and the applicable emission factors and formulas with supporting calculations.

7.30.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected tank with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe

the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

b. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.30.4(g) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.30.4(g) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

c. The storage of any VOL or VPL other than the materials specified in Condition 7.30.5(c) for the affected tanks within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

d. Emissions of VOM in excess of the limitations in Condition 7.30.3 and/or 7.30.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.30.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.30.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.30.9 and the emission factors and formulas listed below:

For the purpose of estimating VOM emissions from each affected tank to determine compliance with Conditions 5.5.1, 7.30.3, 7.30.4(g), and 7.30.6, Version 3.1 of the TANKS program is acceptable.

7.31 Units S-27.1 Chemical Manufacturing Support Area No. S-27 Acetone Tanks
Controls S-27.1 Conservation Vents

7.31.1 Description

Area S-27 is a tank farm area for production area support. Some of these storage tanks are filled from tank trucks stationed at the S-30 tank farm tanker truck loading/unloading location. Other storage tanks, used for waste accumulation, are filled directly from production operations. Waste off-loading from the storage tanks into tank trucks occurs at the S-30 tank farm loading/unloading location.

7.31.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Q-2205	5,000 Gallon Acetone Storage Tank (Tank 102A)	Conservation Vent
Q-2698	5,000 Gallon Acetone Storage Tank (Tank 102B)	Conservation Vent
Tank 114	Acetone Storage Tank (Tank 114)	None

7.31.3 Applicability Provisions and Applicable Regulations

The Area S-27 storage tanks are "affected tanks" for the purpose of these unit-specific conditions.

7.31.4 Non-Applicability of Regulations of Concern

a. The affected tanks are not subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1253 for Storage Tanks, because each affected tank has are not used to store organic liquids that contain one or more HAP as feedstocks or products of a PMPU and each affected tank has a design capacity less than 38 m^3 (10,000 gallons).

b. The affected tanks are not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subparts A and Ka, because each affected tank was constructed after July 23, 1984 and has a storage capacity less than 151,416 l (40,000 gal).

c. The affected tanks are not subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which

Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subparts A and Kb, because each affected tank is has a storage capacity less than 40 m^3 (10,588.8 gallons) and the affected tanks are used to store acetone, which is no longer included in the definition of volatile organic liquid.

d. The affected tanks are not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119, because the capacity of each affected tank is less than 151 m^3 (40,000 gal).

e. The affected tanks are not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(2), which exempts storage tanks with capacities less than 151.42 m^3 (40,000 gal) and pursuant to 35 IAC 218.123(a)(6), which exempts stationary storage tanks in which volatile petroleum liquid is not stored.

f. The affected tank is not subject to the requirements of 35 IAC 218.122, Loading Operations, because pursuant to 35 IAC 211.4250(b), which exempts acetone from the definition of organic material.

g. The affected tank is not subject to 35 IAC 218 Subpart G, Use of Organic Material, because pursuant to 35 IAC 211.4250(b), which exempts acetone from the definition of organic material.

h. The affected tanks are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

7.31.5 Operational and Production Limits and Work Practices

a. The affected tanks shall only be used for the storage of acetone.

b. The Permittee shall follow good operating practices for the conservation vents including periodic inspection, routine maintenance and prompt repair of defects.

7.31.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected tanks are subject to the following:

a. This permit is issued based upon Tanks 102A, 102B, and 114 being used to store acetone.

b. The above limitations were established in Permit 98070020, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 (see Attachment 4) [T1].

c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.31.7 Testing Requirements

Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.31.4(h) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in 35 IAC 218.105(f)(1) [35 IAC 218.487].

7.31.8 Monitoring Requirements

None

7.31.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected tank to demonstrate compliance with Conditions 5.5.1, 5.5.3(a), 7.31.3, and 7.31.4(h), pursuant to Section 39.5(7)(b) of the Act:

a. Records of the testing of the affected tanks pursuant to Condition 7.31.7, which include the following [Section 39.5(7)(e) of the Act]:

   i. The date, place and time of sampling or measurements;

   ii. The date(s) analyses were performed;

   iii. The company or entity that performed the analyses;

   iv. The analytical techniques or methods used;

   v. The results of such analyses; and

   vi. The operating conditions as existing at the time of sampling or measurement.

b. Each storage vessel with a design capacity less than 40,000 gallons is subject to no provisions of 35 IAC Part 218 other than those required by maintaining readily accessible records of the dimensions of the storage vessel and analysis of the capacity of the storage vessel [35 IAC 218.129(f)];

c. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.31.4(h) (see also 35 IAC 218.480(a)), the owner or operator shall:

   i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.31.4(h) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

   ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.31.4(h) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

d. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

e. Records addressing use of good operating practices for the conservation vents:

i. Records for periodic inspection of the conservation vents with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

f. Identification of the material stored in each affected tank;

g. The throughput of each affected tank, gal/mo and gal/yr; and

h. The monthly and aggregate annual OM, VOM, and HAP emissions from the affected tanks based on the material stored, the tank throughput, and the applicable emission factors and formulas with supporting calculations.

7.31.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected tank with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

b. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.31.4(h) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.31.4(h) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

c. The storage of any VOL or VPL in the affected tanks within 30 days of becoming aware of the non-

compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

d. Emissions of VOM in excess of the limits in Conditions 5.5.3(a) and/or 7.31.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.31.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.31.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.31.9 and the emission factors and formulas listed below:

For the purpose of estimating OM or VOM emissions from each affected tank to determine compliance with Conditions 5.5.1, 5.5.3(a), 7.31.4(h), and 7.31.6, Version 3.1 of the TANKS program is acceptable.

7.32 Units S-27.2 Chemical Manufacturing Support Area No. S-27 (Tanks 40 m^3 or Greater)
Control S-27.2 Conservation Vents

7.32.1 Description

Area S-27 is a tank farm area for production area support. Some of these storage tanks are filled from tank trucks stationed at the S-30 tank farm tanker truck loading/unloading location. Other storage tanks, used for waste accumulation, are filled directly from production operations. Waste off-loading from the storage tanks into tank trucks occurs at the S-30 tank farm loading/unloading location. These tanks have capacities of 40 m^3 or greater and were constructed after July 23, 1984.

7.32.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Q-4154	15,000 Gallon Ethanol (Fresh) Storage Tank (TA-1104)	Conservation Vent
Q-4165	15,000 Gallon Mixed Waste Storage Tank (TA-1108)	Conservation Vent
Q-4167	15,000 Gallon Mixed Waste Storage Tank (TA-1107)	Conservation Vent
Q-4197	15,000 Gallon Isobutyl Acetate (Fresh) Storage Tank (TA-1105)	Conservation Vent
Q-4198	15,000 Gallon Amyl Acetate (Fresh) Storage Tank (TA-1106)	Conservation Vent

7.32.3 Applicability Provisions and Applicable Regulations

a. The Area S-27 storage tanks are "affected tanks" for the purpose of these unit-specific conditions.

b. The affected tanks are subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subpart Kb, because the affected tank has a capacity greater than or equal to 40 m^3 and is used to store VOLs for which construction, reconstruction, or modification is commenced after July 23, 1984.

c. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

7.32.4 Non-Applicability of Regulations of Concern

a. The affected tank is not subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1253 for Storage Tanks, because the affected tanks are not used to store organic liquids that contain one or more HAP as feedstocks or products of a PMPU or are vessels storing organic liquids that contain HAP only as impurities.

b. The affected tanks are not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subparts A and Ka, because each affected tank has a storage capacity less than 151,416 l (40,000 gal).

c. Except as provided in Condition 7.32.9(a) (see also 40 CFR 60.116b) storage vessels with design capacity less than 75 m^3 are exempt from the General Provisions of the NSPS and from the provisions of 40 CFR 60 Subpart Kb [40 CFR 60.110b(b)].

d. The affected tanks are not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119, because each affected tank has maximum capacity less than 151 m^3 (40,000 gal).

e. The affected tanks are not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(2), which exempts stationary storage tanks with a capacity less than 151.42 m^3 (40,000 gal) and pursuant to 35 IAC 218.123(a)(6), which exempts stationary storage tanks in which volatile petroleum liquid is not stored.

f. The affected tanks are not subject to the requirements of 35 IAC 218.122, Loading Operations, because pursuant to 35 IAC 218.122(c), if no odor nuisance exists the limitations of this 35 IAC 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F).

g. The affected tanks are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to

reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

7.32.5 Operational and Production Limits and Work Practices

a. The owner or operator of a pharmaceutical manufacturing source shall:

i. Provide a vapor balance system that is at least 90 percent effective in reducing VOM emissions from truck or railcar deliveries to storage tanks with capacities equal to or greater than 7.57 m^3 (2,000 gal) that store VOL with vapor pressures greater than 28.0 kPa (4.1 psi) at 294.3°K (70°F) [35 IAC 218.483(a)]; and

ii. Install, operate, and maintain pressure/vacuum conservation vents set at 0.2 kPa (0.03 psi) or greater on all storage tanks that store VOL with vapor pressures greater than 10 kPa (1.5 psi) at 294.3°K (70°F) [35 IAC 218.483(b)].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The affected tanks shall only be used for the storage of materials with a vapor pressure of less than 2.5 psia at 70°F.

d. The Permittee shall follow good operating practices for the conservation vents including periodic inspection, routine maintenance and prompt repair of defects.

7.32.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected tanks are subject to the following:

a. Emissions and operation of equipment shall not exceed the following limits:

Item of Equipment	VOM Emissions lb/mo	ton/yr
Tank TA-1104	116	0.35
Tank TA-1105	50	0.15
Tank TA-1106	20	0.06
Tank TA-1107	75	0.15
Tank TA-1108	50	0.15
	Total	0.86

These limits are based on the maximum emissions based on the maximum throughput.

b. The above limitations contain revisions to previously issued Permit 94060002. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, the hourly emission limits for VOM have been replaced the monthly emission limits for VOM without any increase in the annual emission limits. Also, the annual throughput limits for these tanks have been eliminated and compliance with the annual VOM emission limits will be determined using records of the materials stored in these tanks and records of the throughput of these tanks, as specified by Conditions 7.32.9(h) and (i), and the compliance procedures specified in Condition 7.32.12 [T1R].

c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.32.7 Testing Requirements

Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.32.4(g) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in 35 IAC 218.105(f)(1) [35 IAC 218.487].

7.32.8 Monitoring Requirements

None

7.32.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected tank to demonstrate compliance with Conditions 5.5.1, 7.32.3, 7.32.4(g), and 7.32.6, pursuant to Section 39.5(7)(b) of the Act:

a. The owner or operator of each storage vessel for which construction, reconstruction, or modification is commenced after July 23, 1984 with a design capacity greater than or equal to 40 m^3, but less than 75 m^3 shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Each storage vessel with a design capacity less than 75 m^3 is subject to no other provision of 40 CFR 60 Subpart Kb other than those required by this paragraph. This record shall be kept for the life of the source [40 CFR 60.110b(a), 60.116b(a), and 60.116b(b)].

b. Records of the testing of the affected tanks pursuant to Condition 7.32.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

c. Each storage vessel with a design capacity less than 40,000 gallons is subject to no provisions of 35 IAC Part 218 other than those required by maintaining readily accessible records of the dimensions of the storage vessel and analysis of the capacity of the storage vessel [35 IAC 218.129(f)];

d. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.32.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

e. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.32.4(g) (see also 35 IAC 218.480(a)), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.32.4(g) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.32.4(g) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

f. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

g. Records addressing use of good operating practices for the conservation vents:

   i. Records for periodic inspection of the conservation vents with date, individual performing the inspection, and nature of inspection; and

   ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

h. Identification of the material stored in each affected tank;

i. The throughput of each affected tank, gal/mo and gal/yr; and

j. The monthly and aggregate annual VOM and HAP emissions from the affected tanks based on the material stored, the tank throughput, and the applicable emission factors and formulas with supporting calculations.

7.32.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected tank with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

b. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.32.4(g) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.32.4(g) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

c. The storage of any VOL or VPL other than the materials specified in Condition 7.32.5(c) for the

affected tanks within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

d. Emissions of VOM in excess of the limitations in Condition 7.32.3 and/or 7.32.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.32.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.32.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.32.9 and the emission factors and formulas listed below:

For the purpose of estimating VOM emissions from each affected tank to determine compliance with Conditions 5.5.1, 7.32.3, 7.32.4(g), and 7.32.6, Version 3.1 of the TANKS program is acceptable.

7.33 Units S-30.1 Chemical Manufacturing Support Area No. S-30 (Non-MACT Tanks Smaller than 40 m^3)
Controls S-30.1 Conservation Vents

7.33.1 Description

Area S-30 is a tank farm area used for production area support. Storage tanks are filled from tank trucks stationed at a tanker truck loading/unloading location next to this tank farm. No vapor recycle/recovery lines are employed during tank truck loading or unloading. These tanks have capacities of less than 40 m^3.

7.33.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
TA-9501	10,000 Gallon Amyl Alcohol (Fresh) Storage Tank (TA-9501)	Conservation Vent
TA-9502	10,000 Gallon Amyl Acetate (Fresh) Storage Tank (TA-9502)	Conservation Vent
TA-9602	8,500 Gallon Northland Stainless Methanol (Fresh) Storage Tank (TA-9602)	Conservation Vent
TA-9705	10,000 Gallon Proprionic Acid Storage Tank (TA-9705)	Conservation Vent

7.33.3 Applicability Provisions and Applicable Regulations

a. The Area S-30 storage tanks are "affected tanks" for the purpose of these unit-specific conditions.

b. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

7.33.4 Non-Applicability of Regulations of Concern

a. The affected tanks are not subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1253 for Storage Tanks, because the affected tanks have design capacities of less than 38 m^3 (10,000 gallons) or are not used to store liquids for which the maximum true vapor pressure of total HAP is greater than or equal to 13.1 kPa (1.9 psia).

b. The affected tanks are not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which

Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subparts A and Ka, because each affected tank has a storage capacity less than 151,416 l (40,000 gal).

c. The affected tanks are not subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subparts A and Kb, because each affected tank has a storage capacity less than 40 cubic meters or was constructed prior to July 23, 1984.

d. The affected tanks are not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119, because the capacity of each affected tank is less than 151 m^3 (40,000 gal).

e. The affected tanks are not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(2), which exempts storage tanks with capacities less than 151.42 m^3 (40,000 gal) and pursuant to 35 IAC 218.123(a)(6), which exempts stationary storage tanks in which volatile petroleum liquid is not stored.

f. The affected tanks are not subject to the requirements of 35 IAC 218.122, Loading Operations, because pursuant to 35 IAC 218.122(c), if no odor nuisance exists the limitations of this 35 IAC 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F).

g. The affected tanks are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply

to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

7.33.5 Operational and Production Limits and Work Practices

a. The owner or operator of a pharmaceutical manufacturing source shall:

i. Provide a vapor balance system that is at least 90 percent effective in reducing VOM emissions from truck or railcar deliveries to storage tanks with capacities equal to or greater than 7.57 m^3 (2,000 gal) that store VOL with vapor pressures greater than 28.0 kPa (4.1 psi) at 294.3°K (70°F) [35 IAC 218.483(a)]; and

ii. Install, operate, and maintain pressure/vacuum conservation vents set at 0.2 kPa (0.03 psi) or greater on all storage tanks that store VOL with vapor pressures greater than 10 kPa (1.5 psi) at 294.3°K (70°F) [35 IAC 218.483(b)].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The Permittee shall follow good operating practices for the conservation vents including periodic inspection, routine maintenance and prompt repair of defects.

d. The affected tanks shall only be used for the storage of materials with a vapor pressure of less than 2.5 psia at 70°F.

7.33.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected tanks are subject to the following:

a. i. Emissions of VOM from Tanks TA-9501 and TA-9502 shall not exceed 0.25 ton/year, combined.

ii. Emissions of VOM from Tank TA-9602 shall not exceed 0.20 ton/year.

iii. The above limitations were established in Permit 98070020, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

b. i. This permit is issued based on negligible emissions of volatile organic material (VOM) from Tank TA-9705. For this purpose emissions shall not exceed nominal emission rates of 0.01 lb/hour and 0.044 ton/yr.

ii. The above limitations were established in Permit 98050041, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.33.7 Testing Requirements

Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.33.4(g) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in 35 IAC 218.105(f)(1) [35 IAC 218.487].

7.33.8 Monitoring Requirements

None

7.33.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected tank to demonstrate compliance with Conditions 5.5.1, 5.5.3(a), 7.33.3, 7.33.4(g), and 7.33.6, pursuant to Section 39.5(7)(b) of the Act:

a. Records of the testing of the affected tanks pursuant to Condition 7.33.7, which include the following [Section 39.5(7)(e) of the Act]:

   i. The date, place and time of sampling or measurements;

   ii. The date(s) analyses were performed;

   iii. The company or entity that performed the analyses;

   iv. The analytical techniques or methods used;

   v. The results of such analyses; and

   vi. The operating conditions as existing at the time of sampling or measurement.

b. Each storage vessel with a design capacity less than 40,000 gallons is subject to no provisions of 35 IAC Part 218 other than those required by maintaining readily accessible records of the dimensions of the storage vessel and analysis of the capacity of the storage vessel [35 IAC 218.129(f)];

c. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.33.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

   i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

   ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

   iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

   iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

d. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.33.4(g) (see also 35 IAC 218.480(a)), the owner or operator shall:

   i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission

unit showing that the emissions are below the applicability cutoffs in Condition 7.33.4(g) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.33.4(g) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

e. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

f. Records addressing use of good operating practices for the conservation vents:

i. Records for periodic inspection of the conservation vents with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

g. Identification of the material stored in each affected tank;

h. The throughput of each affected tank, gal/mo and gal/yr; and

i. The monthly and aggregate annual VOM and HAP emissions from the affected tanks based on the material stored, the tank throughput, and the applicable emission factors and formulas with supporting calculations.

7.33.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected tank with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that

intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

b. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.33.4(g) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.33.4(g) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

c. The storage of any VOL or VPL other than the materials specified in Condition 7.33.5(d) for the affected tanks within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

d. Emissions of VOM in excess of the limits in Conditions 5.5.3(a), 7.33.3(b) and/or 7.33.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.33.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.33.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.33.9 and the emission factors and formulas listed below:

For the purpose of estimating VOM emissions from each affected tank to determine compliance with Conditions 5.5.1, 5.5.3(a), 7.33.3(b), 7.33.4(g), and 7.33.6, Version 3.1 of the TANKS program is acceptable.

7.34 Units S-30.2 Fermentation Support Area No. S-30 Methylene Chloride Tanks
Controls S-30.2 Carbon Bed Adsorption and Conservation Vent

7.34.1 Description

Area S-30 is a tank farm area used for production area support. Storage tanks are filled from tank trucks stationed at a tanker truck loading/unloading location next to this tank farm. No vapor recycle/recovery lines are employed during tank truck loading or unloading. These tanks have capacities of less than 40 m^3 and are used to store a HAP material.

7.34.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
TA-9603	10,000 Gallon Methylene Chloride (Fresh) Storage Tank (Tank TA-9603)	S-32 Carbon Bed Adsorption
TA-9608	4,000 Gallon Methylene Chloride (Waste) Storage Tank (Tank TA-9608)	Conservation Vent

7.34.3 Applicability Provisions and Applicable Regulations

a. Storage Tanks TA-9603 and TA-9608 are "affected tanks" for the purpose of these unit-specific conditions.

b. Tank TA-9603 is subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1253 for Storage Tanks, because the Tank TA-9603 has a design capacity of greater than or equal to 38 m^3 (10,000 gallons). The Illinois EPA is administering the NESHAP in Illinois on behalf of the USEPA under a delegation agreement. Pursuant to 40 CFR 63.1250(f)(1), an owner or operator of an existing affected source must comply with the provisions of 40 CFR 63 Subpart GGG within 3 years after September 21, 1998.

c. No person shall cause or allow the loading of any organic material into any stationary tank having a storage capacity of greater than 946 1 (250 gal), unless such tank is equipped with a permanent submerged loading pipe or an equivalent device approved by the Illinois EPA according to the provisions of 35 IAC 201, and further processed consistent with 35 IAC 218.108, or unless such tank is a pressure tank as described in 35 IAC 218.121(a)

or is fitted with a recovery system as described in 35 IAC 218.121(b)(2) [35 IAC 218.122(b)].

d. The affected tanks are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.34.3 (d)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

ii. Pursuant to 35 IAC 218.302, emissions of organic material in excess of those permitted by Condition 7.34.3(d)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by one of the following methods:

A. A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)]; or

B. Any other air pollution control equipment approved by the Illinois EPA and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere [35 IAC 218.302(c)].

7.34.4 Non-Applicability of Regulations of Concern

a. The affected tanks are not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subparts A and Ka, because each affected tank was constructed after July 23, 1984 and each affected tank has a storage capacity less than 151,416 l (40,000 gal).

b. The affected tanks are not subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subparts A and Kb, because the affected tanks are used to store methylene chloride, which is not a VOL.

c. The affected tanks are not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119, because the capacity of each affected tank is less than 151 m^3 (40,000 gal).

d. The affected tanks are not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(2), which exempts storage tanks with capacities less than 151.42 m^3 (40,000 gal) and pursuant to 35 IAC 218.123(a)(6), which exempts stationary storage tanks in which volatile petroleum liquid is not stored.

e. The affected tanks are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

7.34.5 Operational and Production Limits and Work Practices

a. The owner or operator of a pharmaceutical manufacturing source shall:

i. Provide a vapor balance system that is at least 90 percent effective in reducing VOM emissions from truck or railcar deliveries to storage tanks with capacities equal to or greater than 7.57 m^3 (2,000 gal) that store VOL with vapor pressures greater than 28.0 kPa (4.1 psi) at 294.3°K (70°F) [35 IAC 218.483(a)]; and

ii. Install, operate, and maintain pressure/vacuum conservation vents set at 0.2 kPa (0.03 psi) or greater on all storage tanks that store VOL with vapor pressures greater than 10 kPa (1.5 psi) at 294.3°K (70°F) [35 IAC 218.483(b)].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The Permittee shall follow good operating practices for the carbon bed adsorber and conservation vent including periodic inspection, routine maintenance and prompt repair of defects.

d. The affected tanks shall only be used for the storage of methylene chloride.

7.34.6 Emission Limitations

There are no specific emission limitations for these units, however, there are source wide emission limitations in Condition 5.5 that include these units.

7.34.7 Testing Requirements

a. *General*. Except as specified in 40 CFR 63.1257(a)(5), the procedures specified in 40 CFR 63.1257(d) and (f) are required to demonstrate initial compliance with 40 CFR 63.1254 and 63.1252(e), respectively. The provisions in 40 CFR 63.1257(a)(2) apply to performance tests that are specified in 40 CFR 63.1257(d). The provisions in 40 CFR 63.1257(a)(5) are used to demonstrate initial compliance with the alternative standards specified in 40 CFR 63.1254(c). The provisions in 40 CFR 63.1257(a)(6) are used to comply with the outlet concentration requirements specified in 40 CFR 63.1254(a)(2)(i) and (a)(3)(ii)(B) [40 CFR 63.1257(a)].

b. *Test methods*. When testing is conducted to measure emissions from an affected source, the test methods specified in 40 CFR 63.1257(b)(1) through (10) shall be used [40 CFR 63.1257(b)].

c. Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.34.4(e) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in 35 IAC 218.105(f)(1) [35 IAC 218.487].

d. Pursuant to 35 IAC 218.105(d)(1) and Section 39.5(7)(b) of the Act, the control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified below (see also 35 IAC 218.105(f)):

i. Volatile Organic Material Gas Phase Source Test Methods The methods in 40 CFR Part 60, Appendix A, delineated below shall be used to determine control device efficiencies [35 IAC 218.105(f)].

A. CFR Part 60, Appendix A, Method 18, 25 or 25A, as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. The test shall consist of three separate runs, each lasting a minimum of 60 min, unless the Illinois EPA and the USEPA determine that process variables dictate shorter sampling times [35 IAC 218.105(f)(1)].

B. 40 CFR Part 60, Appendix A, Method 1 or 1A shall be used for sample and velocity traverses [35 IAC 218.105(f)(2)].

C. 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D shall be used for velocity and volumetric flow rates [35 IAC 218.105(f)(3)].

D. 40 CFR Part 60, Appendix A, Method 3 shall be used for gas analysis [35 IAC 218.105(f)(4)].

E. 40 CFR Part 60, Appendix A, Method 4 shall be used for stack gas moisture [35 IAC 218.105(f)(5)].

F. 40 CFR Part 60, Appendix A, Methods 2, 2A, 2C, 2D, 3 and 4 shall be performed, as applicable, at least twice during each test run [35 IAC 218.105(f)(6)].

G. Use of an adaptation to any of the test methods specified in Conditions 7.34.7

(d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) may not be used unless approved by the Illinois EPA and the USEPA on a case by case basis. An owner or operator must submit sufficient documentation for the Illinois EPA and the USEPA to find that the test methods specified in Conditions 7.34.7(d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) will yield inaccurate results and that the proposed adaptation is appropriate [35 IAC 218.105(f)(7)].

ii. Notwithstanding other requirements of 35 IAC Part 218, upon request of the Illinois EPA where it is necessary to demonstrate compliance, an owner or operator of an emission unit which is subject to 35 IAC Part 218 shall, at his own expense, conduct tests in accordance with the applicable test methods and procedures specific in 35 IAC Part 218. Nothing in this Condition (see also 35 IAC 218.105) shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing [35 IAC 218.105(i)].

7.34.8 Monitoring Requirements

a. The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard as specified in 40 CFR 63.1258. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish the operating parameter level [40 CFR 63.1258(a)].

b. *Monitoring for control devices.*

i. *Parameters to monitor.* Except as specified in 40 CFR 63.1258(b)(1)(i), for each control device, the owner or operator shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4 of 40 CFR 63

Subpart GGG and in 40 CFR 63.1258(b)(1)(ii) through (xi) [40 CFR 63.1258(b)(1)].

ii. *Averaging periods*. Averaging periods for parametric monitoring levels shall be established according to 40 CFR 63.1258(b)(2)(i) through (iii) [40 CFR 63.1258(b)(2)].

iii. *Monitoring for the alternative standards*. For control devices that are used to comply with the provisions of 40 CFR 63.1254(c), the owner or operator shall monitor and record the outlet TOC concentration and the outlet hydrogen halide and halogen concentration every 15 minutes during the period in which the device is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG. A TOC monitor meeting the requirements of Performance Specification 8 or 9 of appendix B of 40 CFR Part 60 shall be installed, calibrated, and maintained, according to 40 CFR 63.8. The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens [40 CFR 63.1258(b)(5)].

iv. *Exceedances of operating parameters*. Pursuant to 40 CFR 63.1258(b)(6), an exceedance of an operating parameter is defined as one of the following:

A. If the parameter, averaged over the operating day or block, is below a minimum value established during the initial compliance demonstration [40 CFR 63.1258 (b)(6)(i)].

B. If the parameter, averaged over the operating day or block, is above the maximum value established during the initial compliance demonstration [40 CFR 63.1258(b)(6)(ii)].

C. Each loss of pilot flame for flares [40 CFR 63.1258(b)(6)(iii)].

v. *Excursions*. Pursuant to 40 CFR 63.1258(b)(7), excursions are defined by either of the two cases listed in Conditions 7.34.8(b)(v)(A) or (B) (see also 40 CFR 63.1258(b)(7)(i) or (ii)).

A. When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in Condition 7.28.8 (b)(v)(C) (see also 40 CFR 63.1258 (b)(7)(iii)), for at least 75 percent of the operating hours [40 CFR 63.1258 (b)(7)(i)].

B. When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data [40 CFR 63.1258(b)(7)(ii)].

C. Monitoring data are insufficient to constitute a valid hour of data, as used in Conditions 7.34.8(b)(v)(A) and (B) (see also 40 CFR 63.1258(b)(7)(i) and (ii)), if measured values are unavailable for any of the required 15-minute periods within the hour [40 CFR 63.1258(b)(7)(iii)].

vi. *Violations*. Pursuant to 40 CFR 63.1258(b)(8), exceedances of parameters monitored according to the provisions of 40 CFR 63.1258(b)(1)(ii) and (iv) through (ix) or excursions as defined by Conditions 7.34.8(b)(v)(A) through (C) (see also 40 CFR 63.1258(b)(7)(i) through (iii)) constitute violations of the operating limit according to Conditions 7.34.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of 40 CFR 63.1258(b)(1)(x) constitute violations of the emission limit according to Conditions 7.34.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of Condition 7.34.8(b)(iii) (see also 40 CFR 63.1258(b)(5)) constitute violations of the emission limit according to the provisions of Conditions 7.34.8(b)(vi)(C) and (D) (see also 40 CFR 63.1258(b)(8)(iii) and (iv)).

A. Except as provided in Condition 7.34.8 (b)(vi)(D) (see also 40 CFR 63.1258

(b)(8)(iv)), for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process [40 CFR 63.1258(b)(8)(i)].

B. Except as provided in Condition 7.34.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device, for each process for which the control device is in service [40 CFR 63.1258(b)(8)(ii)].

C. Except as provided in Condition 7.34.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device. Except as provided in Condition 7.34.8(b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv hydrogen halide or halogen outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device [40 CFR 63.1258 (b)(8)(iii)].

D. Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur during a startup, shutdown, or malfunction, and the facility follows its startup, shutdown, and malfunction plan [40 CFR 63.1258 (b)(8)(iv)].

c. *Monitoring for emission limits*. The owner or operator of any affected source complying with the provisions of 40 CFR 63.1254(a)(1) shall demonstrate continuous compliance with the 2,000 lb/yr emission limits by calculating daily a 365-day rolling summation of emissions. For owners and operators opting to switch compliance strategy from the 93 percent control requirement to the 2,000 lb/yr compliance method, as described in 40 CFR 63.1254(a), the rolling average must include emissions from the past 365 days. Each

day that the total emissions per process exceeds 2,000 lb/yr will be considered a violation of the emission limit [40 CFR 63.1258(c)].

d. An owner or operator that uses a carbon adsorber to comply with any Section of 35 IAC Part 218 shall use Illinois EPA and USEPA approved continuous monitoring equipment which is installed, calibrated, maintained, and operated according to vendor specifications at all times the carbon adsorber is in use. The continuous monitoring equipment must monitor for each carbon adsorber, the VOM concentration of each carbon adsorption bed exhaust or the exhaust of the bed next in sequence to be desorbed [35 IAC 218.105(d)(2)].

7.34.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected tank to demonstrate compliance with Conditions 5.5.1, 7.34.3, and 7.34.4(e), pursuant to Section 39.5(7)(b) of the Act:

a. *Records of equipment operation*. Pursuant to 40 CFR 63.1259(b), the owner or operator must keep the following records up-to-date and readily accessible:

i. Each measurement of a control device operating parameter monitored in accordance with Condition 7.34.8 (see also 40 CFR 63.1258) [40 CFR 63.1259 (b)(1)].

ii. For each continuous monitoring system used to comply with 40 CFR 63 Subpart GGG, records documenting the completion of calibration checks and maintenance of continuous monitoring systems [40 CFR 63.1259(b)(3)].

iii. Pursuant to 40 CFR 63.1259(a)(5), records of the following, as appropriate:

A. The number of batches per year for each batch process [40 CFR 63.1259(a)(5)(i)].

B. The operating hours per year for continuous processes [40 CFR 63.1259 (a)(5)(ii)].

iv. Uncontrolled and controlled emissions per batch for each process [40 CFR 63.1259(b)(6)].

v. Wastewater concentration per POD or process [40 CFR 63.1259(b)(7)].

vi. Number of storage tank turnovers per year, if used in an emissions average [40 CFR 63.1259(b)(8)].

vii. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].

viii. Description of worst-case operating conditions as determined using the procedures described in 40 CFR 63.1257(b)(8) for control devices [40 CFR 63.1259(b)(10)].

b. *Records of operating scenarios*. The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with 40 CFR 63 Subpart GGG [40 CFR 63.1259(c)].

c. Records of the testing of the efficiency of each affected tank pursuant to Condition 7.34.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

d. The owner or operator of each storage vessel shall maintain readily accessible records of the dimension of the storage vessel and an analysis of the capacity of the storage vessel [35 IAC 218.129(f)];

e. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.34.4(e) (see also 35 IAC 218.480(a)), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission

unit showing that the emissions are below the applicability cutoffs in Condition 7.34.4(e) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.34.4(e) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

f. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

g. Records addressing use of good operating practices for the carbon bed adsorber and conservation vent:

i. Records for periodic inspection of the carbon bed adsorber and conservation vent with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

h. Design information for the affected tank showing the presence of a permanent submerged loading pipe or vapor recovery system;

i. Maintenance and repair records for the affected tank, as related to the repair or replacement of the loading pipe or vapor recovery system;

j. Identification of the material stored in each affected tank;

k. The throughput of each affected tank, gal/mo and gal/yr; and

l. The monthly and aggregate annual VOM and HAP emissions from the affected tanks based on the material stored, the tank throughput, and the applicable emission factors and formulas with supporting calculations.

7.34.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected tank with the permit requirements as follows, pursuant to

Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. *Periodic reports*. Pursuant to 40 CFR 63.1260(g), an owner or operator shall prepare Periodic reports in accordance with Conditions 7.34.10(a)(i) and (ii) (see also 40 CFR 63.1260(g)(1) and (2)) and submit them to the Illinois EPA and/or USEPA.

i. *Submittal schedule*. Pursuant to 40 CFR 63.1260 (g)(1), Except as provided in Conditions 7.34.10 (a)(i)(A), (B), and (C) (see also 40 CFR 63.1260 (g)(1)(i), (ii) and (iii)), an owner or operator shall submit Periodic reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due.

A. When the Illinois EPA and/or USEPA determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source [40 CFR 63.1260 (g)(1)(i)]; or

B. When the monitoring data are used directly for compliance determination and the source experience excess emissions, in which case quarterly reports shall be submitted. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in 40 CFR 63.10(e)(3)(ii) and (iii) shall apply, except that the term "excess emissions and continuous monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of Condition 7.34.10 (see also 40 CFR 63.1260) [40 CFR 63.1260(g)(1)(ii)].

C. When a new operating scenario has been operated since the last report, in which

case quarterly reports shall be submitted [40 CFR 63.1260(g)(1)(iii)].

ii. *Content of Periodic report*. Pursuant to 40 CFR 63.1260(g)(2), the owner or operator shall include the information in Conditions 7.34.10 (a)(ii)(A) through (D) (see also 40 CFR 63.1260 (g)(2)(i) through (vii)), as applicable.

A. Each Periodic report must include the information in 40 CFR 63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the information in 40 CFR 63.10(e)(3)(vi)(J) [40 CFR 63.1260(g)(2)(i)].

B. Pursuant to 40 CFR 63.1260(g)(2)(ii), if the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in Conditions 7.34.10(a)(ii)(B)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(ii)(A) through (D)).

I. Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(A)].

II. Duration of excursions, as defined in Condition 7.34.8(b)(v) (see also 40 CFR 63.1258(b)(7)) [40 CFR 63.1260(g)(2)(ii)(B)].

III. Operating logs and operating scenarios for all operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status

report or operating permit [40 CFR 63.1260(g)(2)(ii)(C)].

IV. When a continuous monitoring system is used, the information required in 40 CFR 63.10(c)(5) through (13) [40 CFR 63.1260(g)(2)(ii)(D)].

C. Pursuant to 40 CFR 63.1260(g)(2)(v), the information in Conditions 7.34.10 (a)(ii)(C)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(v)(A) through (D)) shall be stated in the Periodic report, when applicable.

I. No excess emissions [40 CFR 63.1260 (g)(2)(v)(A)].

II. No exceedances of a parameter [40 CFR 63.1260(g)(2)(v)(B)].

III. No excursions [40 CFR 63.1260 (g)(2)(v)(C)].

IV. No continuous monitoring system has been inoperative, out of control, repaired, or adjusted [40 CFR 63.1260(g)(2)(v)(D)].

D. Each new operating scenario which has been operated since the time period covered by the last Periodic report. For the initial Periodic report, each operating scenario for each process operated since the compliance date shall be submitted [40 CFR 63.1260(g)(2)(vii)].

b. *Notification of process change.*

i. Pursuant to 40 CFR 63.1260(h)(1), except as specified in Condition 7.34.10(b)(ii) (see also 40 CFR 63.1260(h)(2)), whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report quarterly. The report may be submitted as part of the next Periodic report required under Condition 7.34.10(a) (see also 40 CFR 63.1260(g)). The report shall include:

A. A brief description of the process change [40 CFR 63.1260(h)(1)(i)].

B. A description of any modifications to standard procedures or quality assurance procedures [40 CFR 63.1260(h)(1)(ii)].

C. Revisions to any of the information reported in the original Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) [40 CFR 63.1260(h)(1)(iii)].

D. Information required by the Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) for changes involving the addition of processes or equipment [40 CFR 63.1260(h)(1)(iv)].

ii. Pursuant to 40 CFR 63.1260(h)(2), an owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

A. Any change in the activity covered by the Precompliance report [40 CFR 63.1260 (h)(2)(i)].

B. A change in the status of a control device from small to large [40 CFR 63.1260 (h)(2)(ii)].

c. *Reports of startup, shutdown, and malfunction*. For the purposes of 40 CFR 63 Subpart GGG, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the periodic reports required under Condition 7.34.10(a) (see also 40 CFR 63.1260(g)) instead of the schedule specified in 40 CFR 63.10 (d)(5)(i). These reports shall include the information specified in Condition 5.6.2(n)(iii)(A) through (C) (see also 40 CFR 63.1259(a)(3)(i) through (iii)) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in 40 CFR 63.10(d)(4)(ii) [40 CFR 63.1260(i)].

d. *Notification of performance test and test plan*. The owner or operator of an affected source shall notify

the Illinois EPA and/or USEPA of the planned date of a performance test at least 60 days before the test in accordance with 40 CFR 63.7(b). The owner or operator also must submit the test plan required by 40 CFR 63.7(c) and the emission profile required by 40 CFR 63.1257(b)(8)(ii) with the notification of the performance test [40 CFR 63.1260(l)].

e. *Request for extension of compliance*. An owner or operator may submit to the Illinois EPA and/or USEPA a request for an extension of compliance in accordance with 40 CFR 63.1250(f)(4) [40 CFR 63.1260(m)].

f. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.34.4(e) (see also 35 IAC 218.480(a)) the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.34.4(e) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

g. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

h. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.34.4(e) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.34.4(e) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

i. Any storage of VOL in the affected tank that is not in compliance with the requirements of Condition 7.34.3(d) (see also 35 IAC 218.122(b)), e.g., no "permanent submerged loading pipe or vapor recovery system," within five days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps taken to avoid future non-compliance.

j. The storage of any VOL or VPL other than the materials specified in Condition 7.34.5(d) for the affected tank within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

k. Emissions of VOM in excess of the limitations in Condition 7.34.3 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.34.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.34.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.34.9 and the emission factors and formulas listed below:

For the purpose of estimating OM, VOM, or HAP emissions from the affected tanks to determine compliance with Conditions 5.5.1, 7.34.3, and 7.34.4(e), Version 3.1 of the TANKS program is acceptable.

7.35 Unit TA-9910 Chemical Manufacturing Support Area No. S-30
Tank TA-9910
Control TA-9910 Conservation Vent

7.35.1 Description

Area S-30 is a tank farm area used for production area support. Storage tanks are filled from tank trucks stationed at a tanker truck loading/unloading location next to this tank farm. No vapor recycle/recovery lines are employed during tank truck loading or unloading. This tank has a capacity greater than 40 m^3 and were constructed after July 23, 1984. This tank is used to store a HAP material.

7.35.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
LC949211	15,000 Gallon Toluene Storage Tank (Tank TA-9910)	Conservation Vent

7.35.3 Applicability Provisions and Applicable Regulations

a. Tank TA-9910 is an "affected tank" for the purpose of these unit-specific conditions.

b. The affected tank is subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1253 for Storage Tanks, because the affected tank has a design capacity of greater than or equal to 38 m^3 (10,000 gallons). The Illinois EPA is administering the NESHAP in Illinois on behalf of the USEPA under a delegation agreement. Pursuant to 40 CFR 63.1250(f)(1), an owner or operator of an existing affected source must comply with the provisions of 40 CFR 63 Subpart GGG within 3 years after September 21, 1998.

c. The affected tank is subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subpart Kb, because the affected tank has a capacity greater than or equal to 40 m^3 and is used to store VOLs for which construction, reconstruction, or modification is commenced after July 23, 1984.

d. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation

of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

7.35.4 Non-Applicability of Regulations of Concern

a. The affected tank is not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subparts A and Ka, because each affected tank d has a storage capacity less than 151,416 l (40,000 gal).

b. Except as provided in Condition 7.35.9(c) (see also 40 CFR 60.116b) storage vessels with design capacity less than 75 m^3 are exempt from the General Provisions of the NSPS and from the provisions of 40 CFR 60 Subpart Kb [40 CFR 60.110b(b)].

c. The affected tank is not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119, because the materials stored in the affected tank have maximum true vapor pressures of less than 0.5 psia and the capacities are less than 151 m^3 (40,000 gal).

d. The affected tank is not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(2), which exempts stationary storage tanks with a capacity less than 151.42 m^3 (40,000 gal) and pursuant to 35 IAC 218.123(a)(6), which exempts stationary storage tanks in which volatile petroleum liquid is not stored.

e. The affected tank is not subject to the requirements of 35 IAC 218.122, Loading Operations, because pursuant to 35 IAC 218.122(c), if no odor nuisance exists the limitations of this 35 IAC 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F).

f. The affected tank is not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including

packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

7.35.5 Operational and Production Limits and Work Practices

a. The owner or operator of a pharmaceutical manufacturing source shall:

i. Provide a vapor balance system that is at least 90 percent effective in reducing VOM emissions from truck or railcar deliveries to storage tanks with capacities equal to or greater than 7.57 m^3 (2,000 gal) that store VOL with vapor pressures greater than 28.0 kPa (4.1 psi) at 294.3°K (70°F) [35 IAC 218.483(a)]; and

ii. Install, operate, and maintain pressure/vacuum conservation vents set at 0.2 kPa (0.03 psi) or greater on all storage tanks that store VOL with vapor pressures greater than 10 kPa (1.5 psi) at 294.3°K (70°F) [35 IAC 218.483(b)].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The Permittee shall follow good operating practices for the conservation vent including periodic inspection, routine maintenance and prompt repair of defects.

d. The affected tank shall only be used for the storage of toluene and/or isopropyl acetate.

7.35.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected tank is subject to the following:

a. This permit is issued based on negligible emissions of volatile organic material (VOM) from Tank TA-9910.

For this purpose, emissions shall not exceed nominal emission rates of 0.05 lb/hour and 0.22 ton/yr.

b. The above limitations were established in Permit 99010045, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

c. The emissions of HAP as listed in Section 112(b) of the CAA from Tank TA-9910 shall be less than 10 tons/year of any single HAP and 25 tons/year of any combination of such HAPs. As a result of this condition, this permit is issued based on the emissions from Tank TA-9910 not triggering the requirements of Section 112(g) of the CAA.

d. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.35.7 Testing Requirements

a. *General*. Except as specified in 40 CFR 63.1257(a)(5), the procedures specified in 40 CFR 63.1257(d) and (f) are required to demonstrate initial compliance with 40 CFR 63.1254 and 63.1252(e), respectively. The provisions in 40 CFR 63.1257(a)(2) apply to performance tests that are specified in 40 CFR 63.1257(d). The provisions in 40 CFR 63.1257(a)(5) are used to demonstrate initial compliance with the alternative standards specified in 40 CFR 63.1254(c). The provisions in 40 CFR 63.1257(a)(6) are used to comply with the outlet concentration requirements specified in 40 CFR 63.1254(a)(2)(i) and (a)(3)(ii)(B) [40 CFR 63.1257(a)].

b. *Test methods*. When testing is conducted to measure emissions from an affected source, the test methods specified in 40 CFR 63.1257(b)(1) through (10) shall be used [40 CFR 63.1257(b)].

c. Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.35.4(f) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in 35 IAC 218.105(f)(1) [35 IAC 218.487].

7.35.8 Monitoring Requirements

a. The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard as specified in 40 CFR 63.1258. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish the operating parameter level [40 CFR 63.1258(a)].

b. *Monitoring for control devices*.

i. *Parameters to monitor*. Except as specified in 40 CFR 63.1258(b)(1)(i), for each control device, the owner or operator shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4 of 40 CFR 63 Subpart GGG and in 40 CFR 63.1258(b)(1)(ii) through (xi) [40 CFR 63.1258(b)(1)].

ii. *Averaging periods*. Averaging periods for parametric monitoring levels shall be established according to 40 CFR 63.1258(b)(2)(i) through (iii) [40 CFR 63.1258(b)(2)].

iii. *Monitoring for the alternative standards*. For control devices that are used to comply with the provisions of 40 CFR 63.1254(c), the owner or operator shall monitor and record the outlet TOC concentration and the outlet hydrogen halide and halogen concentration every 15 minutes during the period in which the device is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG. A TOC monitor meeting the requirements of Performance Specification 8 or 9 of appendix B of 40 CFR Part 60 shall be installed, calibrated, and maintained, according to 40 CFR 63.8. The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens [40 CFR 63.1258(b)(5)].

iv. *Exceedances of operating parameters*. Pursuant to 40 CFR 63.1258(b)(6), an exceedance of an operating parameter is defined as one of the following:

A. If the parameter, averaged over the operating day or block, is below a minimum value established during the initial compliance demonstration [40 CFR 63.1258 (b)(6)(i)].

B. If the parameter, averaged over the operating day or block, is above the maximum value established during the initial compliance demonstration [40 CFR 63.1258(b)(6)(ii)].

C. Each loss of pilot flame for flares [40 CFR 63.1258(b)(6)(iii)].

v. *Excursions*. Pursuant to 40 CFR 63.1258(b)(7), excursions are defined by either of the two cases listed in Conditions 7.35.8(b)(v)(A) or (B) (see also 40 CFR 63.1258(b)(7)(i) or (ii)).

A. When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in Condition 7.35.8 (b)(v)(C) (see also 40 CFR 63.1258 (b)(7)(iii)), for at least 75 percent of the operating hours [40 CFR 63.1258 (b)(7)(i)].

B. When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data [40 CFR 63.1258(b)(7)(ii)].

C. Monitoring data are insufficient to constitute a valid hour of data, as used in Conditions 7.35.8(b)(v)(A) and (B) (see also 40 CFR 63.1258(b)(7)(i) and (ii)), if measured values are unavailable for any of the required 15-minute periods within the hour [40 CFR 63.1258(b)(7)(iii)].

vi. *Violations*. Pursuant to 40 CFR 63.1258(b)(8), exceedances of parameters monitored according to the provisions of 40 CFR 63.1258(b)(1)(ii) and (iv) through (ix) or excursions as defined by Conditions 7.35.8(b)(v)(A) through (C) (see also 40 CFR 63.1258(b)(7)(i) through (iii)) constitute violations of the operating limit according to Conditions 7.35.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of 40 CFR 63.1258(b)(1)(x) constitute violations of the emission limit according to Conditions 7.35.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of Condition 7.35.8(b)(iii) (see also 40 CFR 63.1258 (b)(5)) constitute violations of the emission limit according to the provisions of Conditions 7.35.8(b)(vi)(C) and (D) (see also 40 CFR 63.1258 (b)(8)(iii) and (iv)).

A. Except as provided in Condition 7.35.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process [40 CFR 63.1258(b)(8)(i)].

B. Except as provided in Condition 7.35.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device, for each process for which the control device is in service [40 CFR 63.1258(b)(8)(ii)].

C. Except as provided in Condition 7.35.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device. Except as provided in Condition 7.35.8(b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv

hydrogen halide or halogen outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device [40 CFR 63.1258 (b)(8)(iii)].

D. Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur during a startup, shutdown, or malfunction, and the facility follows its startup, shutdown, and malfunction plan [40 CFR 63.1258 (b)(8)(iv)].

c. *Monitoring for emission limits*. The owner or operator of any affected source complying with the provisions of 40 CFR 63.1254(a)(1) shall demonstrate continuous compliance with the 2,000 lb/yr emission limits by calculating daily a 365-day rolling summation of emissions. For owners and operators opting to switch compliance strategy from the 93 percent control requirement to the 2,000 lb/yr compliance method, as described in 40 CFR 63.1254(a), the rolling average must include emissions from the past 365 days. Each day that the total emissions per process exceeds 2,000 lb/yr will be considered a violation of the emission limit [40 CFR 63.1258(c)].

7.35.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected tank to demonstrate compliance with Conditions 5.5.1, 7.35.3, 7.35.4(f), and 7.35.6, pursuant to Section 39.5(7)(b) of the Act:

a. *Records of equipment operation*. Pursuant to 40 CFR 63.1259(b), the owner or operator must keep the following records up-to-date and readily accessible:

i. Each measurement of a control device operating parameter monitored in accordance with Condition 7.35.8 (see also 40 CFR 63.1258) [40 CFR 63.1259 (b)(1)].

ii. For each continuous monitoring system used to comply with 40 CFR 63 Subpart GGG, records documenting the completion of calibration checks and maintenance of continuous monitoring systems [40 CFR 63.1259(b)(3)].

iii. Pursuant to 40 CFR 63.1259(a)(5), records of the following, as appropriate:

A. The number of batches per year for each batch process [40 CFR 63.1259(a)(5)(i)].

B. The operating hours per year for continuous processes [40 CFR 63.1259 (a)(5)(ii)].

iv. Uncontrolled and controlled emissions per batch for each process [40 CFR 63.1259(b)(6)].

v. Wastewater concentration per POD or process [40 CFR 63.1259(b)(7)].

vi. Number of storage tank turnovers per year, if used in an emissions average [40 CFR 63.1259(b)(8)].

vii. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].

viii. Description of worst-case operating conditions as determined using the procedures described in 40 CFR 63.1257(b)(8) for control devices [40 CFR 63.1259(b)(10)].

b. *Records of operating scenarios*. The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with 40 CFR 63 Subpart GGG [40 CFR 63.1259(c)].

c. The owner or operator of each storage vessel for which construction, reconstruction, or modification is commenced after July 23, 1984 with a design capacity greater than or equal to 40 m^3, but less than 75 m^3 shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Each storage vessel with a design capacity less than 75 m^3 is subject to no other provision of 40 CFR 60 Subpart Kb other than those required by this paragraph. This record shall be kept for the life of the source [40 CFR 60.110b(a), 60.116b(a), and 60.116b(b)].

d. Records of the testing of the affected tank pursuant to Condition 7.35.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

e. The owner or operator of each storage vessel shall maintain readily accessible records of the dimension of the storage vessel and an analysis of the capacity of the storage vessel [35 IAC 218.129(f)];

f. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.35.4(f) (see also 35 IAC 218.480(a)), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.35.4(f) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.35.4(f) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

g. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

h. Records addressing use of good operating practices for the conservation vent:

i. Records for periodic inspection of the conservation vent with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

i. Identification of the material stored in the affected tank;

j. The throughput of the affected tank, gal/mo and gal/yr; and

k. The monthly and aggregate annual VOM and HAP emissions from the affected tank based on the material stored, the tank throughput, and the applicable emission factors and formulas with supporting calculations.

7.35.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected tank with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. *Periodic reports*. Pursuant to 40 CFR 63.1260(g), an owner or operator shall prepare Periodic reports in accordance with Conditions 7.35.10(a)(i) and (ii) (see also 40 CFR 63.1260(g)(1) and (2)) and submit them to the Illinois EPA and/or USEPA.

i. *Submittal schedule*. Pursuant to 40 CFR 63.1260 (g)(1), Except as provided in Conditions 7.35.10 (a)(i)(A), (B), and (C) (see also 40 CFR 63.1260 (g)(1)(i), (ii) and (iii)), an owner or operator shall submit Periodic reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due.

A. When the Illinois EPA and/or USEPA determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source [40 CFR 63.1260 (g)(1)(i)]; or

B. When the monitoring data are used directly for compliance determination and

the source experience excess emissions, in which case quarterly reports shall be submitted. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in 40 CFR 63.10(e)(3)(ii) and (iii) shall apply, except that the term "excess emissions and continuous monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of Condition 7.35.10 (see also 40 CFR 63.1260) [40 CFR 63.1260(g)(1)(ii)].

C. When a new operating scenario has been operated since the last report, in which case quarterly reports shall be submitted [40 CFR 63.1260(g)(1)(iii)].

ii. *Content of Periodic report*. Pursuant to 40 CFR 63.1260(g)(2), the owner or operator shall include the information in Conditions 7.35.10 (a)(ii)(A) through (D) (see also 40 CFR 63.1260 (g)(2)(i) through (vii)), as applicable.

A. Each Periodic report must include the information in 40 CFR 63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the information in 40 CFR 63.10(e)(3)(vi)(J) [40 CFR 63.1260(g)(2)(i)].

B. Pursuant to 40 CFR 63.1260(g)(2)(ii), if the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in Conditions 7.35.10(a)(ii)(B)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(ii)(A) through (D)).

I. Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(A)].

II. Duration of excursions, as defined in Condition 7.35.8(b)(v) (see also 40 CFR 63.1258(b)(7)) [40 CFR 63.1260(g)(2)(ii)(B)].

III. Operating logs and operating scenarios for all operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(C)].

IV. When a continuous monitoring system is used, the information required in 40 CFR 63.10(c)(5) through (13) [40 CFR 63.1260(g)(2)(ii)(D)].

C. Pursuant to 40 CFR 63.1260(g)(2)(v), the information in Conditions 7.35.10 (a)(ii)(C)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(v)(A) through (D)) shall be stated in the Periodic report, when applicable.

I. No excess emissions [40 CFR 63.1260 (g)(2)(v)(A)].

II. No exceedances of a parameter [40 CFR 63.1260(g)(2)(v)(B)].

III. No excursions [40 CFR 63.1260 (g)(2)(v)(C)].

IV. No continuous monitoring system has been inoperative, out of control, repaired, or adjusted [40 CFR 63.1260(g)(2)(v)(D)].

D. Each new operating scenario which has been operated since the time period covered by the last Periodic report. For the initial Periodic report, each

operating scenario for each process operated since the compliance date shall be submitted [40 CFR 63.1260(g)(2)(vii)].

b. *Notification of process change*.

i. Pursuant to 40 CFR 63.1260(h)(1), except as specified in Condition 7.35.10(b)(ii) (see also 40 CFR 63.1260(h)(2)), whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report quarterly. The report may be submitted as part of the next Periodic report required under Condition 7.35.10(a) (see also 40 CFR 63.1260(g)). The report shall include:

A. A brief description of the process change [40 CFR 63.1260(h)(1)(i)].

B. A description of any modifications to standard procedures or quality assurance procedures [40 CFR 63.1260(h)(1)(ii)].

C. Revisions to any of the information reported in the original Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) [40 CFR 63.1260(h)(1)(iii)].

D. Information required by the Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) for changes involving the addition of processes or equipment [40 CFR 63.1260(h)(1)(iv)].

ii. Pursuant to 40 CFR 63.1260(h)(2), an owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

A. Any change in the activity covered by the Precompliance report [40 CFR 63.1260 (h)(2)(i)].

B. A change in the status of a control device from small to large [40 CFR 63.1260 (h)(2)(ii)].

c. *Reports of startup, shutdown, and malfunction*. For the purposes of 40 CFR 63 Subpart GGG, the startup, shutdown, and malfunction reports shall be submitted

on the same schedule as the periodic reports required under Condition 7.35.10(a) (see also 40 CFR 63.1260(g)) instead of the schedule specified in 40 CFR 63.10 (d)(5)(i). These reports shall include the information specified in Condition 5.6.2(n)(iii)(A) through (C) (see also 40 CFR 63.1259(a)(3)(i) through (iii)) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in 40 CFR 63.10 (d)(4)(ii) [40 CFR 63.1260(i)].

d. *Notification of performance test and test plan.* The owner or operator of an affected source shall notify the Illinois EPA and/or USEPA of the planned date of a performance test at least 60 days before the test in accordance with 40 CFR 63.7(b). The owner or operator also must submit the test plan required by 40 CFR 63.7(c) and the emission profile required by 40 CFR 63.1257(b)(8)(ii) with the notification of the performance test [40 CFR 63.1260(l)].

e. *Request for extension of compliance.* An owner or operator may submit to the Illinois EPA and/or USEPA a request for an extension of compliance in accordance with 40 CFR 63.1250(f)(4) [40 CFR 63.1260(m)].

f. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.35.4(f) (see also 35 IAC 218.480(a)) the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.35.4(f) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

g. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

h. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.35.4(f) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.35.4(f) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

i. The storage of any VOL or VPL other than the materials specified in Condition 7.35.5(d) for the affected tank within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

j. Emissions of VOM in excess of the limitations in Conditions 7.35.3 and/or 7.35.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.35.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.35.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.35.9 and the emission factors and formulas listed below:

For the purpose of estimating VOM emissions from the affected tank to determine compliance with Conditions 5.5.1, 7.35.3, 7.35.4(f), and 7.35.6, Version 3.1 of the TANKS program is acceptable.

7.36 RESERVED

7.37 Units FJ-5549 Hospital Products Division Building M3B Rotary Evaporator
Control FJ-5549 Condenser

7.37.1 Description

The source's Hospital Products Division (HPD) manufactures large volume and small volume parenteral drugs for use in the hospital setting. These products are typically intravenously injected into the body. HPD facilities are located in Building M3B with quality assurance and developmental laboratories located in Buildings R1, R1A, and R1B. Building M3B has six floors with production operations located on the first, third, and fifth floors. HPD is the major tenant of Building M3B and shares space with the Chemical and Agricultural Products Division (CAPD) and Pharmaceutical Products Division (PPD). The third floor houses the Survanta manufacturing process. This product is primarily used as a pulmonary surfactant for premature infants. The process uses a series of roto-evaporation operations to replace a chloroform/methanol mixture with water. The chloroform/methanol mixture contains Bovine Lung Lipids and is prepared by the Chemical and Agricultural Products Division (CAPD) for HPD. The first step in the process involves the evaporation of chloroform/methanol. Ethanol is added to the evaporatory flask and a second evaporation is completed. Water is then added to the mixture and the final evaporation is completed. The rotovap is cleaned by evaporating a chloroform/methanol mixture.

7.37.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
FJ-5549 M3B	Rotary Evaporator	None

7.37.3 Applicability Provisions and Applicable Regulations

a. The Survanta Rotary Evaporator is an "affected evaporator" for the purpose of these unit-specific conditions.

b. The affected evaporator is subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1254(a) for Process Vents at Existing Sources. The Illinois EPA is administering the NESHAP in Illinois on behalf of the USEPA under a delegation agreement. Pursuant to 40 CFR 63.1250(f)(1), an owner or operator of an existing affected source must comply with the provisions of 40 CFR 63 Subpart GGG within 3 years after September 21, 1998.

c. The affected evaporator is subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.37.3 (c)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

ii. Pursuant to 35 IAC 218.302, emissions of organic material in excess of those permitted by Condition 7.37.3(c)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by one of the following methods:

A. A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)]; or

B. Any other air pollution control equipment approved by the Illinois EPA and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere [35 IAC 218.302(c)].

7.37.4 Non-Applicability of Regulations of Concern

a. The affected evaporator is not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

b. The affected evaporator is not subject to the control requirements of 35 IAC 218.501, Control Requirements for Batch Operations, pursuant to 35 IAC 218.501 (b)(2), which excludes any emission unit included within the category specified in 35 IAC 218 Subpart T.

7.37.5 Operational and Production Limits and Work Practices

a. The owner or operator shall install covers on all in-process tanks used to manufacture pharmaceuticals and containing a VOL at any time. These covers must remain closed, except as production, sampling, maintenance or inspection procedures require operator access [35 IAC 218.484].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The Permittee shall follow good operating practices for the condenser including periodic inspection, routine maintenance and prompt repair of defects.

7.37.6 Emission Limitations

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.37.7 Testing Requirements

a. *General*. Except as specified in 40 CFR 63.1257(a)(5), the procedures specified in 40 CFR 63.1257(d) and (f) are required to demonstrate initial compliance with 40 CFR 63.1254 and 63.1252(e), respectively. The provisions in 40 CFR 63.1257(a)(2) apply to performance tests that are specified in 40 CFR 63.1257(d). The provisions in 40 CFR 63.1257(a)(5) are used to demonstrate initial compliance with the alternative standards specified in 40 CFR 63.1254(c). The provisions in 40 CFR 63.1257(a)(6) are used to comply with the outlet concentration requirements specified in 40 CFR 63.1254(a)(2)(i) and (a)(3)(ii)(B) [40 CFR 63.1257(a)].

b. *Test methods*. When testing is conducted to measure emissions from an affected source, the test methods specified in 40 CFR 63.1257(b)(1) through (10) shall be used [40 CFR 63.1257(b)].

c. Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.37.4(a) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in Condition 7.37.7 (d)(i)(A) (see also 35 IAC 218.105(f)(1)) [35 IAC 218.487].

d. Pursuant to 35 IAC 218.105(d)(1) and Section 39.5(7)(b) of the Act, the control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified below (see also 35 IAC 218.105(f)):

i. Volatile Organic Material Gas Phase Source Test Methods The methods in 40 CFR Part 60, Appendix A, delineated below shall be used to determine control device efficiencies [35 IAC 218.105(f)].

A. CFR Part 60, Appendix A, Method 18, 25 or 25A, as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. The test shall consist of three separate runs, each lasting a minimum of 60 min, unless the Illinois EPA and the USEPA determine that process variables dictate shorter sampling times [35 IAC 218.105(f)(1)].

B. 40 CFR Part 60, Appendix A, Method 1 or 1A shall be used for sample and velocity traverses [35 IAC 218.105(f)(2)].

C. 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D shall be used for velocity and volumetric flow rates [35 IAC 218.105(f)(3)].

D. 40 CFR Part 60, Appendix A, Method 3 shall be used for gas analysis [35 IAC 218.105(f)(4)].

E. 40 CFR Part 60, Appendix A, Method 4 shall be used for stack gas moisture [35 IAC 218.105(f)(5)].

F. 40 CFR Part 60, Appendix A, Methods 2, 2A, 2C, 2D, 3 and 4 shall be performed, as applicable, at least twice during each test run [35 IAC 218.105(f)(6)].

G. Use of an adaptation to any of the test methods specified in Conditions 7.37.7 (d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) may not be used unless approved by the Illinois EPA and the USEPA on a case by case basis. An owner or operator must submit sufficient documentation for the Illinois EPA and the USEPA to find that the test methods specified in Conditions 7.37.7(d)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) will yield inaccurate results and that the proposed adaptation is appropriate [35 IAC 218.105(f)(7)].

ii. Notwithstanding other requirements of 35 IAC Part 218, upon request of the Illinois EPA where it is necessary to demonstrate compliance, an owner or operator of an emission unit which is subject to 35 IAC Part 218 shall, at his own expense, conduct tests in accordance with the applicable test methods and procedures specific in 35 IAC Part 218. Nothing in this Condition (see also 35 IAC 218.105) shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing [35 IAC 218.105(i)].

7.37.8 Monitoring Requirements

a. The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard as specified in 40 CFR 63.1258. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations,

or information from the evaluation of the control device design shall be used to establish the operating parameter level [40 CFR 63.1258(a)].

b. *Monitoring for control devices*.

i. *Parameters to monitor*. Except as specified in 40 CFR 63.1258(b)(1)(i), for each control device, the owner or operator shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4 of 40 CFR 63 Subpart GGG and in 40 CFR 63.1258(b)(1)(ii) through (xi) [40 CFR 63.1258(b)(1)].

ii. *Averaging periods*. Averaging periods for parametric monitoring levels shall be established according to 40 CFR 63.1258(b)(2)(i) through (iii) [40 CFR 63.1258(b)(2)].

iii. *Monitoring for the alternative standards*. For control devices that are used to comply with the provisions of 40 CFR 63.1254(c), the owner or operator shall monitor and record the outlet TOC concentration and the outlet hydrogen halide and halogen concentration every 15 minutes during the period in which the device is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG. A TOC monitor meeting the requirements of Performance Specification 8 or 9 of appendix B of 40 CFR Part 60 shall be installed, calibrated, and maintained, according to 40 CFR 63.8. The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens [40 CFR 63.1258(b)(5)].

iv. *Exceedances of operating parameters*. Pursuant to 40 CFR 63.1258(b)(6), an exceedance of an operating parameter is defined as one of the following:

A. If the parameter, averaged over the operating day or block, is below a minimum value established during the initial compliance demonstration [40 CFR 63.1258 (b)(6)(i)].

B. If the parameter, averaged over the operating day or block, is above the maximum value established during the initial compliance demonstration [40 CFR 63.1258(b)(6)(ii)].

C. Each loss of pilot flame for flares [40 CFR 63.1258(b)(6)(iii)].

v. *Excursions*. Pursuant to 40 CFR 63.1258(b)(7), excursions are defined by either of the two cases listed in Conditions 7.37.8(b)(v)(A) or (B) (see also 40 CFR 63.1258(b)(7)(i) or (ii)).

A. When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in Condition 7.37.8 (b)(v)(C) (see also 40 CFR 63.1258 (b)(7)(iii)), for at least 75 percent of the operating hours [40 CFR 63.1258 (b)(7)(i)].

B. When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data [40 CFR 63.1258(b)(7)(ii)].

C. Monitoring data are insufficient to constitute a valid hour of data, as used in Conditions 7.37.8(b)(v)(A) and (B) (see also 40 CFR 63.1258(b)(7)(i) and (ii)), if measured values are unavailable for any of the required 15-minute periods within the hour [40 CFR 63.1258(b)(7)(iii)].

vi. *Violations*. Pursuant to 40 CFR 63.1258(b)(8), exceedances of parameters monitored according to the provisions of 40 CFR 63.1258(b)(1)(ii) and (iv) through (ix) or excursions as defined by Conditions 7.37.8(b)(v)(A) through (C) (see also 40 CFR 63.1258(b)(7)(i) through (iii)) constitute violations of the operating limit according to Conditions 7.37.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of 40 CFR 63.1258(b)(1)(x)

constitute violations of the emission limit according to Conditions 7.37.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of Condition 7.37.8(b)(iii) (see also 40 CFR 63.1258(b)(5)) constitute violations of the emission limit according to the provisions of Conditions 7.37.8(b)(vi)(C) and (D) (see also 40 CFR 63.1258(b)(8)(iii) and (iv)).

A. Except as provided in Condition 7.37.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process [40 CFR 63.1258(b)(8)(i)].

B. Except as provided in Condition 7.37.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device, for each process for which the control device is in service [40 CFR 63.1258(b)(8)(ii)].

C. Except as provided in Condition 7.37.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device. Except as provided in Condition 7.37.8(b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv hydrogen halide or halogen outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device [40 CFR 63.1258 (b)(8)(iii)].

D. Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur during a startup, shutdown, or malfunction, and the

facility follows its startup, shutdown, and malfunction plan [40 CFR 63.1258 (b)(8)(iv)].

c. *Monitoring for emission limits*. The owner or operator of any affected source complying with the provisions of 40 CFR 63.1254(a)(1) shall demonstrate continuous compliance with the 2,000 lb/yr emission limits by calculating daily a 365-day rolling summation of emissions. For owners and operators opting to switch compliance strategy from the 93 percent control requirement to the 2,000 lb/yr compliance method, as described in 40 CFR 63.1254(a), the rolling average must include emissions from the past 365 days. Each day that the total emissions per process exceeds 2,000 lb/yr will be considered a violation of the emission limit [40 CFR 63.1258(c)].

7.37.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected evaporator to demonstrate compliance with Conditions 5.5.1, 7.37.3, and 7.37.4(a), pursuant to Section 39.5(7)(b) of the Act:

a. *Records of equipment operation*. Pursuant to 40 CFR 63.1259(b), the owner or operator must keep the following records up-to-date and readily accessible:

i. Each measurement of a control device operating parameter monitored in accordance with Condition 7.37.8 (see also 40 CFR 63.1258) [40 CFR 63.1259 (b)(1)].

ii. For each continuous monitoring system used to comply with 40 CFR 63 Subpart GGG, records documenting the completion of calibration checks and maintenance of continuous monitoring systems [40 CFR 63.1259(b)(3)].

iii. For processes in compliance with the 2,000 lb/yr emission limit of 40 CFR 63.1254(a)(1), records of the rolling annual total emissions [40 CFR 63.1259(b)(4)].

iv. Pursuant to 40 CFR 63.1259(a)(5), records of the following, as appropriate:

A. The number of batches per year for each batch process [40 CFR 63.1259(a)(5)(i)].

B. The operating hours per year for continuous processes [40 CFR 63.1259 (a)(5)(ii)].

v. Uncontrolled and controlled emissions per batch for each process [40 CFR 63.1259(b)(6)].

vi. Wastewater concentration per POD or process [40 CFR 63.1259(b)(7)].

vii. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].

viii. Description of worst-case operating conditions as determined using the procedures described in 40 CFR 63.1257(b)(8) for control devices [40 CFR 63.1259(b)(10)].

b. *Records of operating scenarios*. The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with 40 CFR 63 Subpart GGG [40 CFR 63.1259(c)].

c. Records of the testing of the efficiency of each capture system and control device pursuant to Condition 7.37.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

d. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.37.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

e. Pursuant to 35 IAC 218.489(c), the following records shall be kept for emission units subject to Condition 7.37.5(a) (see also 35 IAC 218.484) which contain VOL:

i. For maintenance and inspection:

A. The date and time each cover is opened [35 IAC 218.489(c)(1)(A)];

B. The length of time the cover remains open [35 IAC 218.489(c)(1)(B)]; and

C. The reason why the cover is opened [35 IAC 218.489(c)(1)(C)].

ii. For production and sampling, detailed written procedures or manufacturing directions specifying the circumstances under which covers may be opened and the procedures for opening covers [35 IAC 218.489(c)(2)].

f. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.37.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.37.4(a) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.37.4(a) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

g. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

h. Records addressing use of good operating practices for the condenser:

i. Records for periodic inspection of the condenser with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

i. Types and quantities of raw materials, excluding water, used for the affected evaporator, lb/batch, lb/mo, and ton/yr;

j. The operating schedule of the affected evaporator or number of hours the affected evaporator has been operated; and

k. The monthly and aggregate annual VOM emissions from the affected evaporator based on the material and solvent usage and air pollution control equipment efficiencies, with supporting calculations.

7.37.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected evaporator with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. *Periodic reports*. Pursuant to 40 CFR 63.1260(g), an owner or operator shall prepare Periodic reports in accordance with Conditions 7.37.10(a)(i) and (ii) (see also 40 CFR 63.1260(g)(1) and (2)) and submit them to the Illinois EPA and/or USEPA.

i. *Submittal schedule*. Pursuant to 40 CFR 63.1260 (g)(1), Except as provided in Conditions 7.37.10 (a)(i)(A), (B), and (C) (see also 40 CFR 63.1260 (g)(1)(i), (ii) and (iii)), an owner or operator shall submit Periodic reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status is

due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due.

A. When the Illinois EPA and/or USEPA determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source [40 CFR 63.1260 (g)(1)(i)]; or

B. When the monitoring data are used directly for compliance determination and the source experience excess emissions, in which case quarterly reports shall be submitted. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in 40 CFR 63.10(e)(3)(ii) and (iii) shall apply, except that the term "excess emissions and continuous monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of Condition 7.37.10 (see also 40 CFR 63.1260) [40 CFR 63.1260(g)(1)(ii)].

C. When a new operating scenario has been operated since the last report, in which case quarterly reports shall be submitted [40 CFR 63.1260(g)(1)(iii)].

ii. *Content of Periodic report*. Pursuant to 40 CFR 63.1260(g)(2), the owner or operator shall include the information in Conditions 7.37.10 (a)(ii)(A) through (D) (see also 40 CFR 63.1260 (g)(2)(i) through (vii)), as applicable.

A. Each Periodic report must include the information in 40 CFR 63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the information in 40 CFR 63.10(e)(3)(vi)(J) [40 CFR 63.1260(g)(2)(i)].

B. Pursuant to 40 CFR 63.1260(g)(2)(ii), if the total duration of excess emissions, parameter exceedances, or excursions for

the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in Conditions 7.37.10(a)(ii)(B)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(ii)(A) through (D)).

I. Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(A)].

II. Duration of excursions, as defined in Condition 7.37.8(b)(v) (see also 40 CFR 63.1258(b)(7)) [40 CFR 63.1260(g)(2)(ii)(B)].

III. Operating logs and operating scenarios for all operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(C)].

IV. When a continuous monitoring system is used, the information required in 40 CFR 63.10(c)(5) through (13) [40 CFR 63.1260(g)(2)(ii)(D)].

C. Pursuant to 40 CFR 63.1260(g)(2)(v), the information in Conditions 7.37.10 (a)(ii)(C)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(v)(A) through (D)) shall be stated in the Periodic report, when applicable.

I. No excess emissions [40 CFR 63.1260 (g)(2)(v)(A)].

II. No exceedances of a parameter [40 CFR 63.1260(g)(2)(v)(B)].

III. No excursions [40 CFR 63.1260 (g)(2)(v)(C)].

IV. No continuous monitoring system has been inoperative, out of control, repaired, or adjusted [40 CFR 63.1260(g)(2)(v)(D)].

D. Each new operating scenario which has been operated since the time period covered by the last Periodic report. For the initial Periodic report, each operating scenario for each process operated since the compliance date shall be submitted [40 CFR 63.1260(g)(2)(vii)].

b. *Notification of process change*.

i. Pursuant to 40 CFR 63.1260(h)(1), except as specified in Condition 7.37.10(b)(ii) (see also 40 CFR 63.1260(h)(2)), whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report quarterly. The report may be submitted as part of the next Periodic report required under Condition 7.37.10(a) (see also 40 CFR 63.1260(g)). The report shall include:

A. A brief description of the process change [40 CFR 63.1260(h)(1)(i)].

B. A description of any modifications to standard procedures or quality assurance procedures [40 CFR 63.1260(h)(1)(ii)].

C. Revisions to any of the information reported in the original Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) [40 CFR 63.1260(h)(1)(iii)].

D. Information required by the Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) for changes involving the addition of processes or equipment [40 CFR 63.1260(h)(1)(iv)].

ii. Pursuant to 40 CFR 63.1260(h)(2), an owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

A. Any change in the activity covered by the Precompliance report [40 CFR 63.1260 (h)(2)(i)].

B. A change in the status of a control device from small to large [40 CFR 63.1260 (h)(2)(ii)].

c. *Reports of startup, shutdown, and malfunction*. For the purposes of 40 CFR 63 Subpart GGG, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the periodic reports required under Condition 7.37.10(a) (see also 40 CFR 63.1260(g)) instead of the schedule specified in 40 CFR 63.10(d)(5)(i). These reports shall include the information specified in Condition 5.6.2(n)(iii)(A) through (C) (see also 40 CFR 63.1259(a)(3)(i) through (iii)) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in 40 CFR 63.10(d)(4)(ii) [40 CFR 63.1260(i)].

d. *Notification of performance test and test plan*. The owner or operator of an affected source shall notify the Illinois EPA and/or USEPA of the planned date of a performance test at least 60 days before the test in accordance with 40 CFR 63.7(b). The owner or operator also must submit the test plan required by 40 CFR 63.7(c) and the emission profile required by 40 CFR 63.1257(b)(8)(ii) with the notification of the performance test [40 CFR 63.1260(l)].

e. *Request for extension of compliance*. An owner or operator may submit to the Illinois EPA and/or USEPA a request for an extension of compliance in accordance with 40 CFR 63.1250(f)(4) [40 CFR 63.1260(m)].

f. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

g. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.37.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.37.4(a) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

h. Emissions of VOM in excess of the limits in Condition 7.37.3(c) based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.37.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.37.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.37.9 and the emission factors and formulas listed below:

a. Determinations of daily and annual emissions for purposes of Condition 7.37.4(a) (see also 35 IAC 218.480) shall be made using both data on the hourly emission rate (or the emissions per unit of throughput) and appropriate daily and annual data from records of emission unit operation (or material throughput or material consumption data). In the absence of representative test data pursuant to Condition 7.37.7(c) (see also 35 IAC 218.487) for the hourly emission rate (or the emissions per unit of throughput) such items shall be calculated using engineering calculations, including the methods described in Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/2-78-029). This Condition shall not affect the Illinois EPA's or the USEPA's authority to require emission tests to be performed pursuant to Condition 7.37.7(c) (see also 35 IAC 218.487)) [35 IAC 218.480(h)].

b. Compliance with Conditions 7.37.3(c) is assumed by proper operation of the condenser as addressed by Condition 7.37.5(c).

c. To determine compliance with Conditions 5.5.1 and 7.37.3(c), VOM emissions from the affected chemical manufacturing units calculations based on the

formulas and procedures listed in Appendix B of Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products (EPA-450/2-78-029), USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27717 are acceptable.

7.38 Units TT-16 and TT-20 Boilers #5 and #6
Controls TT-16 and TT-20 Primary and Secondary Fly Ash Collectors

7.38.1 Description

All utilities operations at the source are managed by the Corporate Engineering Division (CED). Some of these operations include the generation of steam and compressed air, for the use in pharmaceutical manufacturing, and the treatment of wastewater.

Pharmaceutical manufacturing at the source requires a large amount of high quality steam to be reliably provided for the carefully controlled heating of pharmaceutical production processes, the sterilization of process equipment and products, and the cleaning of equipment. Fermentation operations require significant amounts of compressed air to ensure microbial populations grow as desired. Brief interruptions, minutes or less, of utilities to the pharmaceutical production operations at the source would cause the complete failure or loss of the particular pharmaceutical product being manufactured at the time.

Boilers No. 5 and 6 are fired with coal and natural gas. Primary and secondary fly ash collectors are used to control emissions of particulate matter.

7.38.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
TT-16	Edmore Iron Works, Inc. Model Class 324-225EMBT Coal/Natural Gas Fired Boiler (Boiler No. 5, 85 mmBtu/hr, Coal; 78 mmBtu/hr Natural Gas)	Primary and Secondary Fly Ash Collectors
TT-20	Lasker Boiler & Engineering Co. Model Class B 35.8 Coal/Natural Gas Fired Boiler (Boiler No. 6, 85 mmBtu/hr, Coal; 78 mmBtu/hr Natural Gas)	Primary and Secondary Fly Ash Collectors

7.38.3 Applicability Provisions and Applicable Regulations

a. Boilers No. 5 and No. 6 are “affected boilers” for the purpose of these unit-specific conditions.

b. Each affected boiler is subject to the emission limits identified in Condition 5.2.2.

c. No person shall cause or allow the emission of carbon monoxide (CO) into the atmosphere from any fuel combustion emission source with actual heat input greater than 2.9 MW (10 mmBtu/hr) to exceed 200 ppm, corrected to 50 percent excess air [35 IAC 216.121].

d. i. No person shall cause or allow the emission of particulate matter into the atmosphere from any fuel combustion emission unit for which construction or modification commenced prior to April 14, 1972, using solid fuel exclusively, located in the Chicago major metropolitan area, to exceed 0.15 kg of particulate matter per MW-hr of actual heat input in any one hour period (0.10 lb/mmBtu/hr) [35 IAC 212.201].

ii. Notwithstanding Condition 7.38.3(d)(i) (see also 35 IAC 212.201), any fuel combustion emission unit for which construction or modification commenced prior to April 14, 1972, using solid fuel exclusively may, in any one hour period, emit up to, but not exceed 0.31 kg/MW-hr (0.20 lb/mmBtu), because as of April 14, 1972, the emission unit had an hourly emission rate based on original design or equipment performance test conditions, whichever is stricter, which was less than 0.31 kg/MW-hr (0.20 lb/mmBtu) of actual heat input, and the emission control of such emission unit is not allowed to degrade more than 0.077 kg/MW-hr (0.05 lb/mmBtu) from such original design or acceptance performance test conditions [35 IAC 212.203(a)].

e. No person shall cause or allow the emission of sulfur dioxide into the atmosphere in any one hour period from any existing fuel combustion source, burning solid fuel exclusively, located in the Chicago, St. Louis (Illinois) or Peoria major metropolitan areas, to exceed 1.8 pounds of sulfur dioxide per mmBtu of actual heat input (774 nanograms per joule) [35 IAC 214.141].

7.38.4 Non-Applicability of Regulations of Concern

a. The NSPS for Small-Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc, applies to units for which construction, modification or reconstruction is commenced after June 9, 1989 and that have a maximum design heat input capacity of 29 MW (100 mmBtu/hr) or less, but greater than or equal to 2.9 MW (10 mmBtu/hr). The

affected boilers were constructed prior to this date, therefore, these rules do not apply.

b. The affected boilers are not subject to 35 IAC 217.151, emissions of nitrogen oxides from existing fuel combustion emission sources in major metropolitan areas, because the actual heat input of is less than 73.2 MW (250 mmBtu/hr).

c. Pursuant to 35 IAC 218.303, fuel combustion emission units are not subject to 35 IAC 218.301, Use Of Organic Material.

7.38.5 Operational and Production Limits and Work Practices

a. Bituminous coal and natural gas shall be the only fuels fired in the affected boilers.

b. Boilers #5 and 6 shall utilize natural gas for no less than the percentage of the heat input at which compliance with 35 Ill. Adm. Code Part 212 was demonstrated in the most recent compliance test, or utilize natural gas for at least 22.8% of the heat input in the absence of a more recent compliance test.

c. The Permittee shall follow good operating practices for the fly ash collectors, including periodic inspection, routine maintenance and prompt repair of defects.

d. The maximum sulfur content of bituminous coal combusted in the affected boilers shall not exceed 1.25 weight percent, so as to demonstrate compliance with the emission limits in Condition 7.38.3(e).

e. Startup Provisions

The Permittee is authorized to operate an affected boiler in violation of the applicable limit of 35 IAC 212.123 during startup pursuant to 35 IAC 201.262, as the Permittee has affirmatively demonstrated that all reasonable efforts have been made to minimize startup emissions, duration of individual starts, and frequency of startups. This authorization is subject to the following:

i. This authorization only extends for a period of up to 2 hours following initial firing of fuel during each startup event.

ii. The Permittee shall take the following measures to minimize startup emissions, the

duration of startups and minimize the frequency of startups:

A. Implementation of established startup procedures, including monitoring of forced air/induced fans for proper combustion;

B. Stopping and starting the coal feed to prevent piling;

C. Closely monitoring of the combustion; and

D. Using natural gas to ignite the coal.

iii. The Permittee shall fulfill applicable recordkeeping requirements of Condition 7.38.9(a).

f. Malfunction and Breakdown Provisions

In the event of a malfunction or breakdown of a fly ash collector, the Permittee is authorized to continue operation of an affected boiler in violation of the applicable requirement of 35 IAC 212.201 or 212.203, as necessary to prevent risk of injury to personnel or severe damage to equipment. This authorization is subject to the following requirements:

i. The Permittee shall repair the damaged feature(s) of the flyash collector or remove the affected boiler from service as soon as practicable. This shall be accomplished within 60 days unless the feature(s) cannot be repaired within 60 days and the affected boiler cannot be removed from service within 60 days, and the Permittee obtains an extension, for up to 30 days, from the Illinois EPA. The request for such an extension must document that fly ash collector is unavailable and specify a schedule of actions the Permittee will take that will assure the feature(s) will be repaired or the affected boiler will be taken out of service as soon as possible.

ii. The Permittee shall fulfill applicable recordkeeping and reporting requirements of Conditions 7.38.9(b) and 7.38.10(a).

7.38.6 Emission Limitations

There are no specific emission limitations for these units, however, there are source wide emission limitations in Condition 5.5 that include these units.

7.38.7 Testing Requirements

a. Pursuant to 35 IAC 212.110 and Section 39.5(7)(b) of the Act, testing for PM emissions shall be performed as follows:

i. Measurement of particulate matter emissions from stationary emission units subject to 35 IAC Part 212 shall be conducted in accordance with 40 CFR part 60, Appendix A, Methods 5, 5A, 5D, or 5E [35 IAC 212.110(a)].

ii. The volumetric flow rate and gas velocity shall be determined in accordance with 40 CFR part 60, Appendix A, Methods 1, 1A, 2, 2A, 2C, 2D, 3, and 4 [35 IAC 212.110(b)].

iii. Upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 IAC Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA [35 IAC 212.110(c)].

b. Upon reasonable request by the Illinois EPA, pursuant to Section 39.5(7)(d) of the Act, measurements of opacity shall be conducted in accordance with Method 9, 40 CFR part 60, Appendix A, and 35 IAC 212.109, so as to demonstrate compliance with the emission limits in Condition 7.38.3(b).

7.38.8 Monitoring Requirements

None

7.38.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected boiler to demonstrate compliance with Conditions 5.5.1, 5.5.3(d), 7.38.3, and 7.38.5, pursuant to Section 39.5(7)(b) of the Act:

a. Records for Startup

The Permittee shall maintain the following records, pursuant to Section 39.5(7)(b) of the Act, for each affected boiler subject to Conditions 5.2.2(b), which at a minimum shall include:

i. The following information for each startup of an affected boiler:

A. Date and duration of the startup, i.e., start time and time normal operation achieved, i.e., the affected boiler reaches its proper firing rate;

B. If normal operation was not achieved within 2 hours, an explanation why startup could not be achieved in 2 hours;

C. A detailed description of the startup, including reason for operation and whether established startup procedures were performed;

D. An explanation why including monitoring of forced air/induced fans for proper combustion, stopping and starting the coal feed to prevent piling, closely monitoring of the combustion, using natural gas to ignite the coal and other established startup procedures could not be performed, if not performed;

E. The nature of opacity, i.e., severity and duration, during the startup and the nature of opacity at the conclusion of startup, if above normal; and

F. Whether exceedance of Condition 5.2.2(b) may have occurred during startup, with explanation and estimated duration (minutes).

ii. A maintenance and repair log for each affected boiler and associated flyash collector, listing each activity performed with date.

b. Records for Malfunctions and Breakdowns of a fly ash collector

The Permittee shall maintain records, pursuant to 35 IAC 201.263, of continued operation of an affected boiler subject to 35 IAC 212.201 or 212.203 during malfunctions and breakdown of the control features of

the fly ash collector, which as a minimum, shall include:

i. Date and duration of malfunction or breakdown;

ii. A detailed explanation of the malfunction or breakdown;

iii. An explanation why the damaged feature(s) could not be immediately repaired or the affected boiler removed from service without risk of injury to personnel or severe damage to equipment;

iv. The measures used to reduce the quantity of emissions and the duration of the event;

v. The steps taken to prevent similar malfunctions or breakdowns or reduce their frequency and severity; and

vi. The amount of release above typical emissions during malfunction/breakdown.

c. Pursuant to 35 IAC 212.110(e) and Section 39.5(7)(e) of the Act, the owner or operator of an emission unit subject 35 IAC Part 212 shall retain records of all tests which are performed. These records shall be retained for at least five (5) years after the date a test is performed and shall include the following:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

d. Records addressing use of good operating practices for the fly ash collectors:

i. Records for periodic inspection of the fly ash collectors with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

e. Bituminous coal consumption, ton/mo and ton/yr;

f. Each proximate analysis that includes the bituminous coal sulfur content (weight percent) as determined from a representative sample on at least a monthly basis;

g. Natural gas fuel usage for the affected boilers, Mft^3/mo and Mft^3/yr;

h. The percentage of the heat input of the affected boilers from natural gas on a monthly basis; and

i. Monthly and annual aggregate CO, NO_x, PM_{10}, SO_2, and VOM emissions from the affected boilers shall be maintained, based on fuel consumption and the applicable emission factors, with supporting calculations.

7.38.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected boiler with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. Reporting of Malfunctions and Breakdowns of Fly Ash Collectors

The Permittee shall provide the following notification and reports to the Illinois EPA, Compliance Section and Regional Field Office, pursuant to 35 IAC 201.263, concerning continued operation of an affected boiler subject to Condition 7.38.3(d) during malfunction or breakdown of the control features of a fly ash collector.

i. The Permittee shall notify the Illinois EPA's regional office by telephone as soon as possible during normal working hours, but no later than three (3) days, upon the occurrence of noncompliance due to malfunction, or breakdown.

ii. Upon achievement of compliance, the Permittee shall give a written follow-up notice to the Illinois EPA, Compliance Section and Regional

Field Office, providing a detailed explanation of the event, an explanation why continued operation of the affected boiler was necessary, the length of time during which operation continued under such conditions, the measures taken by the Permittee to minimize and correct deficiencies with chronology, and when the repairs were completed or when the affected boiler or fly ash collector was taken out of service.

iii. If compliance is not achieved within 5 working days of the occurrence, the Permittee shall submit interim status reports to the Illinois EPA, Compliance Section and Regional Field Office, within 5 days of the occurrence and every 14 days thereafter, until compliance is achieved. These interim reports shall provide a brief explanation of the nature of the malfunction or breakdown, corrective actions accomplished to date, actions anticipated to occur with schedule, and the expected date on which repairs will be complete or the affected boiler will be taken out of service.

b. A person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from Condition 7.38.7(a) (see also 35 IAC 212.110) that will be used [35 IAC 212.110(d)].

c. Operation of an affected boiler combusting coal with a sulfur content in excess of the operational limits specified in Condition 7.38.5(d) within 30 days of such an occurrence.

d. Emissions of CO, NO_x, PM_{10}, SO_2, and/or VOM in excess of the limits specified in Condition 5.5.3(d) based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.38.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.38.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.38.9 and the emission factors and formulas listed below:

a. Compliance with Condition 7.38.3(c) is assumed by the work-practices inherent in operation of coal/natural gas-fired boilers.

b. Compliance with Condition 7.38.3(d) is assumed to be achieved by proper operation of the fly ash collectors, as addressed by Condition 7.38.5(c).

c. Compliance with Condition 7.38.3(e) is assumed to be achieved by operation of the boiler with coal with a sulfur content meeting the specification of Condition 7.38.5(d).

d. Compliance with the emission limits of Conditions 5.5.1 and 5.5.3(d), emissions from the affected boilers shall be calculated based on the following emission factors:

i. To determine compliance with Condition 5.5.1, emissions from the affected boilers burning natural gas shall be calculated based on the following emission factors:

Pollutant	Emission Factor lb/Mft^3
CO	84
NO_x	100
PM_{10}	7.6
SO_2	0.6
VOM	5.5

These are the emission factors for uncontrolled natural gas combustion in small boilers, uncontrolled (< 100 mmBtu/hr), Tables 1.4-1 and 1.4-2, AP-42, Volume I, Fifth Edition, Supplement D, March, 1998.

Boiler Emission (lb) = (Natural Gas Consumed, Mft^3) x (The Appropriate Emission Factor, lb/Mft^3)

ii. To determine compliance with Conditions 5.5.1 and 5.5.3(d), emissions from the affected boilers burning coal shall be calculated based on the following emission factors:

A. Emissions of NO_x and PM_{10}:

Pollutant	Emission Factor lb/ton
NO_x	13.7
PM_{10}	7.8

These are the emission factors for Coal Fired Spreader Stoker Boilers with Multiple Cyclones and No Fly Ash Reinjection (SCC #10100204), Tables 1.1-3 and 1.1-4, AP-42, Volume I, Fifth Edition, Supplement E, September, 1998.

B. Emissions of CO, SO_2, and VOM:

Pollutant	Emission Factor lb/ton
CO	5
SO_2	38 S
VOM	0.05

These are the emission factors for Coal Fired Spreader Stoker Boilers with Multiple Cyclones and No Fly Ash Reinjection (SCC #10100204), Tables 1.1-3 and 1.1-18, AP-42, Volume I, Fifth Edition, Supplement E, September, 1998. S indicates that the weight percent sulfur in the coal should be multiplied by the value given.

Boiler Emissions (lb) = (Coal Combusted, ton) x (The Appropriate Emission Factor, lb/ton)

7.39 Units TT-33 and TT-46 Boilers #7 and #8
Controls TT-33 and TT-46 Flue Gas Recirculation and Primary and Secondary Fly Ash Collectors

7.39.1 Description

All utilities operations at the source are managed by the Corporate Engineering Division (CED). Some of these operations include the generation of steam and compressed air, for the use in pharmaceutical manufacturing, and the treatment of wastewater.

Pharmaceutical manufacturing at the source requires a large amount of high quality steam to be reliably provided for the carefully controlled heating of pharmaceutical production processes, the sterilization of process equipment and products, and the cleaning of equipment. Fermentation operations require significant amounts of compressed air to ensure microbial populations grow as desired. Brief interruptions, minutes or less, of utilities to the pharmaceutical production operations at the source would cause the complete failure or loss of the particular pharmaceutical product being manufactured at the time.

Boilers No. 7 and No. 8 are fired with coal and natural gas. Though of no Btu value, wastewater treatment off gas is used as supplemental combustion air for Boilers No. 7 and No. 8. This gas contains trace amounts of odorous compounds which would create an odor nuisance. Combustion in the boilers is performed to economically treat the large amount of wastewater treatment plant aeration off gas for odor destruction. Flue gas recirculation is used to control emissions of nitrogen oxides and particulate matter. Primary and secondary fly ash collectors are used to control emissions of particulate matter.

7.39.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
TT-33	Lasker Boiler & Engineering Co. Model Class J-32 Coal/Natural Gas Fired Boiler (Boiler No. 7, 138 mmBtu/hr, Coal; 129 mmBtu/hr, Natural Gas)	Flue Gas Recirculation and Primary and Secondary Fly Ash Collectors
TT-46	Lasker Boiler & Engineering Co. Model Class J-32 Coal/Natural Gas Fired Boiler (Boiler No. 8, 138 mmBtu/hr, Coal; 129 mmBtu/hr, Natural Gas)	Flue Gas Recirculation and Primary and Secondary Fly Ash Collectors

7.39.3 Applicability Provisions and Applicable Regulations

a. Boilers No. 7 and No. 8 are "affected boilers" for the purpose of these unit-specific conditions.

b. Each affected boiler is subject to the emission limits identified in Condition 5.2.2.

c. No person shall cause or allow the emission of carbon monoxide (CO) into the atmosphere from any fuel combustion emission source with actual heat input greater than 2.9 MW (10 mmBtu/hr) to exceed 200 ppm, corrected to 50 percent excess air [35 IAC 216.121].

d. i. No person shall cause or allow the emission of particulate matter into the atmosphere from any fuel combustion emission unit for which construction or modification commenced prior to April 14, 1972, using solid fuel exclusively, located in the Chicago major metropolitan area, to exceed 0.15 kg of particulate matter per MW-hr of actual heat input in any one hour period (0.10 lb/mmBtu/hr) [35 IAC 212.201].

ii. Notwithstanding Condition 7.39.3(d)(i) (see also 35 IAC 212.201), any fuel combustion emission unit for which construction or modification commenced prior to April 14, 1972, using solid fuel exclusively may, in any one hour period, emit up to, but not exceed 0.31 kg/MW-hr (0.20 lb/mmBtu), because as of April 14, 1972, the emission unit had an hourly emission rate based on original design or equipment performance test conditions, whichever is stricter, which was less than 0.31 kg/MW-hr (0.20 lb/mmBtu) of actual heat input, and the emission control of such emission unit is not allowed to degrade more than 0.077 kg/MW-hr (0.05 lb/mmBtu) from such original design or acceptance performance test conditions [35 IAC 212.203(a)].

e. No person shall cause or allow the emission of sulfur dioxide into the atmosphere in any one hour period from any existing fuel combustion source, burning solid fuel exclusively, located in the Chicago, St. Louis (Illinois) or Peoria major metropolitan areas, to exceed 1.8 pounds of sulfur dioxide per mmBtu of actual heat input (774 nanograms per joule) [35 IAC 214.141].

7.39.4 Non-Applicability of Regulations of Concern

a. The NSPS for Small-Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60,

Subpart Dc, applies to units for which construction, modification or reconstruction is commenced after June 9, 1989 and that have a maximum design heat input capacity of 29 MW (100 mmBtu/hr) or less, but greater than or equal to 2.9 MW (10 mmBtu/hr). The affected boilers were constructed prior to this date, therefore, these rules do not apply.

b. The affected boilers are not subject to 35 IAC 217.141, emissions of nitrogen oxides from existing fuel combustion emission sources in major metropolitan areas, because the actual heat input of is less than 73.2 MW (250 mmBtu/hr).

c. Pursuant to 35 IAC 218.303, fuel combustion emission units are not subject to 35 IAC 218.301, Use Of Organic Material.

7.39.5 Operational and Production Limits and Work Practices

a. Bituminous coal and natural gas shall be the only fuels fired in the affected boilers.

b. The Permittee shall follow good operating practices for the flue gas recirculation and fly ash collectors, including periodic inspection, routine maintenance and prompt repair of defects.

c. The maximum sulfur content of bituminous coal combusted in the affected boilers shall not exceed 1.25 weight percent, so as to demonstrate compliance with the emission limits in Condition 7.39.3(e).

d. Startup Provisions

The Permittee is authorized to operate an affected boiler in violation of the applicable limit of 35 IAC 212.123 during startup pursuant to 35 IAC 201.262, as the Permittee has affirmatively demonstrated that all reasonable efforts have been made to minimize startup emissions, duration of individual starts, and frequency of startups. This authorization is subject to the following:

i. This authorization only extends for a period of up to 2 hours following initial firing of fuel during each startup event.

ii. The Permittee shall take the following measures to minimize startup emissions, the duration of startups and minimize the frequency of startups:

A. Implementation of established startup procedures, including monitoring of forced air/induced fans for proper combustion;

B. Stopping and starting the coal feed to prevent piling;

C. Closely monitoring of the combustion; and

D. Using natural gas to ignite the coal.

iii. The Permittee shall fulfill applicable recordkeeping requirements of Condition 7.39.9(a).

e. Malfunction and Breakdown Provisions

In the event of a malfunction or breakdown of the flue gas recirculation system or a fly ash collector, the Permittee is authorized to continue operation of an affected boiler in violation of the applicable requirement of 35 IAC 212.201 or 212.203, as necessary to prevent risk of injury to personnel or severe damage to equipment. This authorization is subject to the following requirements:

i. The Permittee shall repair the damaged feature(s) of the flue gas recirculation system or the flyash collector or remove the affected boiler from service as soon as practicable. This shall be accomplished within 60 days unless the feature(s) cannot be repaired within 60 days and the affected boiler cannot be removed from service within 60 days, and the Permittee obtains an extension, for up to 30 days, from the Illinois EPA. The request for such an extension must document that fly ash collector is unavailable and specify a schedule of actions the Permittee will take that will assure the feature(s) will be repaired or the affected boiler will be taken out of service as soon as possible.

ii. The Permittee shall fulfill applicable recordkeeping and reporting requirements of Conditions 7.39.9(b) and 7.39.10(a).

7.39.6 Emission Limitations

There are no specific emission limitations for these units, however, there are source wide emission limitations in Condition 5.5 that include these units.

7.39.7 Testing Requirements

a. Pursuant to 35 IAC 212.110 and Section 39.5(7)(b) of the Act, testing for PM emissions shall be performed as follows:

i. Measurement of particulate matter emissions from stationary emission units subject to 35 IAC Part 212 shall be conducted in accordance with 40 CFR part 60, Appendix A, Methods 5, 5A, 5D, or 5E [35 IAC 212.110(a)].

ii. The volumetric flow rate and gas velocity shall be determined in accordance with 40 CFR part 60, Appendix A, Methods 1, 1A, 2, 2A, 2C, 2D, 3, and 4 [35 IAC 212.110(b)].

iii. Upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 IAC Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA [35 IAC 212.110(c)].

b. Upon reasonable request by the Illinois EPA, pursuant to Section 39.5(7)(d) of the Act, measurements of opacity shall be conducted in accordance with Method 9, 40 CFR part 60, Appendix A, and 35 IAC 212.109, so as to demonstrate compliance with the emission limits in Condition 7.39.3(b).

7.39.8 Monitoring Requirements

None

7.39.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected boiler to demonstrate compliance with Conditions 5.5.1, 5.5.3(d), 7.39.3, and 7.39.5, pursuant to Section 39.5(7)(b) of the Act:

a. Records for Startup

The Permittee shall maintain the following records, pursuant to Section 39.5(7)(b) of the Act, for each

affected boiler subject to Conditions 5.2.2(b), which at a minimum shall include:

i. The following information for each startup of an affected boiler:

A. Date and duration of the startup, i.e., start time and time normal operation achieved, i.e., the affected boiler reaches its proper firing rate;

B. If normal operation was not achieved within 2 hours, an explanation why startup could not be achieved in 2 hours;

C. A detailed description of the startup, including reason for operation and whether established startup procedures were performed;

D. An explanation why including monitoring of forced air/induced fans for proper combustion, stopping and starting the coal feed to prevent piling, closely monitoring of the combustion, using natural gas to ignite the coal and other established startup procedures could not be performed, if not performed;

E. The nature of opacity, i.e., severity and duration, during the startup and the nature of opacity at the conclusion of startup, if above normal; and

F. Whether exceedance of Condition 5.2.2(b) may have occurred during startup, with explanation and estimated duration (minutes).

ii. A maintenance and repair log for each affected boiler and associated flyash collector, listing each activity performed with date.

b. Records for Malfunctions and Breakdowns of a flue gas recirculation system or a fly ash collector

The Permittee shall maintain records, pursuant to 35 IAC 201.263, of continued operation of an affected boiler subject to 35 IAC 212.201 or 212.203 during malfunctions and breakdown of the control features of the flue gas recirculation system or fly ash collector, which as a minimum, shall include:

i. Date and duration of malfunction or breakdown;

ii. A detailed explanation of the malfunction or breakdown;

iii. An explanation why the damaged feature(s) could not be immediately repaired or the affected boiler removed from service without risk of injury to personnel or severe damage to equipment;

iv. The measures used to reduce the quantity of emissions and the duration of the event;

v. The steps taken to prevent similar malfunctions or breakdowns or reduce their frequency and severity; and

vi. The amount of release above typical emissions during malfunction/breakdown.

c. Pursuant to 35 IAC 212.110(e) and Section 39.5(7)(e) of the Act, the owner or operator of an emission unit subject 35 IAC Part 212 shall retain records of all tests which are performed. These records shall be retained for at least five (5) years after the date a test is performed and shall include the following:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

d. Records addressing use of good operating practices for the flue gas recirculation and fly ash collectors:

i. Records for periodic inspection of the flue gas recirculation and fly ash collectors with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect,

effect on emissions, date identified, date repaired, and nature of repair.

e. Bituminous coal consumption, ton/mo and ton/yr;

f. The heat content of the coal combusted in the affected boilers on a monthly basis, % by wt.;

g. Each proximate analysis that includes the bituminous coal sulfur content (weight percent) as determined from a representative sample on at least a monthly basis;

h. Natural gas fuel usage for the affected boilers, Mft^3/mo and Mft^3/yr; and

i. Monthly and annual aggregate CO, NO_x, PM_{10}, SO_2, and VOM emissions from the affected boilers shall be maintained, based on fuel consumption and the applicable emission factors, with supporting calculations.

7.39.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected boiler with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. Reporting of Malfunctions and Breakdowns of Flue Gas Recirculation and/or Fly Ash Collectors

The Permittee shall provide the following notification and reports to the Illinois EPA, Compliance Section and Regional Field Office, pursuant to 35 IAC 201.263, concerning continued operation of an affected boiler subject to Condition 7.39.3(d) during malfunction or breakdown of the control features of the flue gas recirculation system and/or a fly ash collector.

i. The Permittee shall notify the Illinois EPA's regional office by telephone as soon as possible during normal working hours, but no later than three (3) days, upon the occurrence of noncompliance due to malfunction, or breakdown.

ii. Upon achievement of compliance, the Permittee shall give a written follow-up notice to the Illinois EPA, Compliance Section and Regional Field Office, providing a detailed explanation

of the event, an explanation why continued operation of the affected boiler was necessary, the length of time during which operation continued under such conditions, the measures taken by the Permittee to minimize and correct deficiencies with chronology, and when the repairs were completed or when the affected boiler, flue gas recirculation system, or fly ash collector was taken out of service.

iii. If compliance is not achieved within 5 working days of the occurrence, the Permittee shall submit interim status reports to the Illinois EPA, Compliance Section and Regional Field Office, within 5 days of the occurrence and every 14 days thereafter, until compliance is achieved. These interim reports shall provide a brief explanation of the nature of the malfunction or breakdown, corrective actions accomplished to date, actions anticipated to occur with schedule, and the expected date on which repairs will be complete or the affected boiler will be taken out of service.

b. A person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from Condition 7.39.7(a) (see also 35 IAC 212.110) that will be used [35 IAC 212.110(d)].

c. Operation of an affected boiler combusting coal with a sulfur content in excess of the operational limits specified in Condition 7.39.5(c) within 30 days of such an occurrence.

d. Emissions of CO, NO_x, PM_{10}, SO_2, and/or VOM in excess of the limits specified in Condition 5.5.3(d) based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.39.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.39.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.39.9 and the emission factors and formulas listed below:

a. Compliance with Condition 7.39.3(c) is assumed by the work-practices inherent in operation of coal/natural gas-fired boilers.

b. Compliance with Condition 7.39.3(d) is assumed to be achieved by proper operation of the fly ash collectors, as addressed by Condition 7.39.5(c).

c. Compliance with Condition 7.39.3(e) is assumed to be achieved by operation of the boiler with coal with a sulfur content meeting the specification of Condition 7.39.5(d).

d. Compliance with the emission limits of Conditions 5.5.1 and 5.5.3(d), emissions from the affected boilers shall be calculated based on the following emission factors:

i. To determine compliance with Condition 5.5.1, emissions from the affected boilers burning natural gas shall be calculated based on the following emission factors:

Pollutant	Emission Factor lb/Mft^3
CO	84
NO_x	100
PM_{10}	7.6
SO_2	0.6
VOM	5.5

These are the emission factors for uncontrolled natural gas combustion in large wall-fired boilers, controlled-flue gas recirculation (> 100 mmBtu/hr), Tables 1.4-1 and 1.4-2, AP-42, Volume I, Fifth Edition, Supplement D, March, 1998.

Boiler Emission (lb) = (Natural Gas Consumed, Mft^3) x (The Appropriate Emission Factor, lb/Mft^3)

ii. To determine compliance with Conditions 5.5.1 and 5.5.3(d), emissions from the affected boilers burning coal shall be calculated based on the following emission factors:

A. Emissions of NO_x and PM_{10}:

Pollutant	Boiler #7 Emission Factor lb/mmBtu	Boiler #8 Emission Factor lb/mmBtu
NO_x	0.3247	0.4442

PM_{10}	0.107	0.0606

These emission factors are based on the average emissions of three test runs at maximum operating rates conducted on March 31 and May 6, 1999 for Boilers No. 7 and No. 8, respectively.

Boiler Emissions (lb) = (Coal Combusted, ton) x (2,000 lb/ton) x (The Heat Content of Coal, Btu/lb) x (1 mmBtu/1,000,000 Btu) x (The Appropriate Emission Factor*, lb/mmBtu)

B. Emissions of CO, SO_2, and VOM:

Pollutant	Emission Factor lb/ton
CO	5
SO_2	38 S
VOM	0.05

These are the emission factors for Coal Fired Spreader Stoker Boilers with Multiple Cyclones and No Fly Ash Reinjection (SCC #10100204), Tables 1.1-3 and 1.1-18, AP-42, Volume I, Fifth Edition, Supplement E, September, 1998. S indicates that the weight percent sulfur in the coal should be multiplied by the value given.

Boiler Emissions (lb) = (Coal Combusted, ton) x (The Appropriate Emission Factor, lb/ton)

7.40 Unit B9 Waste Heat Boiler (Boiler No. 9)

7.40.1 Description

All utilities operations at the source are managed by the Corporate Engineering Division (CED). Some of these operations include the generation of steam and compressed air, for the use in pharmaceutical manufacturing, and the treatment of wastewater.

Pharmaceutical manufacturing at the source requires a large amount of high quality steam to be reliably provided for the carefully controlled heating of pharmaceutical production processes, the sterilization of process equipment and products, and the cleaning of equipment. Fermentation operations require significant amounts of compressed air to ensure microbial populations grow as desired. Brief interruptions, minutes or less, of utilities to the pharmaceutical production operations at the source would cause the complete failure or loss of the particular pharmaceutical product being manufactured at the time.

Boiler No. 9 is a "waste heat" boiler which uses the thermal energy from the exhaust gases of the gas turbine (Gas Turbine #1) to make steam. This boiler has "duct" burners which are located in the duct between the turbine and the boiler and burn additional fuel to supplement heat input and increase steam production. Boiler No. 9 is fired with natural gas.

7.40.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
B9	Energy Recovery International Model MFA.4.71 Natural Gas Fired Waste Heat Boiler (Boiler No. 9, 75.6 mmBtu/hr)	Low NO_x Burner

7.40.3 Applicability Provisions and Applicable Regulations

a. Boiler No. 9 is an “affected boiler” for the purpose of these unit-specific conditions.

b. Each affected boiler is subject to the emission limits identified in Condition 5.2.2.

c. The affected boiler is subject to the NSPS for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60 Subparts A and Dc, because the affected boiler has a maximum design heat input capacity of 29 MW (100 mmBtu/hr) or less, but greater

than or equal to 2.9 MW (10 mmBtu/hr) and construction, modification, or reconstruction commenced after June 9, 1989.

d. No person shall cause or allow the emission of carbon monoxide (CO) into the atmosphere from any fuel combustion emission unit with actual heat input greater than 2.9 MW (10 mmBtu/hr) to exceed 200 ppm, corrected to 50 percent excess air [35 IAC 216.121].

7.40.4 Non-Applicability of Regulations of Concern

a. The affected boiler is not subject to 35 IAC 217.121, emissions or nitrogen oxides from new fuel combustion emission sources, because the actual heat input of each of these affected boilers is less than 73.2 MW (250 mmBtu/hr).

b. Pursuant to 35 IAC 218.303, fuel combustion emission units are not subject to 35 IAC 218.301, Use Of Organic Material.

7.40.5 Operational and Production Limits and Work Practices

The affected boiler shall only be operated with natural gas as the fuel.

7.40.6 Emission Limitations

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.40.7 Testing Requirements

None

7.40.8 Monitoring Requirements

None

7.40.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected boiler to demonstrate compliance with Conditions 5.5.1, 5.5.3(d), and 7.40.3, pursuant to Section 39.5(7)(b) of the Act:

a. The owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each day [40 CFR 60.48c(g)].

b. Records of the fuel usage for the affected boiler, Mft^3/mo and Mft^3/yr;

c. The heat content of the natural gas used in the affected boiler on a monthly basis, Btu/scf; and

d. Records of the monthly and annual aggregate CO, NO_x, PM_{10}, SO_2, and VOM emissions from the affected boiler shall be maintained, based on fuel consumption and the applicable emission factors, with supporting calculations.

7.40.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected boiler with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. Pursuant to 40 CFR 60.48c, the owner or operator of each affected facility shall submit notification of the date of construction or reconstruction, anticipated startup, and actual startup, as provided by 40 CFR 60.7. This notification shall include:

i. The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility [40 CFR 60.48c(a)(1)].

ii. The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired [40 CFR 60.48(a)(3)].

b. Emissions of CO, NO_x, PM_{10}, SO_2, and/or VOM in excess of the limits specified in Condition 5.5.3(d) based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.40.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.40.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.40.9 and the emission factors and formulas listed below:

a. Compliance with Conditions 7.40.3(b) and (d) is assumed by the work-practices inherent in operation of a natural gas-fired boiler, so that no compliance procedures are set in this permit addressing this regulation.

b. To determine compliance with Conditions 5.5.1 and 5.5.3(d), emissions from the affected boiler shall be calculated based on the following emission factors:

i. Emissions from natural gas combustion from Boiler #9 (operating independently of Gas Turbine #1):

Pollutant	Emission Factor (lb/Mft^3)
CO	84
NO_x	100
PM_{10}	7.6
SO_2	0.6
VOM	5.5

These are the emission factors for uncontrolled natural gas combustion in small boilers, uncontrolled (< 100 mmBtu/hr), Tables 1.4-1 and 1.4-2, AP-42, Volume I, Fifth Edition, Supplement D, March, 1998.

Boiler Emission (lb) = (Natural Gas Consumed, Mft^3) x (The Appropriate Emission Factor, lb/Mft^3)

ii. Emissions from natural gas combustion from Gas Turbine #1 and Waste Heat Boiler (Boiler #9) operating simultaneously:

A. Emissions of CO, NO_x and VOM:

Pollutant	Emission Factor lb/mmBtu
CO	0.0650
NO_x	0.0487
VOM	0.0005

These are the emission factors for CO, NO_x, and VOM for the Solar Centaur Model 50-T5700 gas turbine based on the results of stack testing.

Gas Turbine/Waste Heat Boiler Emissions (lb) = (Natural Gas Consumed, Mft^3) x (Heat Content, Btu/scf) x (1,000,000 scf/Mft^3) x (1 mmBtu/1,000,000 Btu) x (The

Appropriate Emission Factor, lb/mmBtu)

B. Emissions of PM_{10}, and SO_2 from the Waste Heat Boiler (Boiler #9):

Pollutant	Emission Factor lb/Mft^3
PM_{10}	7.6
SO_2	0.6

These are the emission factors for uncontrolled natural gas combustion in small boilers, uncontrolled (< 100 mmBtu/hr), Table 1.4-2, AP-42, Volume I, Fifth Edition, Supplement D, March, 1998.

Waste Heat Boiler Emissions (lb) = (Natural Gas Consumed in Waste Heat Boiler, Mft^3) x (The Appropriate Emission Factor, lb/ Mft^3)

7.41 Unit GT1 Gas Turbine #1

7.41.1 Description

All utilities operations at the source are managed by the Corporate Engineering Division (CED). Some of these operations include the generation of steam and compressed air, for the use in pharmaceutical manufacturing, and the treatment of wastewater.

Pharmaceutical manufacturing at the source requires a large amount of high quality steam to be reliably provided for the carefully controlled heating of pharmaceutical production processes, the sterilization of process equipment and products, and the cleaning of equipment. Fermentation operations require significant amounts of compressed air to ensure microbial populations grow as desired. Brief interruptions, minutes or less, of utilities to the pharmaceutical production operations at the source would cause the complete failure or loss of the particular pharmaceutical product being manufactured at the time.

The gas turbine system is essentially a jet engine or a rotary internal combustion engine consisting of a compressor section, combustion section, and an expansion section. The compressor section sends some of the pressurized air to the combustion section where it is mixed with fuel and burned. The hot gases from the combustion section are mixed with the remainder of the pressurized air and expands in the turbine. This turns a shaft which drives both the compressor section of the turbine and the air compressor driven by the turbine. The compressed air will be used for the fermentation processes to ensure that the microbial populations grow as desired. The turbine exhausts to the "waste heat" boiler which uses the thermal energy from the exhaust gases to make steam.

7.41.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
GT1	Solar Turbines Model 50-T5700 Centaur Natural Gas Fired Gas Turbine (Gas Turbine No. 1, 42.1 mmBtu/hr)	Water Injection

7.41.3 Applicability Provisions and Applicable Regulations

a. Gas Turbine #1 is an “affected gas turbine” for the purpose of these unit-specific conditions.

b. Each affected gas turbine is subject to the emission limits identified in Condition 5.2.2.

c. The affected gas turbine is subject to the New Source Performance Standard (NSPS) for Stationary Gas Turbines, 40 CFR 60 Subparts A and GG, because the heat input at peak load is equal to or greater than 10.7 gigajoules per hour (10 mmBtu/hr), based on the lower heating value of the fuel fired and the gas turbine commenced construction, modification, or reconstruction after October 3, 1977, and that has a peak load less than or equal to 107.2 gigajoules per hour (100 mmBtu/hr). The Illinois EPA administers the NSPS for subject sources in Illinois pursuant to a delegation agreement with the USEPA.

i. Pursuant to 40 CFR 60.332(a)(2) and 60.332(c), no owner or operator of an affected gas turbine with a heat input at peak load equal to or greater than 10.7 gigajoules per hour (10 million Btu/hour) but less than or equal to 107.2 gigajoules per hour (100 million Btu/hour) based on the lower heating value of the fuel fired shall cause to be discharged into the atmosphere from such gas turbine, any gases which contain nitrogen oxides in excess of:

$$STD = 0.015\frac{(14.4)}{Y} + F$$

Where:

STD = allowable NO_x emissions (percent by volume at 15 percent oxygen and on a dry basis).

Y = manufacturer's rated heat rate at manufacturer's rated load (kilojoules per watt hour) or, actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt hour.

F = NO_x emission allowance for fuel-bound nitrogen calculated from the nitrogen content of the fuel as follows:

Fuel-bound nitrogen (percent by weight)	F (NO_x percent by volume)
$N \leq 0.015$	0

$0.015 < N \leq 0.1$	$0.04\ (N)$
$0.1 < N \leq 0.25$	$0.04 + 0.0067(N - 0.1)$
$N > 0.25$	0.005

where:

N = the nitrogen content of the fuel (percent by weight) determined in accordance with Condition 7.41.7(e).

ii. Standard for Sulfur Dioxide

A. No owner or operator subject to the provisions of 40 CFR 60 Subpart GG shall cause to be discharged into the atmosphere from any stationary gas turbine any gases which contain sulfur dioxide in excess of 0.015 percent by volume at 15 percent oxygen and on a dry basis [40 CFR 60.333(a)].

B. No owner or operator subject to the provisions of 40 CFR 60 Subpart GG shall burn in any stationary gas turbine any fuel which contains sulfur in excess of 0.8 percent by weight [40 CFR 60.333(b)].

d. No person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission unit to exceed 2000 ppm, [35 IAC 214.301].

e. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, or 218.304 and the following exemption: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall only apply to photochemically reactive material [35 IAC 218.301].

7.41.4 Non-Applicability of Regulations of Concern

a. The affected gas turbine is not subject to 35 IAC 216.121, emissions of carbon monoxide from fuel combustion emission units, because the affected gas turbine is not by definition a fuel combustion emission unit.

b. The affected gas turbine is not subject to 35 IAC 217.121, emissions of nitrogen oxides from new fuel combustion emission sources, because the actual heat input of the affected gas turbine is less than 73.2

MW (250 mmBtu/hr) and the affected gas turbine is not by definition a fuel combustion emission unit.

c. This permit is issued based on the affected gas turbine not being subject to 35 IAC 212.321 because due to the unique nature of this processes, such rules cannot reasonably be applied.

d. The affected gas turbine is not subject to 35 IAC 212.324, Process Emission Units In Certain Areas, because the source is not located in a non-attainment area for PM_{10}, as identified in 35 IAC 212.324(a)(1).

7.41.5 Operational and Production Limits and Work Practices

a. At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate any affected gas turbine in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Illinois EPA or the USEPA which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source [40 CFR 60.11(d)].

b. The affected gas turbine shall only be operated with natural gas as the fuel.

7.41.6 Emission Limitations

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.41.7 Testing Requirements

a. To compute the nitrogen oxides emissions, the owner or operator shall use analytical methods and procedures that are accurate to within 5 percent and are approved by the Illinois EPA or the USEPA to determine the nitrogen content of the fuel being fired [40 CFR 60.335(a)].

b. In conducting the performance tests required in 40 CFR 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of 40 CFR Part 60 or other methods and procedures as specified in this section, except as provided for in 40 CFR 60.8(b). Acceptable alternative methods and procedures are given in 40 CFR 60.335(f) [40 CFR 60.335(b)].

c. Pursuant to 40 CFR 60.335(c), the owner or operator shall determine compliance with the nitrogen oxides and sulfur dioxide standards in Condition 7.41.3(c)(i) and (ii) (see also 40 CFR 60.332 and 60.333(a)) as follows:

i. Pursuant to 40 CFR 60.335(c)(1), the nitrogen oxides emission rate (NO_x) shall be computed for each run using the following equation:

$$NO_x = (NO_{xo})(P_r/P_o)^{0.5} e^{19(H_o - 0.00633)} (288^\circ K/T_a)^{1.53}$$

where:

NO_x = emission rate of NO_x at 15 percent O_2 and ISO standard ambient conditions, volume percent.

NO_{xo} = observed NO_x concentration, ppm by volume.

P_r = reference combustor inlet absolute pressure at 101.3 kilopascals ambient pressure, mmHg.

P_o = observed combustor inlet absolute pressure at test, mmHg.

H_o = observed humidity of ambient air, g H_2O/g air.

e = transcendental constant, 2.718.

T_a = ambient temperature, $^\circ$K.

ii. The monitoring device of Condition 7.41.8(a) (see also 40 CFR 60.334(a)) shall be used to determine the fuel consumption and the water-to-fuel ratio necessary to comply with Condition 7.41.3(c)(i) (see also 40 CFR 60.332) at 30, 50, 75, and 100 percent of peak load or at four points in the normal operating range of the gas turbine, including the minimum point in the range and peak load. All loads shall be corrected to ISO conditions using the appropriate equations supplied by the manufacturer [40 CFR 60.335(c)(2)].

iii. Method 20 shall be used to determine the nitrogen oxides, sulfur dioxide, and oxygen concentrations. The span values shall be 300 ppm of nitrogen oxide and 21 percent oxygen.

The NO_x emissions shall be determined at each of the load conditions specified in Condition 7.41.7 (c)(ii) (see also 40 CFR 60.335(c)(2)) [40 CFR 60.335(c)(3)].

d. The owner or operator shall determine compliance with the sulfur content standard in Condition 7.41.3(c)(ii) (see also 40 CFR 60.333(b)) as follows: ASTM D 2880-71 shall be used to determine the sulfur content of liquid fuels and ASTM D 1072-80, D 3031-81, D 4084-82, or D 3246-81 shall be used for the sulfur content of gaseous fuels. The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the approval of the Illinois EPA and/or USEPA [40 CFR 60.335(d)].

e. To meet the requirements of Condition 7.41.8(b) (see also 40 CFR 60.334(b)), the owner or operator shall use the methods specified in Conditions 7.41.7(a) and (d) (see also 40 CFR 60.335(a) and (d)) to determine the nitrogen and sulfur contents of the fuel being burned. The analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency [40 CFR 60.335(e)].

f. Pursuant to 40 CFR 60.335(f), the owner or operator may use the following as alternatives to the reference methods and procedures specified in Condition 7.41.7 (see also 40 CFR 60.335):

Instead of using the equation in Condition 7.41.7(b)(i) (see also 40 CFR 60.335(b)(1)), manufacturers may develop ambient condition correction factors to adjust the nitrogen oxides emission level measured by the performance test as provided in 40 CFR 60.8 to ISO standard day conditions. These factors are developed for each gas turbine model they manufacture in terms of combustion inlet pressure, ambient air pressure, ambient air humidity, and ambient air temperature. They shall be substantiated with data and must be approved for use by the Illinois EPA and/or USEPA before the initial performance test required by 40 CFR 60.8. Notices of approval of custom ambient condition correction factors will be published in the Federal Register [40 CFR 60.335(f)(1)].

7.41.8 Monitoring Requirements

a. The owner or operator of any stationary gas turbine subject to the provisions of 40 CFR 60 Subpart GG and using water injection to control NO_x emissions shall install and operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of water to fuel being fired in the turbine. This system shall be accurate to within $\pm$5.0 percent and shall be approved by the Illinois EPA and/or USEPA [40 CFR 60.334(a)].

b. The owner or operator of any stationary gas turbine subject to the provisions of 40 CFR 60 Subpart GG shall monitor sulfur content and nitrogen content of the fuel being fired in an affected gas turbine. The frequency of determination of these values shall be determined and recorded daily if the turbine is supplied its fuel without intermediate bulk storage. Owners, operators or fuel vendors may develop custom schedules for determination of the values based on the design and operation of the affected facility and the characteristics of the fuel supply. These custom schedules shall be substantiated with data and must be approved by the Illinois EPA and/or USEPA before they can be used [40 CFR 60.334(b)(2)].

7.41.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected gas turbine to demonstrate compliance with Conditions 5.5.1, 5.5.3(d), and 7.41.3, pursuant to Section 39.5(7)(b) of the Act:

a. An operating log for each affected gas turbine that includes the information required by Condition 5.6.3 (see also 40 CFR 60.7(b)).

b. A file that includes the information required by 40 CFR 60.7(e), including the nitrogen content of the fuel relied upon, if greater than zero, to determine the applicable standard pursuant to Condition 7.41.3 (c)(i) and show compliance with such standard.

c. Records of the testing pursuant to Condition 7.41.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

d. Natural gas fuel usage for each affected gas turbine, ft^3/mo and ft^3/yr;

e. The nitrogen content of the fuel to be used in the affected gas turbine recorded on a daily basis, except as provided in Condition 7.41.8(b);

f. The sulfur content of the fuel to be used in the affected gas turbine as monitored pursuant to Condition 7.41.8(b);

g. The heat content of the fuel used in the affected gas turbine on a monthly basis, Btu/ft^3; and

h. Monthly and annual aggregate CO, NO_x, PM_{10}, SO_2, and VOM emissions from the affected gas turbine shall be maintained, based on fuel consumption and the applicable emission factors, with supporting calculations.

7.41.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected gas turbine with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. Pursuant to 40 CFR 60.334(c), periods of excess emissions that shall be reported are defined as follows:

i. Nitrogen oxides. Any period in which the fuel-bound nitrogen of the fuel is greater than the maximum nitrogen content allowed by the fuel-bound nitrogen allowance used during the performance test required by Condition 7.41.7. Each report shall include the average fuel consumption, ambient conditions, gas turbine load, and nitrogen content of the fuel during the period of excess emissions, and the graphs or figures developed under Condition

7.41.7(a) (see also 40 CFR 60.335(a)) [40 CFR 60.334(c)(1)].

ii. Sulfur dioxide. Any daily period during which the sulfur content of the fuel being fired in the gas turbine may not comply with Condition 7.41.3(c)(ii) [40 CFR 60.334(c)(2)].

b. Emissions of CO, NO_x, PM_{10}, SO_2, and/or VOM from the affected gas turbine in excess of the limits specified in Condition 5.5.3(d) based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.41.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.41.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.41.9 and the emission factors and formulas listed below:

a. Compliance with Conditions 7.41.3(d) and (e) is assumed by the work-practices inherent in operation of a natural gas-fired gas turbine, so that no compliance procedures are set in this permit addressing this regulation.

b. To determine compliance with Conditions 5.5.1, 5.5.3(d), and 7.41.3, natural gas combustion emissions from the affected gas turbine shall be calculated based on the following emission factors:

i. Emissions from natural gas combustion from Gas Turbine #1 (operating without the Waste Heater Boiler (Boiler #9)):

A. Emissions of CO, NO_x, and VOM:

Pollutant	Emission Factor (lb/mmBtu)
CO	0.051
NO_x	0.151
VOM	0.0045

These are the emission factors for CO, NO_x, and VOM for the Solar Centaur Model 50-T5700 gas turbine based on the results of stack testing.

B. Emissions of PM_{10} and SO_2:

Pollutant	Emission Factor (lb/mmBtu)
PM_{10}	0.0419
SO_2	0.0006

These are the emission factors for PM_{10} and SO_2 from uncontrolled natural gas-fired gas turbines, Table 3.1-1, AP-42, Volume I, Fifth Edition, Supplement B, October, 1996.

Gas Turbine Emissions (lb) = (Natural Gas Consumed, Mft^3) x (Heat Content, Btu/scf) x (1,000,000 scf/Mft^3) x (1 mmBtu/1,000,000 Btu) x (The Appropriate Emission Factor, lb/mmBtu)

ii. Emissions from natural gas combustion from Gas Turbine #1 and Waste Heat Boiler (Boiler #9) operating simultaneously:

A. Emissions of CO, NO_x, and VOM:

Pollutant	Emission Factor lb/mmBtu
CO	0.0650
NO_x	0.0487
VOM	0.0005

These are the emission factors for CO, NO_x, and VOM for the Solar Centaur Model 50-T5700 gas turbine based on the results of stack testing.

Gas Turbine/Waste Heat Boiler Emissions (lb) = (Natural Gas Consumed, Mft^3) x (Heat Content, Btu/scf) x (1,000,000 scf/Mft^3) x (1 mmBtu/1,000,000 Btu) x (The Appropriate Emission Factor, lb/mmBtu)

B. Emissions of PM_{10} and SO_2 from Gas Turbine #1:

Pollutant	Emission Factor lb/mmBtu
PM_{10}	0.0419
SO_2	0.0006

These are the emission factors for PM_{10} and SO_2 from uncontrolled natural gas-fired gas turbines, Table 3.1-1, AP-42,

Volume I, Fifth Edition, Supplement B, October, 1996.

Gas Turbine/Waste Heat Boiler Emissions (lb) = [(Natural Gas Consumed in Gas Turbine, Mft^3) x (Heat Content, Btu/scf) x (1,000,000 scf/Mft^3) x (1 mmBtu/1,000,000 Btu) x (The Appropriate Emission Factor, lb/mmBtu)]

7.42 Units T-1 and T-3 Temporary Boilers T1 and T3

7.42.1 Description

All utilities operations at the source are managed by the Corporate Engineering Division (CED). Some of these operations include the generation of steam and compressed air, for the use in pharmaceutical manufacturing, and the treatment of wastewater.

Pharmaceutical manufacturing at the source requires a large amount of high quality steam to be reliably provided for the carefully controlled heating of pharmaceutical production processes, the sterilization of process equipment and products, and the cleaning of equipment. Fermentation operations require significant amounts of compressed air to ensure microbial populations grow as desired. Brief interruptions, minutes or less, of utilities to the pharmaceutical production operations at the source would cause the complete failure or loss of the particular pharmaceutical product being manufactured at the time.

Temporary Boilers T1 and T3 are fired with distillate fuel oil No. 2 and natural gas.

7.42.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
T-1	Zurn Industries Model 13M Fuel Oil/Natural Gas Fired Boiler (Temporary Boiler T1, 84.84 mmBtu/hr, Fuel Oil; 88.32 mmBtu/hr, Natural Gas)	None
T-3	Zurn Industries Model 13M Fuel Oil/Natural Gas Fired Boiler (Temporary Boiler T3, 84.84 mmBtu/hr, Fuel Oil; 88.32 mmBtu/hr, Natural Gas)	None

7.42.3 Applicability Provisions and Applicable Regulations

a. Temporary Boilers T1 and T3 are “affected boilers” for the purpose of these unit-specific conditions.

b. Each affected boiler is subject to the emission limits identified in Condition 5.2.2.

c. The affected boilers are subject to the NSPS for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60 Subparts A and Dc, because each affected boiler has a maximum design heat input capacity of 29 MW (100 mmBtu/hr) or less, but greater than or equal to 2.9 MW (10 mmBtu/hr) and

construction, modification, or reconstruction was commenced after June 9, 1989 and is subject to the following:

i. No owner or operator of an affected facility that combusts oil shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of 215 ng/J (0.50 lb/mmBtu) heat input; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur [40 CFR 60.42c(d)].

ii. No owner or operator of an affected facility that combusts coal, wood, or oil and has a heat input capacity of 8.7 MW (30 mmBtu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity [40 CFR 60.43c(c)].

d. No person shall cause or allow the emission of carbon monoxide (CO) into the atmosphere from any fuel combustion emission unit with actual heat input greater than 2.9 MW (10 mmBtu/hr) to exceed 200 ppm, corrected to 50 percent excess air [35 IAC 216.121].

e. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period to exceed 0.15 kg of particulate matter per MW-hr of actual heat input from any fuel combustion emission unit using liquid fuel exclusively (0.10 lb/mmBtu) [35 IAC 212.206].

f. No person shall cause or allow the emission of sulfur dioxide in any one hour period from any new fuel combustion emission unit with actual heat input smaller than, or equal to 73.2 MW (250 mmBtu/hr), burning liquid fuel exclusively to exceed 0.46 kg of sulfur dioxide per MW-hr of actual heat input when distillate fuel oil is burned (0.3 lb/mmBtu) [35 IAC 214.122(b)].

7.42.4 Non-Applicability of Regulations of Concern

a. The affected boilers are not subject to 35 IAC 217.121, emissions of nitrogen oxides from new fuel combustion emission sources, because the actual heat input of each affected boiler is less than 73.2 MW (250 mmBtu/hr).

b. Pursuant to 35 IAC 218.303, fuel combustion emission units are not subject to 35 IAC 218.301, Use Of Organic Material.

7.42.5 Operational and Production Limits and Work Practices

a. At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Illinois EPA and/or USEPA which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source [40 CFR 60.11(d)].

b. The affected boilers shall only be fired with natural gas and No. 2 distillate fuel oil as the fuels.

c. The Permittee shall not utilize distillate fuel oil (Grades No. 1 and 2) in the affected boiler with a sulfur content greater than the larger of the following two values:

i. 0.28 weight percent; or

ii. The weight percent given by the formula: maximum weight percent sulfur = (0.000015) x (Gross heating value of oil, Btu/lb).

7.42.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected boilers are subject to the following:

a. Emissions and No. 2 Distillate Fuel Oil usage from Temporary Boiler #1 (Boiler T1) and Temporary Boiler #3 (Boiler T3) shall not exceed the following limits:

i. No. 2 Distillate Fuel Oil usage:

Emission Unit	Firing Rate (mmBtu/hr)	No. 2 Fuel Oil Usage (Gal/yr)
Boiler T1	84.840	450,864
Boiler T3	84.840	450,864

ii. Hourly emissions from the combustion of No. 2 Distillate Fuel Oil:

Emission Unit	E M I S S I O N S CO lb/hr	NO_x lb/hr	PM_{10} lb/hr	SO_2 lb/hr	VOM lb/hr
Boiler T1	3.03	12.12	1.21	24.96	0.12
Boiler T3	3.03	12.12	1.21	24.96	0.12

iii. Annual emissions from the combustion of No. 2 Distillate Fuel Oil:

Emission Unit	E M I S S I O N S CO ton/yr	NO_x ton/yr	PM_{10} ton/yr	SO_2 ton/yr	VOM ton/yr
Boiler T1	1.13	4.51	0.45	9.28	0.05
Boiler T3	1.13	4.51	0.45	9.28	0.05
Totals	2.26	9.02	0.90	18.56	0.10

iv. These limits are based on the maximum firing rates for No. 2 distillate fuel oil, the maximum annual No. 2 distillate fuel oil usage, a 140,000 Btu/gal for No. 2 distillate fuel oil, and a sulfur content of 0.29 weight percent for No. 2 distillate fuel oil.

b. The above limitations were established in Permit 97090028, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD) and 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 and 35 IAC Part 203 [T1].

c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.42.7 Testing Requirements

a. For oil-fired affected facilities where the owner or operator seeks to demonstrate compliance with the fuel oil sulfur limits under Condition 7.42.3(c)(i) (see also 40 CFR 60.42c) based on shipment fuel sampling, the initial performance test shall consist of sampling and analyzing the oil in the initial tank of oil to be fired in the steam generating unit to demonstrate that the oil contains 0.5 weight percent sulfur or less. Thereafter, the owner or operator of the affected facility shall sample the oil in the fuel tank after each new shipment of oil is received,

as described under 40 CFR 60.46c(d)(2) [40 CFR 60.44c(g)].

b. For affected facilities subject to Condition 7.42.12(a) (see also 40 CFR 60.42c(h)(1)) where the owner or operator seeks to demonstrate compliance with the SO_2 standards based on fuel supplier certification, the performance test shall consist of the certification, the certification from the fuel supplier, as described under Condition 7.42.9(b) (see also 40 CFR 60.48c(f)(1)) [40 CFR 60.44c(h)].

c. The owner or operator of an affected facility subject to the PM and/or opacity standards under Condition 7.42.3(c)(ii) (see also 40 CFR 60.43c) shall conduct subsequent performance tests as requested by the Illinois EPA and/or USEPA, to determine compliance with the standards using the following procedures and reference methods [40 CFR 60.45c(a)].

i. Method 1 shall be used to select the sampling site and the number of traverse sampling points. The sampling time for each run shall be at least 120 minutes and the minimum sampling volume shall be 1.7 dry square cubic meters (dscm) [60 dry square cubic feet (dscf)] except that smaller sampling times or volumes may be approved by the Illinois EPA and/or USEPA when necessitated by process variables or other factors [40 CFR 60.45c(a)(1)].

ii. Method 3 shall be used for gas analysis when applying Method 5, Method 5B, of Method 17 [40 CFR 60.45c(a)(2)].

iii. Pursuant to 40 CFR 60.45c(a)(3), Method 5, Method 5B, or Method 17 shall be used to measure the concentration of PM as follows:

A. Method 5 may be used only at affected facilities without wet scrubber systems [40 CFR 60.45c(a)(3)(i)].

B. Method 17 may be used at affected facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160°C (320°F). The procedures of Sections 2.1 and 2.3 of Method 5B may be used in Method 17 only if Method 17 is used in conjunction with a wet scrubber system. Method 17 shall not be used in conjunction with a wet scrubber system if

the effluent is saturated or laden with water droplets [40 CFR 60.45c(a)(3)(ii)].

iv. For Method 5 or Method 5B, the temperature of the sample gas in the probe and filter holder shall be monitored and maintained at 160°C (320°F) [40 CFR 60.45c(a)(4)].

v. For determination of PM emissions, an oxygen or carbon dioxide measurement shall be obtained simultaneously with each run of Method 5, Method 5B, or Method 17 by traversing the duct at the same sampling location [40 CFR 60.45c(a)(5)].

vi. Pursuant to 40 CFR 60.45c(a)(6), for each run using Method 5, Method 5B, or Method 17, the emission rates expressed in ng/J (lb/mmBtu) heat input shall be determined using:

A. The oxygen or carbon dioxide measurements and PM measurements obtained under Condition 7.42.7(a) (see also 40 CFR 60.45c(a)) [40 CFR 60.45c(a)(6)(i)];

B. The dry basis F-factor [40 CFR 60.45c(a)(6)(ii)]; and

C. The dry basis emission rate calculation procedure contained in Method 19 (40 CFR 60, Appendix A) [40 CFR 60.45c(a)(6)(iii)].

vii. Method 9 (6-minute average of 24 observations) shall be used for determining the opacity of stack emissions [40 CFR 60.45(a)(7)].

d. Pursuant to 35 IAC 212.110 and Section 39.5(7)(b) of the Act, testing for PM emissions shall be performed as follows:

i. Measurement of particulate matter emissions from stationary emission units subject to 35 IAC Part 212 shall be conducted in accordance with 40 CFR part 60, Appendix A, Methods 5, 5A, 5D, or 5E [35 IAC 212.110(a)].

ii. The volumetric flow rate and gas velocity shall be determined in accordance with 40 CFR part 60, Appendix A, Methods 1, 1A, 2, 2A, 2C, 2D, 3, and 4 [35 IAC 212.110(b)].

iii. Upon a written notification by the Illinois EPA, the owner or operator of a particulate

matter emission unit subject to 35 IAC Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA [35 IAC 212.110(c)].

e. Upon reasonable request by the Illinois EPA, pursuant to Section 39.5(7)(d) of the Act, measurements of opacity shall be conducted in accordance with Method 9, 40 CFR part 60, Appendix A, and 35 IAC 212.109, so as to demonstrate compliance with the emission limits in Condition 7.42.3(b).

7.42.8 Monitoring Requirements

a. Except as provided in 40 CFR 60.46c(d) and (e), the owner or operator of an affected facility subject to the SO_2 emission limits under Condition 7.42.3(c)(i) (see also 40 CFR 60.42c) shall install, calibrate, maintain, and operate a CEMS for measuring SO_2 concentrations and either oxygen or carbon dioxide concentrations at the outlet of the SO_2 control device (or the outlet of the steam generating unit if no SO_2 control device is used), and shall record the output of the system [40 CFR 60.46c(a)].

b. As an alternative to operating a CEMS at the inlet to the SO_2 control device (or outlet of the steam generating unit if no SO_2 control device is used) as required under Condition 7.42.8(a) (see also 40 CFR 60.46c(a)), an owner or operator may elect to determine the average SO_2 emission rate by sampling the fuel prior to combustion. As an alternative to operating a CEM at the outlet from the SO_2 control device (or outlet of the steam generating unit if no SO_2 control device is used) as required under Condition 7.42.8(a) (see also 40 CFR 60.46c(a)), an owner or operator may elect to determine the average SO_2 emission rate by using Method 6B. Fuel sampling shall be conducted pursuant to either Condition 7.42.8 (b)(i) or (ii) (see also 40 CFR 60.46c(d)(1) or (d)(2)). Method 6B shall be conducted pursuant to Condition 7.42.8(b)(iii) 40 CFR 60.46c(d)(3)) [40 CFR 60.46c(d)].

i. For affected facilities combusting coal or oil, coal or oil samples shall be collected daily in an as-fired condition at the inlet to the steam generating unit and analyzed for

sulfur content and heat content according the Method 19. Method 19 provides procedures for converting these measurements into the format to be used in calculating the average SO_2 input rate [40 CFR 60.46c(d)(1)].

ii. As an alternative fuel sampling procedure for affected facilities combusting oil, oil samples may be collected from the fuel tank for each steam generating unit immediately after the fuel tank is filled and before any oil is combusted. The owner or operator of the affected facility shall analyze the oil sample to determine the sulfur content of the oil. If a partially empty fuel tank is refilled, a new sample and analysis of the fuel in the tank would be required upon filling. Results of the fuel analysis taken after each new shipment of oil is received shall be used as the daily value when calculating the 30-day rolling average until the next shipment is received. If the fuel analysis shows that the sulfur content in the fuel tank is greater than 0.5 weight percent sulfur, the owner or operator shall ensure that the sulfur content of subsequent oil shipments is low enough to cause the 30-day rolling average sulfur content to be 0.5 weight percent sulfur or less [40 CFR 60.46c(d)(2)].

iii. Method 6B may be used in lieu of CEMS to measure SO_2 at the inlet or outlet of the SO_2 control system. An initial stratification test is required to verify the adequacy of the Method 6B sampling location. The stratification test shall consist of three paired runs of a suitable SO_2 and carbon dioxide measurement train operated at the candidate location and a second similar train operated according to the procedures in Section 3.2 and the applicable procedures in section 7 of Performance Specification 2 (Appendix b). Method 6B, Method 6A, or a combination of Methods 6 and 3 or Methods 6C and 3a are suitable measurement techniques. If Method 6B is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B 24-hour tests, the mean of the absolute difference between the three

paired runs must be less than 10 percent (0.10) [40 CFR 60.46c(d)(3)].

c. The monitoring requirements of Condition 7.42.8(a) and (b) (see also 40 CFR 60.46c(a) and (d)) shall not apply to affected facilities subject to Condition 7.42.12(a) (see also 40 CFR 60.42c(h)(1)) where the owner or operator of the affected facility seeks to demonstrate compliance with the SO_2 standards based on fuel supplier certification, as described under Condition 7.42.9(b) (see also 40 CFR 60.48c(f)(1)) [40 CFR 60.46c(e)].

7.42.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected boiler to demonstrate compliance with Conditions 5.5.1, 5.5.3(d), 7.42.3, 7.42.4, and 7.42.6, pursuant to Section 39.5(7)(b) of the Act:

a. Pursuant to 40 CFR 60.48c(e), the owner or operator of each affected facility subject to the SO_2 emission limits, fuel oil sulfur limits, under Condition 7.42.3 (c)(i) (see also 40 CFR 60.42c) shall keep records of reports as required under Condition 7.42.10(b) (see also 40 CFR 60.48c(d)), including the following information, as applicable.

i. Calendar dates covered in the reporting period [40 CFR 60.48c(e)(1)].

ii. Each 30-day average SO_2 emission rate (nj/J or lb/million Btu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken [40 CFR 60.48c(e)(2)].

iii. Each 30-day average percent of potential SO_2 emission rate calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of the corrective actions taken [40 CFR 60.48c(e)(3)].

iv. Identification of any steam generating unit operating days for which SO_2 or diluent (oxygen or carbon dioxide) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification

for not obtaining sufficient data; and a description of corrective actions taken [40 CFR 60.48c(e)(4)].

v. Identification of any times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and a description of corrective actions taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit [40 CFR 60.48c(e)(5)].

vi. Identification of the F factor used in calculations, method of determination, and type of fuel combusted [40 CFR 60.48c(e)(6)].

vii. If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under Condition 7.42.9(b) (see also 40 CFR 60.48c(f)(1)), as applicable. In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period [40 CFR 60.48c(e)(11)].

b. Pursuant to 40 CFR 60.48c(f)(1), for distillate oil fuel supplier certification shall include the following information:

i. The name of the oil supplier [40 CFR 60.48c(f)(1)(i)]; and

ii. A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41c [40 CFR 60.48c(f)(1)(ii)].

c. The owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each day [40 CFR 60.48c(g)].

d. The owner or operator of each affected facility subject to a Federally enforceable requirement limiting the annual capacity factor for any fuel or mixture of fuels under Condition 7.42.3(c) (see also 40 CFR 60.42c and 60.43c) shall calculate the annual capacity factor individually for each fuel combusted.

The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of the calendar month [40 CFR 60.48c(h)].

e. Pursuant to 35 IAC 212.110(e) and Section 39.5(7)(e) of the Act, the owner or operator of an emission unit subject 35 IAC Part 212 shall retain records of all tests which are performed. These records shall be retained for at least five (5) years after the date a test is performed and shall include the following:

   i. The date, place and time of sampling or measurements;

   ii. The date(s) analyses were performed;

   iii. The company or entity that performed the analyses;

   iv. The analytical techniques or methods used;

   v. The results of such analyses; and

   vi. The operating conditions as existing at the time of sampling or measurement.

f. Natural gas fuel usage for the affected boilers, Mft^3/mo and Mft^3/yr;

g. Distillate fuel oil usage for the affected boilers, gal/mo and gal/yr; and

h. Monthly and annual aggregate CO, NO_x, PM_{10}, SO_2, and VOM emissions from the affected boilers shall be maintained, based on fuel consumption and the applicable emission factors, with supporting calculations.

7.42.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected boiler with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. The owner or operator of each affected facility subject to the SO_2 emission limits of Condition 7.42.3 (c)(i) (see also 40 CFR 60.42c), or the PM or opacity limits of Condition 7.42.3(c)(ii) (see also 40 CFR 60.43c), shall submit to the Illinois EPA and/or USEPA the performance test data from any

subsequent performance tests and, if applicable, the performance evaluation of the CEMS using the applicable performance specifications in appendix B [40 CFR 60.48c(b)].

b. The owner or operator of each affected facility subject to the SO_2 emission limits, fuel oil sulfur limits, or percent reduction requirements under Condition 7.42.3(c)(i) (see also 40 CFR 60.42c) shall submit reports to the Illinois EPA and/or USEPA [40 CFR 60.48c(d)].

c. Pursuant to 40 CFR 60.48c(e), the owner or operator of each affected facility subject to the SO_2 emission limits, fuel oil sulfur limits, or percent reduction requirements under Condition 7.42.3(c)(i) (see also 40 CFR 60.42c) shall and submit reports as required under Condition 7.42.10(b) (see also 40 CFR 60.48c(d)), including the following information, as applicable.

i. Calendar dates covered in the reporting period [40 CFR 60.48c(e)(1)].

ii. Each 30-day average SO_2 emission rate (nj/J or lb/million Btu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken [40 CFR 60.48c(e)(2)].

iii. Each 30-day average percent of potential SO_2 emission rate calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of the corrective actions taken [40 CFR 60.48c(e)(3)].

iv. Identification of any steam generating unit operating days for which SO_2 or diluent (oxygen or carbon dioxide) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and a description of corrective actions taken [40 CFR 60.48c(e)(4)].

v. Identification of any times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and a description of

corrective actions taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit [40 CFR 60.48c(e)(5)].

vi. Identification of the F factor used in calculations, method of determination, and type of fuel combusted [40 CFR 60.48c(e)(6)].

vii. If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under Condition 7.42.9(b) (see also 40 CFR 60.48c(f)(1)), as applicable. In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period [40 CFR 60.48c(e)(11)].

d. The reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to the Illinois EPA or USEPA and shall be postmarked by the 30th day following the end of the reporting period [40 CFR 60.48c(j)].

e. A person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from Condition 7.42.7(c) (see also 35 IAC 212.110) that will be used [35 IAC 212.110(d)].

f. Emissions of CO, NO_x, PM_{10}, SO_2, and/or VOM in excess of the limits specified in Conditions 5.5.3(d) and/or 7.42.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

g. The use of distillate fuel oil with a sulfur content in excess of the limit specified in Condition 7.42.5(c) with the length of time this fuel was used and the effect on emissions of SO_2 within 30 days of this violation being detected.

7.42.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.42.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.42.9 and the emission factors and formulas listed below:

a. For distillate oil-fired affected facilities with heat input capacities between 2.9 and 29 MW (10 and 100 mmBtu/hr), compliance with the emission limits or fuel oil sulfur limits under Condition 7.42.3(c)(i) (see also 40 CFR 60.42c) may be determined based on a certification from the fuel supplier, as described under Condition 7.42.9(b) (see also 40 CFR 60.48c(f)(1)) [40 CFR 60.42c(h)(1)].

b. Compliance with Conditions 7.42.3(d) and (e) is assumed by the work-practices inherent in operation of natural gas-fired and distillate oil-fired boiler.

c. Compliance with Condition 7.42.3(f) is demonstrated by operation of the boiler with distillate fuel oil with a sulfur content meeting the specification of Condition 7.42.5(c).

d. Compliance with the emission limits of Conditions 5.5.1, 5.5.3(d), and 7.42.6 shall be based on the emission factors listed below:

i. To determine compliance with Conditions 5.5.1 and 5.5.3(d), emissions from the affected boiler burning natural gas shall be calculated based on the following emission factors:

Pollutant	Emission Factor (lb/Mft^3)
CO	84
NO_x	100
PM_{10}	7.6
SO_2	0.6
VOM	5.5

These are the emission factors for natural gas combustion in small boilers (< 100 mmBtu/hr), controlled - low NO_x burners, Tables 1.4-1 and 1.4-2, AP-42, Volume I, Fifth Edition, Supplement D, March, 1998.

Boiler Emission (lb) = (Natural Gas Consumed, Mft^3) x (The Appropriate Emission Factor, lb/Mft^3)

ii. To determine compliance with Condition 5.5.1, 5.5.3(d), and 7.42.6, emissions from the affected boilers burning distillate fuel oil shall be calculated based on the following emission factors:

Pollutant	Emission Factor (lb/1000 gal)
CO	5
NO_x	20
PM_{10}	2
SO_2	142 S
VOM	0.216

These are the emission factors for uncontrolled distillate fuel oil combustion in Commercial/Institutional/Residential Combustors, Tables 1.3-2 and 1.3-15, AP-42, Volume I, Fifth Edition, Supplement E, September, 1998. S indicates that the weight percent sulfur in the oil should be multiplied by the value given.

Boiler Emissions (lb) = (Distillate Fuel Oil Consumed, gal) x (The Appropriate Emission Factor, lb/1000 gal)

7.43 Units WWTP Wastewater Treatment Plant
Controls WWTP Scrubbers, Boilers, Flare, and Soil Filters

7.43.1 Description

The wastewater treatment plant treats wastewaters generated from pharmaceutical production operations and research and development activities at the source. Once treated, these wastewater's are discharged to the sanitary sewer system for subsequent treatment in the publicly owned treatment works of the North Shore Sanitary District.

The wastewater treatment plant includes aerobic and anaerobic activated sludge treatment trains followed by clarification. The anaerobic section is used to treat high biological oxygen demand wastewater's generated from some of the Chemical and Agricultural Products Division (CAPD) fermentation operations. The wastewater treatment aerobic treatment operation requires large amounts of air to supply the activated sludge microorganisms with oxygen. All wastewater treatment system tanks are enclosed or covered to contain and route off-gases to the appropriate unit for further treatment or use.

The anaerobic section of the wastewater treatment plant generates biogas having some fuel value. This off-gas is typically routed to Boiler No. 8 for uses as a supplemental fuel and to oxidize hydrogen sulfide. On certain occasions, the anaerobic biogas cannot be burned in the boiler, but is instead routed to a flare. Off-gases from the aerobic treatment section and other holding and settling tanks of the wastewater treatment plant do not contain any Btu or heat value, however, they do contain odorous compounds and other volatilized organics from the wastewater. Off-gases from the majority of these units are used as combustion air in Boilers No. 7 or No. 8 to economically destroy the odors and volatilized organics.

The X-9 two-stage bleach scrubber and the X-9C bio-filter are used to control odors in the off-gases from certain wastewater treatment units in the wastewater treatment plant. A single-stage bleach scrubber, termed the X-3 Scrubber, is used to control odors in the off-gases from the X-3 clarifiers when either Boiler No. 7 or No. 8 are shut down. Both bleach scrubbers are counter-current liquid-gas packed tower absorber systems. The X-9C bio-filter consists of a soil type media which supports a microbial population. As the wastewater treatment off-gas is purged through the biological support media, trace organics in the gas stream are adsorbed unto the biological support media. These trace organics are then

used as a food supplement by the active biomass, thereby, removing and treating odors.

7.43.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
X1	31,553 Gallon Wastewater Treatment Tank (X1 Raw Waste Wet Well)	Wastewater Treatment Plant Aeration Air System and Boilers No. 7 and No. 8
X2	1,000,000 Gallon Wastewater Treatment Tank (X2 Equalization Tank)	Wastewater Treatment Plant Aeration Air System and Boilers No. 7 and No. 8
X3-1	381,000 Gallon Wastewater Treatment Tank (Clarifier No. 1)	Packed Bed Scrubber X3-1 or Boilers No. 7 and No. 8
X3-2	381,000 Gallon Wastewater Treatment Tank (Clarifier No. 2)	Packed Bed Scrubber X3-1 or Boilers No. 7 and No. 8
X3-3	317,000 Gallon Wastewater Treatment Tank (Clarifier No. 3)	Packed Bed Scrubber X3-1 or Boilers No. 7 and No. 8
X4	900,000 Gallon Wastewater Treatment Tank (X4 Aeration Tank)	Boilers No. 7 and No. 8
X7A	4,000,000 Gallon Wastewater Treatment Tank (X-7A Anaerobic Lagoon)	Flare or Boiler No. 8
X7B	4,000,000 Gallon Wastewater Treatment Tank (X-7B Anaerobic Lagoon)	Flare or Boiler No. 8
X8	1,000,000 Gallon Wastewater Treatment Tank (X8 Equalization Tank)	Soil Filter X8 or Boilers No. 7 and No. 8
X9A/B	400,000 Gallon Wastewater Treatment Tank (X9A/B Aeration Tank)	Scrubber X9-1
X9-C	300,000 Gallon Wastewater Treatment Tank (X9-C Equalization Tank)	Soil Filter X9C-1 or Scrubber X9-1
X9D	317,000 Gallon Wastewater Treatment Tank (X9D Clarifier)	Scrubber X9-1
X9E	317,000 Gallon Wastewater Treatment Tank (X9E Clarifier)	Scrubber X9-1

7.43.3 Applicability Provisions and Applicable Regulations

a. The wastewater treatment tanks are "affected wastewater treatment tanks" for the purpose of these unit-specific conditions.

b. The affected wastewater treatment tanks are subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1256 for Wastewater. The Illinois EPA is administering the NESHAP in Illinois on behalf of the USEPA under a delegation agreement. Pursuant to 40 CFR 63.1250 (f)(1), an owner or operator of an existing affected source must comply with the provisions of 40 CFR 63 Subpart GGG within 3 years after September 21, 1998.

c. No person shall use any single or multiple compartment effluent water separator which receives effluent water containing 757 l/day (200 gal/day) or more of organic material from any equipment processing, refining, treating, storing or handling organic material unless such effluent water separator is equipped with air pollution control equipment capable of reducing by 85 percent or more the uncontrolled organic material emitted to the atmosphere. Exception: If no odor nuisance exists the limitations of this subsection shall not apply if the vapor pressure of the organic material is below 17.24 kPa (2.5 psia) at 294.3°K (70°F) [35 IAC 218.141(a)].

d. No person shall cause or allow the discharge of more than 32.8 ml (2 in^3) of VOL with vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F) into the atmosphere from any pump or compressor in any 15 minute period at standard conditions [35 IAC 218.142].

e. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

7.43.4 Non-Applicability of Regulations of Concern

a. *Exempt wastewater*. Pursuant to 40 CFR 63.1256(a)(3), the following wastewater's are not subject to the wastewater provisions of 40 CFR 63 Part GGG:

i. Stormwater from segregated sewers [40 CFR 63.1256(a)(3)(i)];

ii. Water from fire-fighting and deluge systems, including testing of such systems [40 CFR 63.1256(a)(3)(ii)];

iii. Spills [40 CFR 63.1256(a)(3)(iii)]; and

iv. Water from safety showers [40 CFR 63.1256(a)(3)(iv)].

b. The affected wastewater treatment tanks are not subject to the NSPS for Sewage Treatment Plants, 40 CFR 60 Subpart O, because there is no incinerator that combusts wastes containing more than 10 percent sewage sludge (dry basis) produced by municipal sewage treatment plants, or an incinerator that charges more than 1000 kg (2205 lb) per day municipal sewage sludge (dry basis) associated with these affected wastewater treatment operations.

c. The affected wastewater treatment tanks are not subject to the NSPS for VOC Emissions From Petroleum Refinery Wastewater Systems, 40 CFR 60 Subpart QQQ, because the affected wastewater treatment operations are not located at a petroleum refinery.

d. The affected wastewater treatment tanks are not subject to 35 IAC 214.301, SO_2 emissions from Process Emission Sources, pursuant to 35 IAC 214.383, which provides that 35 IAC 214.301 shall not apply to existing hydrogen sulfide flares at a chemical manufacturing plant provided:

i. Said flares are operative on existing batch type processes [35 IAC 218.383(a)]; and

ii. The hydrogen sulfide emissions being flared are not, as of September 11, 1975, passed through existing processes designed to remove sulfur compounds from the flue gases as provided in 35 IAC 214.382(a) [35 IAC 218.383(b)]; and

iii. The emission of sulfur dioxide into the atmosphere from said flares does not exceed 500 pounds per hour and 3500 pounds per eight-hour period (230 kg/hr and 1590 kg/8 hrs) [35 IAC 218.383(c)]; and

iv. Provided, however, that if emission controls for said flares become economically reasonable and technically feasible the owner/operator of such hydrogen sulfide flares shall install such controls [35 IAC 218.383(d)].

e. The affected wastewater treatment tanks are not subject to 35 IAC 218.443, Wastewater (Oil/Water) Separator, because the affected wastewater treatment operations are not located at a petroleum refinery.

f. This permit is issued based on the affected wastewater treatment tanks not being subject to 35 IAC 218 Subpart TT, Other Emission Units, because the affected wastewater treatment operations do not meet the applicability of 35 IAC 218.980(a). In particular, the affected wastewater treatment operations have maximum theoretical emissions of VOM that are less than 90.7 Mg (100 tons) per year.

7.43.5 Operational and Production Limits and Work Practices

a. *General*. Pursuant to 40 CFR 63.1256(a), each owner or operator of any affected source (existing or new) shall comply with the general wastewater requirements in Conditions 7.43.5(a)(i) and (ii) (see also 40 CFR 63.1256(a)(1) and (2)).

i. *Identify wastewater that requires control*. Pursuant to 40 CFR 63.1256(a)(1), for each POD, the owner or operator shall comply with the requirements in either Condition 7.43.5(a)(i)(A) or (B) (see also 40 CFR 63.1256(a)(1)(i), or (ii)) to determine whether a wastewater stream is an affected wastewater stream that requires control for soluble and/or partially soluble HAP compounds or to designate the wastewater stream as an affected wastewater stream, respectively. The owner or operator may use a combination of the approaches in Conditions 7.43.5(a)(i)(A) and (B) (see also 40 CFR 63.1256(a)(1)(i) and (ii)) for different affected wastewater generated at the source. The owner or operator shall also comply with the requirements for multiphase discharges in Condition 7.43.5(a)(iii) (see also 40 CFR 63.1256(a)(4)). Wastewater identified in 40 CFR 63.1256(a)(3) is exempt from the provisions of 40 CFR 63 Subpart GGG.

A. *Determine characteristics of a wastewater stream*. Pursuant to 40 CFR 63.1256 (a)(1)(i), at new and existing sources, a wastewater stream is an affected wastewater stream if the annual average concentration and annual load exceed any of the criteria specified in Conditions 7.43.5(a)(i)(A)(I) through (III) (see also 40 CFR 63.1256(a)(1)(i)(A) through

(C)). The owner or operator shall comply with the provisions of Condition 7.43.12(a)(i) (see also 40 CFR 63.1257(e)(1)) to determine the annual average concentrations and annual load of partially soluble and soluble HAP compounds.

I. The wastewater stream contains partially soluble HAP compounds at an annual average concentration greater than 1,300 ppmw, and the total soluble and partially soluble HAP load in all wastewater from the PMPU exceeds 1 Mg/yr [40 CFR 63.1256 (a)(1)(i)(A)].

II. The wastewater stream contains partially soluble and/or soluble HAP compounds at an annual average concentration of 5,200 ppmw, and the total soluble and partially soluble HAP load in all wastewater from the PMPU exceeds 1 Mg/yr [40 CFR 63.1256 (a)(1)(i)(B)].

III. The wastewater stream contains partially soluble and/or soluble HAP at an annual average concentration of greater than 10,000 ppmw, and the total partially soluble and/or soluble HAP load in all wastewater from the affected source is greater than 1 Mg/yr [40 CFR 63.1256 (a)(1)(i)(C)].

IV. The wastewater stream contains soluble HAP compounds at an annual average concentration greater than 110,000 ppmw, and the total soluble and partially soluble HAP load in all wastewater from the PMPU exceeds 1 Mg/yr [40 CFR 63.1256 (a)(1)(i)(D)].

B. *Designate wastewater as affected wastewater*. Pursuant to 40 CFR 63.1256 (a)(1)(ii), for existing sources, the owner or operator may elect to designate wastewater streams as meeting the criteria of either Condition 7.43.5(a)(i)(A)(I), (II), or (III) (see also 40 CFR 63.1256 (a)(1)(i)(A), (B), or

(C)). For new sources, the owner or operator may elect to designate wastewater streams meeting the criterion in Condition 7.43.5 (a)(i)(A)(IV) (see also 40 CFR 63.1256 (a)(1)(i)(D)) or for wastewater known to contain no soluble HAP, as meeting the criterion in Condition 7.43.5(a)(i)(A)(I) (see also 40 CFR 63.1256(a)(1)(i)(A)). For designated wastewater the procedures specified in Conditions 7.43.5(a)(i)(B)(I) and (II) (see also 40 CFR 63.1256 (a)(1)(ii)(A) and (B)) shall be followed, except as specified in Conditions 7.43.5 (g)(viii)(A), (g)(ix)(A), and (g)(x) (see also 40 CFR 63.1256(g)(8)(i), (g)(9)(i), and (g)(10)). The owner or operator is not required to determine the annual average concentration or load for each designated wastewater stream for the purposes of Conditions 7.43.5(a) through (i) (see also 40 CFR 63.1256).

I. From the POD for the wastewater stream that is designated as an affected wastewater stream to the location where the owner or operator elects to designate such wastewater stream as an affected wastewater stream, the owner or operator shall comply with all applicable emission suppression requirements specified in Conditions 7.43.5(b) through (f) (see also 40 CFR 63.1256(b) through (f)) [40 CFR 63.1256(a)(1)(ii)(A)].

II. From the location where the owner or operator designates a wastewater stream as an affected wastewater stream, such wastewater stream shall be managed in accordance with all applicable emission suppression requirements specified in Conditions 7.43.5(b) through (f) (see also 40 CFR 63.1256(b) through (f)) and with the treatment requirements in Condition 7.43.5(g) (see also 40 CFR 63.1256(g)) [40 CFR 63.1256(a)(1)(ii)(B)].

C. *Scrubber Effluent*. Effluent from a water scrubber that has been used to control Table 2 HAP-containing vent streams that

are controlled in order to meet the process vent requirements in 40 CFR 63.1254 is considered an affected wastewater stream [40 CFR 63.1256 (a)(1)(iii)].

ii. *Requirements for affected wastewater*.

A. An owner or operator of a facility shall comply with the applicable requirements for wastewater tanks, surface impoundments, containers, individual drain systems, and oil/water separators as specified in Conditions 7.43.5(b) through (f) (see also 40 CFR 63.1256(b) through (f)), except as provided in Condition 7.43.5(g)(iii) (see also 40 CFR 63.1256 (g)(3)) [40 CFR 63.1256(a)(2)(i)].

B. Comply with the applicable requirements for control of soluble and partially soluble compounds as specified in Condition 7.43.5(g) (see also 40 CFR 63.1256(g)). Alternatively, the owner or operator may elect to comply with the treatment provisions specified in Condition 7.43.5(a)(iv) (see also 40 CFR 63.1256(a)(5)) [40 CFR 63.1256(a)(2)(ii)].

C. Comply with the applicable monitoring and inspection requirements specified in Condition 7.43.8 (see also 40 CFR 63.1258) [40 CFR 63.1256(a)(2)(iii)].

D. Comply with the applicable recordkeeping and reporting requirements specified in Conditions 7.43.9 and 7.43.10 (see also 40 CFR 63.1259 and 63.1260) [40 CFR 63.1256 (a)(2)(iv)].

iii. *Requirements for multiphase discharges*. The owner or operator shall not discharge a separate phase that can be isolated through gravity separation from the aqueous phase to a waste management or treatment unit, unless the stream is discharged to a treatment unit in compliance with Condition 7.43.5(g)(xiii) (see also 40 CFR 63.1256(g)(13)) [40 CFR 63.1256(a)(4)].

iv. *Offsite treatment or onsite treatment not owned or operated by the source*. Pursuant to

40 CFR 63.1256(a)(5), the owner or operator may elect to transfer affected wastewater streams that contain less than 50 ppmw of partially soluble HAP or a residual removed from such affected wastewater to an onsite treatment operation not owned or operated by the owner or operator of the source generating the wastewater or residual, or to an offsite treatment operation, provided that the waste management units up to the activated sludge unit are covered or the owner or operator demonstrates that less than 5 percent of the total soluble HAP is emitted from the these units.

A. Pursuant to 40 CFR 63.1256(a)(5)(i), The owner or operator transferring the wastewater or residual shall:

I. Comply with the provisions specified in Conditions 7.43.5(b) through (f) (see also 40 CFR 63.1256(b) through (f)) for each waste management unit that receives or manages affected wastewater or a residual removed from affected wastewater prior to shipment or transport [40 CFR 63.1256(a)(5)(i)(A)].

II. Include a notice with each shipment or transport of affected wastewater or residual removed from affected wastewater. The notice shall state that the affected wastewater or residual contains organic HAP that are to be treated in accordance with the provisions of 40 CFR 63 Subpart GGG. When the transport is continuous or ongoing (for example, discharge to a publicly-owned treatment works), the notice shall be submitted to the treatment operator initially and whenever there is a change in the required treatment. The owner or operator shall keep a record of the notice in accordance with Condition 7.43.9(d) (see also 40 CFR 63.1259(g)) [40 CFR 63.1256(a)(5)(i)(B)].

B. Pursuant to 40 CFR 63.1256(a)(5)(ii), The owner or operator may not transfer the

affected wastewater or residual unless the transferee has submitted to the USEPA a written certification that the transferee will manage and treat any affected wastewater or residual removed from affected wastewater received from a source subject to the requirements of 40 CFR 63 Subpart GGG in accordance with the requirements of either:

I. Conditions 7.43.5(b) through (i) (see also 40 CFR 63.1256(b) through (i)) [40 CFR 63.1256(a)(5)(ii)(A)]; or

II. 40 CFR 63 Subpart D if alternative emission limitations have been granted the transferor in accordance with those provisions [40 CFR 63.1256(a)(5)(ii)(B)]; or

III. 40 CFR 63.6(g) [40 CFR 63.1256 (a)(5)(ii)(C)].

C. The certifying entity may revoke the written certification by sending a written statement to the USEPA and the owner or operator giving at least 90 days notice that the certifying entity is rescinding acceptance of responsibility for compliance with the regulatory provisions listed in this paragraph. Upon expiration of the notice period, the owner or operator may not transfer the wastewater stream or residual to the treatment operation [40 CFR 63.1256(a)(5)(iii)].

D. By providing this written certification to the USEPA, the certifying entity accepts responsibility for compliance with the regulatory provisions listed in Condition 7.43.5(a)(iv)(B) (see also 40 CFR 63.1256 (a)(5)(ii)) with respect to any shipment of wastewater or residual covered by the written certification. Failure to abide by any of those provisions with respect to such shipments may result in enforcement action by the USEPA against the certifying entity in accordance with the enforcement provisions applicable to violations of these provisions by owners or operators of sources [40 CFR 63.1256(a)(5)(iv)].

E. Written certifications and revocation statements, to the USEPA from the transferees of wastewater or residuals shall be signed by the responsible official of the certifying entity, provide the name and address of the certifying entity, and be sent to the appropriate USEPA Regional Office at the addresses listed in 40 CFR 63.13. Such written certifications are not transferable by the treater [40 CFR 63.1256(a)(5)(v)].

b. *Wastewater tanks*. Pursuant to 40 CFR 63.1256(b), for each wastewater tank that receives, manages, or treats affected wastewater or a residual removed from affected wastewater, the owner or operator shall comply with the requirements of either Condition 7.43.5(b)(i) or (ii) (see also 40 CFR 63.1256(b)(1) or (2)) as specified in Table 6 of 40 CFR 63 Subpart GGG.

i. The owner or operator shall operate and maintain a fixed roof except when the contents of the wastewater tank are heated, treated by means of an exothermic reaction, or sparged, during which time the owner or operator shall comply with the requirements specified in Condition 7.43.5 (b)(ii) (see also 40 CFR 63.1256(b)(2)). For the purposes of this paragraph, the requirements of Condition 7.43.5(b)(ii) (see also 40 CFR 63.1256 (b)(2)) are satisfied by operating and maintaining a fixed roof if the owner or operator demonstrates that the total soluble and partially soluble HAP emissions from the wastewater tank are no more than 5 percent higher than the emissions would be if the contents of the wastewater tank were not heated, treated by an exothermic reaction, or sparged [40 CFR 63.1256(b)(1)].

ii. Pursuant to 40 CFR 63.1256(b)(2), the owner or operator shall comply with the requirements in Conditions 7.43.5(b)(iii) through (ix) (see also 40 CFR 63.1256(b)(3) through (9)) and shall operate and maintain one of the emission control techniques listed in Conditions 7.43.5(b)(ii)(A) through (C) (see also 40 CFR 63.1256(b)(2)(i) through (iii)).

A. A fixed roof and a closed-vent system that routes the organic HAP vapors vented

from the wastewater tank to a control device [40 CFR 63.1256(b)(2)(i)]; or

B. A fixed roof and an internal floating roof that meets the requirements specified in 40 CFR 63.119(b), with the differences noted in 40 CFR 63.1257(c)(3)(i) through (iii) for the purposes of 40 CFR 63 Subpart GGG [40 CFR 63.1256(b)(2)(ii)]; or

C. An external floating roof that meets the requirements specified in 40 CFR 63.119(c), 63.120(b)(5), and 63.120(b)(6), with the differences noted in 40 CFR 63.1257(c)(3)(i) through (v) for the purposes of 40 CFR 63 Subpart GGG [40 CFR 63.1256(b)(2)(iii)].

iii. Pursuant to 40 CFR 63.1256(b)(3), if the owner or operator elects to comply with the requirements of Condition 7.43.5(b)(ii)(A) (see also 40 CFR 63.1256(b)(2)(i)), the fixed roof shall meet the requirements of Condition 7.43.5 (b)(iii)(A) (see also 40 CFR 63.1256(b)(3)(i)), the control device shall meet the requirements of Condition 7.43.5(b)(iii)(B) (see also 40 CFR 63.1256(b)(3)(ii)), and the closed-vent system shall meet the requirements of Condition 7.43.5 (b)(iii)(C) (see also 40 CFR 63.1256 (b)(3)(iii)).

A. Pursuant to 40 CFR 63.1256(b)(3)(i), the fixed roof shall meet the following requirements:

I. Except as provided in Condition 7.43.5(b)(iii)(D) (see also 40 CFR 63.1256(b)(3)(iv)), the fixed roof and all openings (e.g., access hatches, sampling ports, and gauge wells) shall be maintained in accordance with the requirements specified in Condition 7.43.8(e) (see also 40 CFR 63.1258(h)) [40 CFR 63.1256(b)(3)(i)(A)].

II. Each opening shall be maintained in a closed position (e.g., covered by a lid) at all times that the wastewater tank contains affected wastewater or residual removed from affected wastewater except when it

is necessary to use the opening for wastewater sampling, removal, or for equipment inspection, maintenance, or repair [40 CFR 63.1256 (b)(3)(i)(B)].

B. The control device shall be designed, operated, and inspected in accordance with the requirements of Condition 7.43.5(h) (see also 40 CFR 63.1256(h)) [40 CFR 63.1256(b)(3)(ii)].

C. Except as provided in Condition 7.43.5 (b)(iii)(D) (see also 40 CFR 63.1256 (b)(3)(iv)), the closed-vent system shall be inspected in accordance with the requirements of Condition 7.43.8(e) (see also 40 CFR 63.1258(h)) [40 CFR 63.1256 (b)(3)(iii)].

D. For any fixed roof tank and closed-vent system that is operated and maintained under negative pressure, the owner or operator is not required to comply with the requirements specified in Condition 7.43.8(e) (see also 40 CFR 63.1258(h)) [40 CFR 63.1256(b)(3)(iv)].

iv. If the owner or operator elects to comply with the requirements of Condition 7.43.5(b)(ii)(B) (see also 40 CFR 63.1256(b)(2)(ii)), the floating roof shall be inspected according to the procedures specified in 40 CFR 63.120(a)(2) and (3), with the differences noted 40 CFR 63.1257(c)(3)(iv) for the purposes of 40 CFR 63 Subpart GGG [40 CFR 63.1256(b)(4)].

v. Except as provided in Condition 7.43.5(b)(vi) (see also 40 CFR 63.1256(b)(6)), if the owner or operator elects to comply with the requirements of Condition 7.43.5(b)(ii)(C) (see also 40 CFR 63.1256(b)(2)(iii)), seal gaps shall be measured according to the procedures specified in 40 CFR 63.120(b)(2)(i) through (b)(4) and the wastewater tank shall be inspected to determine compliance with 40 CFR 63.120(b)(5) and (6) according to the schedule specified in 40 CFR 63.120(b)(1)(i) through (iii) [40 CFR 63.1256 (b)(5)].

vi. If the owner or operator determines that it is unsafe to perform the seal gap measurements specified in 40 CFR 63.120(b)(2)(i) through

(b)(4) or to inspect the wastewater tank to determine compliance with 40 CFR 63.120(b)(5) and (6) because the floating roof appears to be structurally unsound and poses an imminent or potential danger to inspecting personnel, the owner or operator shall empty and remove the wastewater tank from service within 45 calendar days of determining that the roof is unsafe. If the wastewater tank cannot be emptied within 45 calendar days, the owner or operator may utilize up to two extensions of up to 30 additional calendar days each. Documentation of a decision to utilize an extension shall include an explanation of why it was unsafe to perform the inspection or seal gap measurement, shall document that alternate storage capacity is unavailable, and shall specify a schedule of actions that will ensure that the wastewater tank will be emptied as soon as possible [40 CFR 63.1256(b)(6)(ii)].

vii. Except as provided in Condition 7.43.5(b)(vi) (see also 40 CFR 63.1256(b)(6)), each wastewater tank shall be inspected initially, and semiannually thereafter, for improper work practices in accordance with Condition 7.43.8 (d)(i) (see also 40 CFR 63.1258(g)). For wastewater tanks, improper work practice includes, but is not limited to, leaving open any access door or other opening when such door or opening is not in use [40 CFR 63.1256(b)(7)].

viii. Pursuant to 40 CFR 63.1256(b)(8), Except as provided in Condition 7.43.5(b)(vi) (see also 40 CFR 63.1256(b)(6)), each wastewater tank shall be inspected for control equipment failures as defined in Condition 7.43.5(b)(viii)(A) (see also 40 CFR 63.1256(b)(8)(i)) according to the schedule in Conditions 7.43.5(b)(viii)(B) and (C) (see also 40 CFR 63.1256(b)(8)(ii)and (iii)) in accordance with Condition 7.43.8(d) (see also 40 CFR 63.1258(g)).

A. Pursuant to 40 CFR 63.1256(b)(8)(i), Control equipment failures for wastewater tanks include, but are not limited to, the conditions specified in Conditions 7.43.5 (b)(viii)(A)(I) through (IX) (see also 40 CFR 63.1256(b)(8)(i)(A) through (I)).

I. The floating roof is not resting on either the surface of the liquid or on the leg supports [40 CFR 63.1256 (b)(8)(i)(A)].

II. There is stored liquid on the floating roof [40 CFR 63.1256 (b)(8)(i)(B)].

III. A rim seal is detached from the floating roof [40 CFR 63.1256 (b)(8)(i)(C)].

IV. There are holes, tears, cracks or gaps in the rim seal or seal fabric of the floating roof [40 CFR 63.1256 (b)(8)(i)(D)].

V. There are visible gaps between the seal of an internal floating roof and the wall of the wastewater tank [40 CFR 63.1256(b)(8)(i)(E)].

VI. There are gaps between the metallic shoe seal or the liquid mounted primary seal of an external floating roof and the wall of the wastewater tank that exceed 212 square centimeters per meter of tank diameter or the width of any portion of any gap between the primary seal and the tank wall exceeds 3.81 centimeters [40 CFR 63.1256 (b)(8)(i)(F)].

VII. There are gaps between the secondary seal of an external floating roof and the wall of the wastewater tank that exceed 21.2 square centimeters per meter of tank diameter or the width of any portion of any gap between the secondary seal and the tank wall exceeds 1.27 centimeters [40 CFR 63.1256(b)(8)(i)(G)].

VIII. Where a metallic shoe seal is used on an external floating roof, one end of the metallic shoe does not extend into the stored liquid or one end of the metallic shoe does not extend a minimum vertical distance of 61 centimeters above

the surface of the stored liquid [40 CFR 63.1256 (b)(8)(i)(H)].

IX. A gasket, joint, lid, cover, or door has a crack or gap, or is broken [40 CFR 63.1256(b)(8)(i)(I)].

B. The owner or operator shall inspect for the control equipment failures in Conditions 7.43.5(b)(viii)(A)(I) through (VIII) (see also 40 CFR 63.1256 (b)(8)(i)(A) through (H)) according to the schedule specified in Conditions 7.43.5 (b)(iv) and (v) (see also 40 CFR 63.1256 (b)(4) and (5)) [40 CFR 63.1256 (b)(8)(ii)].

C. The owner or operator shall inspect for the control equipment failures in Condition 7.43.5(b)(viii)(A)(IX) (see also 40 CFR 63.1256(b)(8)(i)(I)) initially, and semiannually thereafter [40 CFR 63.1256 (b)(8)(iii)].

ix. Except as provided in Condition 7.43.5(i) (see also 40 CFR 63.1256(i)), when an improper work practice or a control equipment failure is identified, first efforts at repair shall be made no later than 5 calendar days after identification and repair shall be completed within 45 calendar days after identification. If a failure that is detected during inspections required by this section cannot be repaired within 45 calendar days and if the tank cannot be emptied within 45 calendar days, the owner or operator may utilize up to two extensions of up to 30 additional calendar days each. Documentation of a decision to utilize an extension shall include a description of the failure, shall document that alternate storage capacity is unavailable, and shall specify a schedule of actions that will ensure that the control equipment will be repaired or the tank will be emptied as soon as practical [40 CFR 63.1256(b)(9)].

c. *Surface impoundments*. Pursuant to 40 CFR 63.1256(c), for each surface impoundment that receives, manages, or treats affected wastewater or a residual removed from affected wastewater, the owner or operator shall comply with the requirements of Conditions 7.43.5 (c)(i) (see also 40 CFR 63.1256(c)(1), (2), and (3)).

i. Pursuant to 40 CFR 63.1256(c)(1), the owner or operator shall operate and maintain on each surface impoundment either a cover (e.g., air-supported structure or rigid cover) and a closed-vent system that routes the organic hazardous air pollutants vapors vented from the surface impoundment to a control device in accordance with Conditions 7.43.5(c)(i)(A), (C), (D), and (E) (see also 40 CFR 63.1256(c)(1)(i), (iii), (iv), and (v)), or a floating flexible membrane cover as specified in Condition 7.43.5 (c)(i)(B) (see also 40 CFR 63.1256(c)(1)(ii)).

A. Pursuant to 40 CFR 63.1256(c)(1)(i), the cover and all openings shall meet the following requirements:

I. Except as provided in Condition 7.43.5(c)(i)(D) (see also 40 CFR 63.1256(c)(1)(iv)), the cover and all openings (e.g., access hatches, sampling ports, and gauge wells) shall be maintained in accordance with the requirements specified in Condition 7.43.8(e) (see also 40 CFR 63.1258(h)) [40 CFR 63.1256 (c)(1)(i)(A)].

II. Each opening shall be maintained in a closed position (e.g., covered by a lid) at all times that affected wastewater or residual removed from affected wastewater is in the surface impoundment except when it is necessary to use the opening for sampling, removal, or for equipment inspection, maintenance, or repair [40 CFR 63.1256(c)(1)(i)(B)].

III. The cover shall be used at all times that affected wastewater or residual removed from affected wastewater is in the surface impoundment except during removal of treatment residuals in accordance with 40 CFR 268.4 or closure of the surface impoundment in accordance with 40 CFR 264.228 [40 CFR 63.1256 (c)(1)(i)(C)].

B. Pursuant to 40 CFR 63.1256(c)(1)(ii), floating flexible membrane covers shall

meet the requirements specified in Conditions 7.43.5(c)(i)(B)(I) through (VI) (see also 40 CFR 63.1256(c)(1)(ii)(A) through (F)).

I. The floating flexible cover shall be designed to float on the liquid surface during normal operations, and to form a continuous barrier over the entire surface area of the liquid [40 CFR 63.1256 (c)(1)(ii)(A)].

II. Pursuant to 40 CFR 63.1256 (c)(1)(ii)(B), the cover shall be fabricated from a synthetic membrane material that is either:

(1) High density polyethylene (HDPE) with a thickness no less than 2.5 millimeters (100 mils) [40 CFR 63.1256 (c)(1)(ii)(B)(1)]; or

(2) A material or a composite of different materials determined to have both organic permeability properties that are equivalent to those of the material listed in Condition 7.43.5(c)(i)(B)(II)(1) (see also 40 CFR 63.1256 (c)(1)(ii)(B)(1)), and chemical and physical properties that maintain the material integrity for the intended service life of the material [40 CFR 63.1256 (c)(1)(ii)(B)(1)].

III. The cover shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between cover section seams or between the interface of the cover edge and its foundation mountings [40 CFR 63.1256 (c)(1)(ii)(C)].

IV. Except as provided for in Condition 7.43.5(c)(i)(B)(V) (see also 40 CFR 63.1256(c)(1)(ii)(E)), each opening in the floating membrane cover

shall be equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device [40 CFR 63.1256(c)(1)(ii)(D)].

V. The floating membrane cover may be equipped with one or more emergency cover drains for removal of stormwater. Each emergency cover drain shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening or a flexible fabric sleeve seal [40 CFR 63.1256 (c)(1)(ii)(E)].

VI. The closure devices shall be made of suitable materials that will minimize exposure of organic HAP to the atmosphere, to the extent practical, and will maintain the integrity of the equipment throughout its intended service life. Factors to be considered in designing the closure devices shall include: the effects of any contact with the liquid and its vapor managed in the surface impoundment; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the surface impoundment on which the floating membrane cover is installed [40 CFR 63.1256(c)(1)(ii)(F)].

VII. Whenever affected wastewater or residual from affected wastewater is in the surface impoundment, the floating membrane cover shall float on the liquid and each closure device shall be secured in the closed position. Opening of closure devices or removal of the cover is allowed to provide access to the surface impoundment for performing routine inspection, maintenance, or other activities needed for normal

operations and/or to remove accumulated sludge or other residues from the bottom of surface impoundment. Openings shall be maintained in accordance with Condition 7.43.8(e) (see also 40 CFR 63.1258(h) [40 CFR 63.1256 (c)(1)(ii)(G)].

C. The control device shall be designed, operated, and inspected in accordance with Condition 7.43.5(h) (see also 40 CFR 63.1256(h)) [40 CFR 63.1256(c)(1)(iii)].

D. Except as provided in Condition 7.43.5 (c)(i)(E) (see also 40 CFR 63.1256 (c)(1)(v)), the closed-vent system shall be inspected in accordance with Condition 7.43.8(e) (see also 40 CFR 63.1258(h)) [40 CFR 63.1256(c)(1)(iv)].

E. For any cover and closed-vent system that is operated and maintained under negative pressure, the owner or operator is not required to comply with the requirements specified in Condition 7.43.8(e) (see also 40 CFR 63.1258(h) [40 CFR 63.1256 (c)(1)(v)].

ii. Pursuant to 40 CFR 63.1256(c)(2), each surface impoundment shall be inspected initially, and semiannually thereafter, for improper work practices and control equipment failures in accordance with Condition 7.43.8(d) (see also 40 CFR 63.1258(g)).

A. For surface impoundments, improper work practice includes, but is not limited to, leaving open any access hatch or other opening when such hatch or opening is not in use [40 CFR 63.1256(c)(2)(i)].

B. For surface impoundments, control equipment failure includes, but is not limited to, any time a joint, lid, cover, or door has a crack or gap, or is broken [40 CFR 63.1256(c)(2)(ii)].

iii. Except as provided in Condition 7.43.5(i) (see also 40 CFR 63.1256(i)), when an improper work practice or a control equipment failure is identified, first efforts at repair shall be made no later than 5 calendar days after identification and repair shall be completed

within 45 calendar days after identification [40 CFR 63.1256(c)(3)].

d. *Containers*. Pursuant to 40 CFR 63.1256(d), for each container that receives, manages, or treats affected wastewater or a residual removed from affected wastewater, the owner or operator shall comply with the requirements of Conditions 7.43.5(d)(i) through (v) (see also 40 CFR 63.1256(d)(1) through (5)).

i. Pursuant to 40 CFR 63.1256(d)(1), the owner or operator shall operate and maintain a cover on each container used to handle, transfer, or store affected wastewater or a residual removed from affected wastewater in accordance with the following requirements:

A. Except as provided in Condition 7.43.5 (d)(iii)(D) (see also 40 CFR 63.1256 (d)(3)(iv)), if the capacity of the container is greater than 0.42 m^3, the cover and all openings (e.g., bungs, hatches, sampling ports, and pressure relief devices) shall be maintained in accordance with the requirements specified in Condition 7.43.8(e) (see also 40 CFR 63.1258(h)) [40 CFR 63.1256(d)(1)(i)].

B. Pursuant to 40 CFR 63.1256(d)(1)(ii), if the capacity of the container is less than or equal to 0.42 m^3, the owner or operator shall comply with either Condition 7.43.5 (d)(i)(B)(I) or (II) (see also 40 CFR 63.1256(d)(1)(ii)(A) or (B)).

I. The container must meet existing Department of Transportation specifications and testing requirements under 49 CFR part 178 [40 CFR 63.1256(d)(1)(ii)(A)]; or

II. Except as provided in Condition 7.43.5(d)(iii)(D) (see also 40 CFR 63.1256(d)(3)(iv)), the cover and all openings shall be maintained without leaks as specified in Condition 7.43.8(e) (see also 40 CFR 63.1258(h)) [40 CFR 63.1256 (d)(1)(ii)(B)].

C. The cover and all openings shall be maintained in a closed position (e.g.,

covered by a lid) at all times that affected wastewater or a residual removed from affected wastewater is in the container except when it is necessary to use the opening for filling, removal, inspection, sampling, or pressure relief events related to safety considerations [40 CFR 63.1256(d)(1)(iii)].

ii. Pursuant to 40 CFR 63.1256(d)(2), for containers with a capacity greater than or equal to 0.42 m^3, either a submerged fill pipe shall be used when a container is being filled by pumping with affected wastewater or a residual removed from affected wastewater or the container shall be located within an enclosure with a closed-vent system that routes the organic HAP vapors vented from the container to a control device.

A. The submerged fill pipe outlet shall extend to no more than 6 inches or within two fill pipe diameters of the bottom of the container while the container is being filled [40 CFR 63.1256(d)(2)(i)].

B. The cover shall remain in place and all openings shall be maintained in a closed position except for those openings required for the submerged fill pipe and for venting of the container to prevent physical damage or permanent deformation of the container or cover [40 CFR 63.1256 (d)(2)(ii)].

iii. Pursuant to 40 CFR 63.1256(d)(3), during treatment of affected wastewater or a residual removed from affected wastewater, including aeration, thermal or other treatment, in a container, whenever it is necessary for the container to be open, the container shall be located within an enclosure with a closed-vent system that routes the organic HAP vapors vented from the container to a control device.

A. Except as provided in Condition 7.43.5 (d)(iii)(D) (see also 40 CFR 63.1256 (d)(3)(iv)), the enclosure and all openings (e.g., doors, hatches) shall be maintained in accordance with the requirements specified in Condition 7.43.8(e) (see also 40 CFR 63.1258(h)) [40 CFR 63.1256(d)(3)(i)].

B. The control device shall be designed, operated, and inspected in accordance with Condition 7.43.5(h) (see also 40 CFR 63.1256(h)) [40 CFR 63.1256(d)(3)(ii)].

C. Except as provided in Condition 7.43.5 (d)(iii)(D) (see also 40 CFR 63.1256 (d)(3)(iv)), the closed-vent system shall be inspected in accordance with Condition 7.43.8(e) (see also 40 CFR 63.1258(h)) [40 CFR 63.1256(d)(3)(iii)].

D. For any enclosure and closed-vent system that is operated and maintained under negative pressure, the owner or operator is not required to comply with the requirements specified in Condition 7.43.8(e) (see also 63.1258(h)) [40 CFR 63.1256(d)(3)(iv)].

iv. Pursuant to 40 CFR 63.1256(d)(4), each container shall be inspected initially, and semiannually thereafter, for improper work practices and control equipment failures in accordance with Condition 7.43.8(d) (see also 63.1258(g)).

A. For containers, improper work practice includes, but is not limited to, leaving open any access hatch or other opening when such hatch or opening is not in use [40 CFR 63.1256(d)(4)(i)].

B. For containers, control equipment failure includes, but is not limited to, any time a cover or door has a gap or crack, or is broken [40 CFR 63.1256(d)(4)(ii)].

v. Except as provided in Condition 7.43.5(i) (see also 40 CFR 63.1256(i)), when an improper work practice or a control equipment failure is identified, first efforts at repair shall be made no later than 5 calendar days after identification and repair shall be completed within 15 calendar days after identification [40 CFR 63.1256(d)(5)].

e. *Individual drain systems.* Pursuant to 40 CFR 63.1256(e), for each individual drain system that receives or manages affected wastewater or a residual removed from affected wastewater, the owner or operator shall comply with the requirements of Conditions 7.43.5(e)(i), (ii), and (iii) (see also 40 CFR 63.1256(e)(1), (2), and (3)) or with Conditions

7.43.5(e)(iv), (v), and (vi) (see also 40 CFR 63.1256 (e)(4), (5), and (6)).

i. Pursuant to 40 CFR 63.1256(e)(1), if the owner or operator elects to comply with this paragraph, the owner or operator shall operate and maintain on each opening in the individual drain system a cover and if vented, route the vapors to a process or through a closed-vent system to a control device. The owner or operator shall comply with the requirements of Conditions 7.43.5(e)(i)(A) through (E) (see also 40 CFR 63.1256(e)(1)(i) through (v)).

A. Pursuant to 40 CFR 63.1256(e)(1)(i), the cover and all openings shall meet the following requirements:

I. Except as provided in Condition 7.43.5(e)(i)(D) (see also 40 CFR 63.1256(e)(1)(iv)), the cover and all openings (e.g., access hatches, sampling ports) shall be maintained in accordance with the requirements specified in Condition 7.43.8(e) (see also 40 CFR 63.1258(h) [40 CFR 63.1256(e)(1)(i)(A)].

II. The cover and all openings shall be maintained in a closed position at all times that affected wastewater or a residual removed from affected wastewater is in the drain system except when it is necessary to use the opening for sampling or removal, or for equipment inspection, maintenance, or repair [40 CFR 63.1256(e)(1)(i)(B)].

B. The control device shall be designed, operated, and inspected in accordance with Condition 7.43.5(h) (see also 40 CFR 63.1256(h)) [40 CFR 63.1256(e)(1)(ii)].

C. Except as provided in Condition 7.43.5 (e)(i)(D) (see also 40 CFR 63.1256 (e)(1)(iv)), the closed-vent system shall be inspected in accordance with Condition 7.43.8(e) (see also 40 CFR 63.1258(h)) [40 CFR 63.1256(e)(1)(iii)].

D. For any cover and closed-vent system that is operated and maintained under negative pressure, the owner or operator is not

required to comply with the requirements specified in Condition 7.43.8(e) (see also 40 CFR 63.1258(h)) [40 CFR 63.1256 (e)(1)(iv)].

E. The individual drain system shall be designed and operated to segregate the vapors within the system from other drain systems and the atmosphere [40 CFR 63.1256 (e)(1)(v)].

ii. Pursuant to 40 CFR 63.1256(e)(2), each individual drain system shall be inspected initially, and semiannually thereafter, for improper work practices and control equipment failures, in accordance with Condition 7.43.8(d) (see also 40 CFR 63.1258(g)).

A. For individual drain systems, improper work practice includes, but is not limited to, leaving open any access hatch or other opening when such hatch or opening is not in use for sampling or removal, or for equipment inspection, maintenance, or repair [40 CFR 63.1256(e)(2)(i)].

B. For individual drain systems, control equipment failure includes, but is not limited to, any time a joint, lid, cover, or door has a gap or crack, or is broken [40 CFR 63.1256(e)(2)(ii)].

iii. Except as provided in Condition 7.43.5(i) (see also 40 CFR 63.1256(i)), when an improper work practice or a control equipment failure is identified, first efforts at repair shall be made no later than 5 calendar days after identification and repair shall be completed within 15 calendar days after identification [40 CFR 63.1256(e)(3)].

iv. Pursuant to 40 CFR 63.1256(e)(4), if the owner or operator elects to comply with this paragraph, the owner or operator shall comply with the requirements in Conditions 7.43.5 (e)(iv)(A) through (C) (see also 40 CFR 63.1256 (e)(4)(i) through (iii)):

A. Pursuant to 40 CFR 63.1256(e)(4)(i), each drain shall be equipped with water seal controls or a tightly fitting cap or plug. The owner or operator shall comply with Conditions 7.43.5(e)(iv)(A)(I) and

(II) (see also 40 CFR 63.1256(e)(4)(i)(A)and (B)).

I. For each drain equipped with a water seal, the owner or operator shall ensure that the water seal is maintained. For example, a flow-monitoring device indicating positive flow from a main to a branch water line supplying a trap or water being continuously dripped into the trap by a hose could be used to verify flow of water to the trap. Visual observation is also an acceptable alternative [40 CFR 63.1256(e)(4)(i)(A)].

II. If a water seal is used on a drain receiving affected wastewater, the owner or operator shall either extend the pipe discharging the wastewater below the liquid surface in the water seal of the receiving drain, or install a flexible shield (or other enclosure which restricts wind motion across the open area between the pipe and the drain) that encloses the space between the pipe discharging the wastewater to the drain receiving the wastewater. (Water seals which are used on hubs receiving wastewater that is not subject to the provisions of 40 CFR 63 Subpart GGG for the purpose of eliminating cross ventilation to drains carrying affected wastewater are not required to have a flexible cap or extended subsurface discharging pipe.) [40 CFR 63.1256 (e)(4)(i)(B)]

B. Pursuant to 40 CFR 63.1256(e)(4)(ii), each junction box shall be equipped with a tightly fitting solid cover (i.e., no visible gaps, cracks, or holes) which shall be kept in place at all times except during inspection and maintenance. If the junction box is vented, the owner or operator shall comply with the requirements in Condition 7.43.5 (e)(iv)(B)(I) or (II) (see also 40 CFR 63.1256(e)(4)(ii)(A) or (B)).

I. The junction box shall be vented to a process or through a closed-vent system to a control device. The closed-vent system shall be inspected in accordance with the requirements of Condition 7.43.8(e) (see also 40 CFR 63.1258(h)) and the control device shall be designed, operated, and inspected in accordance with the requirements of Condition 7.43.5(h) (see also 40 CFR 63.1256(h)) [40 CFR 63.1256 (e)(4)(ii)(A)].

II. If the junction box is filled and emptied by gravity flow (i.e., there is no pump) or is operated with no more than slight fluctuations in the liquid level, the owner or operator may vent the junction box to the atmosphere provided that the junction box complies with the requirements in Conditions 7.43.5 (e)(iv)(B)(II)(1) and (2) (see also 40 CFR 63.1256(e)(4)(ii)(B)(1) and (2)) [40 CFR 63.1256(e)(4)(ii)(B)].

(1) The vent pipe shall be at least 90 centimeters in length and no greater than 10.2 centimeters in nominal inside diameter [40 CFR 63.1256 (e)(4)(ii)(B)(1)].

(2) Water seals shall be installed and maintained at the wastewater entrance(s) to or exit from the junction box restricting ventilation in the individual drain system and between components in the individual drain system. The owner or operator shall demonstrate (e.g., by visual inspection or smoke test) upon request by the Illinois EPA and/or USEPA that the junction box water seal is properly designed and restricts ventilation [40 CFR 63.1256 (e)(4)(ii)(B)(2)].

C. Each sewer line shall not be open to the atmosphere and shall be covered or enclosed in a manner so as to have no visible gaps or cracks in joints, seals, or other emission interfaces. (Note: This provision applies to sewers located inside and outside of buildings.) [40 CFR 63.1256 (e)(4)(iii)]

v. Pursuant to 40 CFR 63.1256(e)(5), equipment used to comply with Conditions 7.43.5(e)(iv)(A), (B), or (C) (see also 40 CFR 63.1256(e)(4)(i), (ii), or (iii)) shall be inspected as follows:

A. Each drain using a tightly fitting cap or plug shall be visually inspected initially, and semiannually thereafter, to ensure caps or plugs are in place and that there are no gaps, cracks, or other holes in the cap or plug [40 CFR 63.1256 (e)(5)(i)].

B. Each junction box shall be visually inspected initially, and semiannually thereafter, to ensure that there are no gaps, cracks, or other holes in the cover [40 CFR 63.1256(e)(5)(ii)].

C. The unburied portion of each sewer line shall be visually inspected initially, and semiannually thereafter, for indication of cracks or gaps that could result in air emissions [40 CFR 63.1256(e)(5)(iii)].

vi. Except as provided in Condition 7.43.5(i) (see also 40 CFR 63.1256(i)), when a gap, hole, or crack is identified in a joint or cover, first efforts at repair shall be made no later than 5 calendar days after identification, and repair shall be completed within 15 calendar days after identification [40 CFR 63.1256(e)(6)].

f. *Oil-water separators*. Pursuant to 40 CFR 63.1256(f), for each oil-water separator that receives, manages, or treats affected wastewater or a residual removed from affected wastewater, the owner or operator shall comply with the requirements of Conditions 7.43.5 (f)(i) through (vi) (see also 40 CFR 63.1256(f)(1) through (6)).

i. Pursuant to 40 CFR 63.1256(f)(1), the owner or operator shall maintain one of the following:

A. A fixed roof and a closed-vent system that routes the organic HAP vapors vented from the oil-water separator to a control device. The fixed roof, closed-vent system, and control device shall meet the requirements specified in Condition 7.43.5 (f)(ii) (see also 40 CFR 63.1256(f)(2)) [40 CFR 63.1256(f)(1)];

B. A floating roof that meets the requirements in 40 CFR 60.693-2(a)(1)(i), (a)(1)(ii), (a)(2), (a)(3), and (a)(4). For portions of the oil-water separator where it is infeasible to construct and operate a floating roof, such as over the weir mechanism, the owner or operator shall operate and maintain a fixed roof, closed-vent system, and control device that meet the requirements specified in Condition 7.43.5(f)(ii) (see also 40 CFR 63.1256(f)(2)) [40 CFR 63.1256(f)(1)].

ii. Pursuant to 40 CFR 63.1256(f)(2), a fixed roof shall meet the requirements of Condition 7.43.5 (f)(ii)(A) (see also 40 CFR 63.1256(f)(2)(i)), a control device shall meet the requirements of Condition 7.43.5(f)(ii)(B) (see also 40 CFR 63.1256(f)(2)(ii)), and a closed-vent system shall meet the requirements of Condition 7.43.5 (f)(ii)(C) (see also 40 CFR 63.1256(f)(2)(iii)).

A. Pursuant to 40 CFR 63.1256(f)(2)(i), the fixed roof shall meet the following requirements:

I. Except as provided in Condition 7.43.5(f)(ii)(D) (see also 40 CFR 63.1256(f)(2)(iv)), the fixed roof and all openings (e.g., access hatches, sampling ports, and gauge wells) shall be maintained in accordance with the requirements specified in Condition 7.43.8(e) (see also 40 CFR 63.1258(h)) [40 CFR 63.1256(f)(2)(i)(A)].

II. Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that the

oil-water separator contains affected wastewater or a residual removed from affected wastewater except when it is necessary to use the opening for sampling or removal, or for equipment inspection, maintenance, or repair [40 CFR 63.1256(f)(2)(i)(B)].

B. The control device shall be designed, operated, and inspected in accordance with the requirements of Condition 7.43.5(h) (see also 40 CFR 63.1256(h)) [40 CFR 63.1256(f)(2)(ii)].

C. Except as provided in Condition 7.43.5 (f)(ii)(D) (see also 40 CFR 63.1256 (f)(2)(iv)), the closed-vent system shall be inspected in accordance with the requirements of Condition 7.43.8(e) (see also 40 CFR 63.1258(h)) [40 CFR 63.1256 (f)(2)(iii)].

D. For any fixed-roof and closed-vent system that is operated and maintained under negative pressure, the owner or operator is not required to comply with the requirements of Condition 7.43.8(e) (see also 40 CFR 63.1258(h)) [40 CFR 63.1256 (f)(2)(iv)].

iii. Pursuant to 40 CFR 63.1256(f)(3), if the owner or operator elects to comply with the requirements of Condition 7.43.5(f)(i)(B) (see also 40 CFR 63.1256(f)(1)(ii)), seal gaps shall be measured according to the procedures specified in 40 CFR 60.696(d)(1) and the schedule specified in Conditions 7.43.5 (f)(iii)(A) and (B) (see also 40 CFR 63.1256 (f)(3)(i) and (ii)).

A. Measurement of primary seal gaps shall be performed within 60 calendar days after installation of the floating roof and introduction of affected wastewater or a residual removed from affected wastewater and once every 5 years thereafter [40 CFR 63.1256(f)(3)(i)].

B. Measurement of secondary seal gaps shall be performed within 60 calendar days after installation of the floating roof and introduction of affected wastewater or a residual removed from affected

wastewater and once every year thereafter [40 CFR 63.1256(f)(3)(ii)].

iv. Each oil-water separator shall be inspected initially, and semiannually thereafter, for improper work practices in accordance with Condition 7.43.8(d) (see also 40 CFR 63.1258 (g)). For oil-water separators, improper work practice includes, but is not limited to, leaving open or ungasketed any access door or other opening when such door or opening is not in use [40 CFR 63.1256(f)(4)].

v. Pursuant to 40 CFR 63.1256(f)(5), each oil-water separator shall be inspected for control equipment failures as defined in Condition 7.43.5(f)(v)(A) (see also 40 CFR 63.1256 (f)(5)(i)) according to the schedule specified in Conditions 7.43.5(f)(v)(B) and (C) (see also 40 CFR 63.1256(f)(5)(ii) and (iii)).

A. Pursuant to 40 CFR 63.1256(f)(5)(i), for oil-water separators, control equipment failure includes, but is not limited to, the conditions specified in Conditions 7.43.5(f)(v)(A)(I) through (VII) (see also 40 CFR 63.1256(f)(5)(i)(A) through (G)).

I. The floating roof is not resting on either the surface of the liquid or on the leg supports [40 CFR 63.1256 (f)(5)(i)(A)].

II. There is stored liquid on the floating roof [40 CFR 63.1256 (f)(5)(i)(B)].

III. A rim seal is detached from the floating roof [40 CFR 63.1256 (f)(5)(i)(C)].

IV. There are holes, tears, or other open spaces in the rim seal or seal fabric of the floating roof [40 CFR 63.1256(f)(5)(i)(D)].

V. There are gaps between the primary seal and the separator wall that exceed 67 square centimeters per meter of separator wall perimeter or the width of any portion of any gap between the primary seal and the separator wall exceeds 3.8

centimeters [40 CFR 63.1256 (f)(5)(i)(E)].

VI. There are gaps between the secondary seal and the separator wall that exceed 6.7 square centimeters per meter of separator wall perimeter or the width of any portion of any gap between the secondary seal and the separator wall exceeds 1.3 centimeters [40 CFR 63.1256 (f)(5)(i)(F)].

VII. A gasket, joint, lid, cover, or door has a gap or crack, or is broken [40 CFR 63.1256(f)(5)(i)(G)].

B. The owner or operator shall inspect for the control equipment failures in Conditions 7.43.5(f)(v)(A)(I) through (VI) (see also 40 CFR 63.1256(f)(5)(i)(A) through (F)) according to the schedule specified in Condition 7.43.5(f)(iii) (see also 40 CFR 63.1256(f)(3)) [40 CFR 63.1256 (f)(5)(ii)].

C. The owner or operator shall inspect for control equipment failures in Condition 7.43.5(f)(v)(A)(VII) (see also 40 CFR 63.1256(f)(5)(i)(G)) initially, and semiannually thereafter [40 CFR 63.1256 (f)(5)(iii)].

vi. Except as provided in Condition 7.43.5(i) (see also 40 CFR 63.1256(i)), when an improper work practice or a control equipment failure is identified, first efforts at repair shall be made no later than 5 calendar days after identification and repair shall be completed within 45 calendar days after identification [40 CFR 63.1256(f)(6)].

g. *Performance standards for treatment processes managing wastewater and/or residuals removed from wastewater*. This section specifies the performance standards for treating affected wastewater. Pursuant to 40 CFR 63.1256(g), the owner or operator shall comply with the requirements as specified in Conditions 7.43.5 (g)(i) through (v) (see also 40 CFR 63.1256(g)(1) through (6)). Where multiple compliance options are provided, the options may be used in combination for different wastewater and/or for different compounds (e.g., soluble versus partially

soluble compounds) in the same wastewater, except where otherwise provided in this section. Once affected wastewater or a residual removed from affected wastewater has been treated in accordance with 40 CFR 63 Subpart GGG, it is no longer subject to the requirements of 40 CFR 63 Subpart GGG.

i. *Existing source*. For a wastewater stream at an existing source that exceeds or is designated to exceed the concentration and load criteria in Condition 7.43.5(a)(i)(A)(I) (see also 40 CFR 63.1256(a)(1)(i)(A)), the owner or operator shall comply with a control option in Condition 7.43.5(g)(vii) (see also 40 CFR 63.1256(g)(8)). For a wastewater stream at an existing source that exceeds the concentration and load criteria in either Condition 7.43.5(a)(i)(A)(II) or (III) (see also 40 CFR 63.1256(a)(1)(i)(B) or (C)), the owner or operator shall comply with a control option in Condition 7.43.5(g)(vii) (see also 40 CFR 63.1256(g)(8)) and a control option in Condition 7.43.5(g)(viii) (see also 40 CFR 63.1256(g)(9)). As an alternative to the control options in Conditions 7.43.5(g)(vii) and (viii) (see also 40 CFR 63.1256(g)(8) and (g)(9)), the owner or operator may comply with a control option in either Condition 7.43.5(g)(ix), (x), or (xii) (see also 40 CFR 63.1256(g)(10), (11) or (13)), as applicable [40 CFR 63.1256(g)(1)].

ii. *Biological treatment processes*. Biological treatment processes in compliance with this section may be either open or closed biological treatment processes as defined in 40 CFR 63.1251. An open biological treatment process in compliance with this section need not be covered and vented to a control device. An open or a closed biological treatment process in compliance with this section and using 40 CFR 63.1257(e)(2)(iii)(E) or (F) to demonstrate compliance is not subject to the requirements of Conditions 7.43.5(b) and (c) (see also 40 CFR 63.1256(b) and (c)). A closed biological treatment process in compliance with this section and using 40 CFR 63.1257(e)(2)(iii)(G) to demonstrate compliance shall comply with the requirements of Conditions 7.43.5(b) and (c) (see also 40 CFR 63.1256(b) and (c)). Waste management units upstream of an open or closed biological treatment process shall meet the requirements of Conditions 7.43.5(b) through (f) (see also

40 CFR 63.1256(b) through (f)), as applicable [40 CFR 63.1256(g)(3)].

iii. *Performance tests and design evaluations*. If the Resource Conservation and Recovery Act (RCRA) option [Condition 7.43.5(g)(xii) (see also 40 CFR 63.1256(g)(13))] or the enhanced biological treatment process for soluble HAP compounds option [Condition 7.43.5(g)(ix) (see also 40 CFR 63.1256(g)(10))] is selected to comply with this section, neither a design evaluation nor a performance test is required. For any other nonbiological treatment process, and for closed biological treatment processes as defined in 40 CFR 63.1251, the owner or operator shall conduct either a design evaluation as specified in Condition 7.43.12(a)(ii)(B) (see also 40 CFR 63.1257(e)(2)(ii)) or performance test as specified in Condition 7.43.12(a)(ii)(C) (see also 40 CFR 63.1257(e)(2)(iii)). For each open biological treatment process as defined in 40 CFR 63.1251, the owner or operator shall conduct a performance test as specified in 40 CFR 63.1257 (e)(2)(iii)(E) or (F) [40 CFR 63.1256(g)(4)].

iv. *Control device requirements*. When gases are vented from the treatment process, the owner or operator shall comply with the applicable control device requirements specified in Condition 7.43.5(h) (see also 40 CFR 63.1256(h)) and Condition 7.43.12(a)(iii) (see also 40 CFR 63.1257(e)(3)), and the applicable leak inspection provisions specified in Condition 7.43.8(e) (see also 40 CFR 63.1258(h)). This requirement is in addition to the requirements for treatment systems specified in Conditions 7.43.8(g)(vii) through (xiii) (see also 40 CFR 63.1256(g)(8) through (14)). This requirement does not apply to any open biological treatment process that meets the mass removal requirements [40 CFR 63.1256(g)(5)].

v. *Residuals: general*. When residuals result from treating affected wastewater, the owner or operator shall comply with the requirements for residuals specified in Condition 7.43.5(g)(xiii) (see also 40 CFR 63.1256(g)(14)) [40 CFR 63.1256 (g)(6)].

vi. Treatment using a series of treatment processes. Pursuant to 40 CFR 63.1256(g)(7),

in all cases where the wastewater provisions in 40 CFR 63 Subpart GGG allow or require the use of a treatment process or control device to comply with emissions limitations, the owner or operator may use multiple treatment processes or control devices, respectively. For combinations of treatment processes where the wastewater stream is conveyed by hard-piping, the owner or operator shall comply with either the requirements of Condition 7.43.5(g)(vi)(A) or (B) (see also 40 CFR 63.1256(g)(7)(i) or (ii)). For combinations of treatment processes where the wastewater stream is not conveyed by hard-piping, the owner or operator shall comply with the requirements of Condition 7.43.5(g)(vi)(B) (see also 40 CFR 63.1256(g)(7)(ii)). For combinations of control devices, the owner or operator shall comply with the requirements of Condition 7.43.5(g)(vi)(A) (see also 40 CFR 63.1256(g)(7)(i)).

A. *Compliance across the combination of all treatment units or control devices in series.*

I. For combinations of treatment processes, the wastewater stream shall be conveyed by hard-piping between the treatment processes. For combinations of control devices, the vented gas stream shall be conveyed by hard-piping between the control devices [40 CFR 63.1256 (g)(7)(i)(A)].

II. For combinations of treatment processes, each treatment process shall meet the applicable requirements of Conditions 7.43.5(b) through (f) (see also 40 CFR 63.1256(b) through (f)), except as provided in Condition 7.43.5(g)(ii) (see also 40 CFR 63.1256(g)(3)) [40 CFR 63.1256(g)(7)(i)(B)].

III. The owner or operator shall identify, and keep a record of, the combination of treatment processes or of control devices, including identification of the first and last treatment process or control device. The owner or operator shall

include this information as part of the treatment process description reported in the Notification of Compliance Status [40 CFR 63.1256 (g)(7)(i)(C)].

IV. The performance test or design evaluation shall determine compliance across the combination of treatment processes or control devices. If a performance test is conducted, the "inlet" shall be the point at which the wastewater stream or residual enters the first treatment process, or the vented gas stream enters the first control device. The "outlet" shall be the point at which the treated wastewater stream exits the last treatment process, or the vented gas stream exits the last control device [40 CFR 63.1256(g)(7)(i)(D)].

B. *Compliance across individual units.*

I. For combinations of treatment processes, each treatment process shall meet the applicable requirements of Conditions 7.43.5(b) through (f) (see also 40 CFR 63.1256(b) through (f)) except as provided in Condition 7.43.5(g)(ii) (see also 40 CFR 63.1256(g)(3)) [40 CFR 63.1256(g)(7)(ii)(A)].

II. The owner or operator shall identify, and keep a record of, the combination of treatment processes, including identification of the first and last treatment process. The owner or operator shall include this information as part of the treatment process description reported in the Notification of Compliance Status report [40 CFR 63.1256(g)(7)(ii)(B)].

III. The owner or operator shall determine the mass removed or destroyed by each treatment process. The performance test or design evaluation shall determine

compliance for the combination of treatment processes by adding together the mass removed or destroyed by each treatment process and determine the overall control efficiency of the treatment system [40 CFR 63.1256(g)(7)(ii)(C)].

vii. *Control options: Wastewater containing partially soluble HAP compounds*. Pursuant to 40 CFR 63.1256(g)(8), the owner or operator shall comply with either Condition 7.43.5(g)(vii)(A) or (B) (see also 40 CFR 63.1256(g)(8)(i)or (ii)) for the control of partially soluble HAP compounds at new or existing sources.

A. *50 ppmw concentration option*. Pursuant to 40 CFR 63.1256(g)(8)(i), the owner or operator shall comply with Conditions 7.43.5(g)(vii)(A)(I) and (II) (see also 40 CFR 63.1256(g)(8)(i)(A) and (B)).

I. Reduce, by removal or destruction, the concentration of total partially soluble HAP compounds to a level less than 50 ppmw as determined by the procedures specified in 40 CFR 63.1257(e)(2)(iii)(B) [40 CFR 63.1256(g)(8)(i)(A)].

II. This option shall not be used when the treatment process is a biological treatment process. This option shall not be used when the wastewater is designated as an affected wastewater as specified in Condition 7.43.5(a)(i)(B) (see also 40 CFR 63.1256(a)(1)(ii)). Dilution shall not be used to achieve compliance with this option [40 CFR 63.1256(g)(8)(i)(B)].

B. *Percent mass removal/destruction option*. The owner or operator shall reduce, by removal or destruction, the mass of total partially soluble HAP compounds by 99 percent or more. The removal destruction efficiency shall be determined by the procedures specified in 40 CFR 63.1257 (e)(2)(iii)(C), for noncombustion, nonbiological treatment processes; 40 CFR 63.1257(e)(2)(iii)(D), for combustion

processes; and 40 CFR 63.1257 (e)(2)(iii)(F) or (G) for biological treatment processes [40 CFR 63.1256 (g)(8)(ii)].

viii. *Control options: Wastewater containing soluble HAP compounds*. Pursuant to 40 CFR 63.1256 (g)(9), the owner or operator shall comply with either Condition 7.43.5(g)(viii)(A) or (B) (see also 40 CFR 63.1256(g)(9)(i) or (ii)) for the control of soluble HAP compounds at new or existing sources.

A. *520 ppmw concentration option*. Pursuant to 40 CFR 63.1256(g)(9)(i), the owner or operator shall comply with Conditions 7.43.5(g)(viii)(A)(I) and (II) (see also 40 CFR 63.1256(g)(9)(i)(A) and (B)).

I. Reduce, by removal or destruction, the concentration of total soluble HAP compounds to a level less than 520 ppmw as determined in the procedures specified in 40 CFR 63.1257(e)(2)(iii)(B)) [40 CFR 63.1256(g)(9)(i)(A)].

II. This option shall not be used when the treatment process is a biological treatment process. This option shall not be used when the wastewater is designated as an affected wastewater as specified in Condition 7.43.5(a)(i)(B) (see also 40 CFR 63.1256(a)(1)(ii)). Dilution shall not be used to achieve compliance with this option [40 CFR 63.1256(g)(9)(i)(B)].

B. *Percent mass removal/destruction option*. The owner or operator shall reduce, by removal or destruction, the mass of total soluble HAP by 90 percent or more. The removal/destruction efficiency shall be determined by the procedures in 40 CFR 63.1257(e)(2)(iii)(C), for noncombustion, nonbiological treatment processes; 40 CFR 63.1257(e)(2)(iii)(D), for combustion processes; 40 CFR 63.1257(e)(2)(iii)(F) or (G) for biological treatment processes [40 CFR 63.1256(g)(9)(ii)].

ix. *Control option: Enhanced biotreatment for wastewater containing soluble HAP*. The owner

or operator may elect to treat affected wastewater streams containing soluble HAP and less than 50 ppmw partially soluble HAP in an enhanced biological treatment system, as defined in 40 CFR 63.1251. This option shall not be used when the wastewater is designated as an affected wastewater as specified in Condition 7.43.5 (a)(i)(B) (see also 40 CFR 63.1256(a)(1)(ii)). These treatment processes are exempt from the design evaluation or performance tests requirements specified in Condition 7.43.5 (g)(iii) (see also 40 CFR 63.1256(g)(4)) [40 CFR 63.1256(g)(10)].

x. *95-percent mass reduction option, for biological treatment processes.* Pursuant to 40 CFR 63.1256 (g)(11), the owner or operator of a new or existing source using biological treatment for any affected wastewater shall reduce the mass of total soluble and partially soluble HAP sent to that biological treatment unit by at least 95 percent. All wastewater as defined in 40 CFR 63.1251 entering such a biological treatment unit from PMPUs subject to 40 CFR 63 Subpart GGG shall be included in the demonstration of the 95-percent mass removal. The owner or operator shall comply with Conditions 7.43.5 (g)(x)(A) through (D) (see also 40 CFR 63.1256 (g)(11)(i) through (iv)).

A. Except as provided in Condition 7.43.5 (g)(x)(D) (see also 40 CFR 63.1256 (g)(11)(iv)), the owner or operator shall ensure that all wastewater from PMPUs subject to 40 CFR 63 Subpart GGG entering a biological treatment unit are treated to destroy at least 95-percent total mass of all soluble and partially soluble HAP compounds [40 CFR 63.1256(g)(11)(i)].

B. For open biological treatment processes, compliance shall be determined using the procedures specified in 40 CFR 63.1257 (e)(2)(iii)(E). For closed aerobic biological treatment processes compliance shall be determined using the procedures specified in 40 CFR 63.1257(e)(2)(iii)(E) or (G). For closed anaerobic biological treatment processes compliance shall be determined using the procedures specified in 40 CFR 63.1257(e)(2)(iii)(G) [40 CFR 63.1256(g)(11)(ii)].

C. For each treatment process or waste management unit that receives, manages, or treats wastewater subject to this paragraph, from the POD to the biological treatment unit, the owner or operator shall comply with Conditions 7.43.5(b) through (f) (see also 40 CFR 63.1256(b) through (f)) for control of air emissions. When complying with this paragraph, the term affected wastewater in Conditions 7.43.5(b) through (f) (see also 40 CFR 63.1256(b) through (f)) shall mean all wastewater from PMPUs, not just affected wastewater [40 CFR 63.1256(g)(11)(iii)].

D. If wastewater is in compliance with the requirements in Condition 7.43.5(g)(vii), (viii), or (xi) (see also 40 CFR 63.1256 (g)(8), (9), or (12)) before entering the biological treatment unit, the hazardous air pollutants mass of that wastewater is not required to be included in the total mass flow rate entering the biological treatment unit for the purpose of demonstrating compliance [40 CFR 63.1256 (g)(11)(iv)].

xi. *Percent mass removal/destruction option for soluble HAP compounds at new sources*. The owner or operator of a new source shall reduce, by removal or destruction, the mass flow rate of total soluble HAP from affected wastewater by 99 percent or more. The removal/destruction efficiency shall be determined by the procedures in 40 CFR 63.1257(e)(2)(iii)(C), for noncombustion, nonbiological treatment processes; 40 CFR 63.1257(e)(2)(iii)(D), for combustion processes; and 40 CFR 63.1257 (e)(2)(iii)(F) or (G) for biological treatment processes [40 CFR 63.1256(g)(12)].

xii. *Treatment in a RCRA unit option*. Pursuant to 40 CFR 63.1256(g)(13), the owner or operator shall treat the affected wastewater or residual in a unit identified in, and complying with, Condition 7.43.5(g)(xii)(A), (B), or (C) (see also 40 CFR 63.1256(g)(13)(i), (ii), or (iii)). These units are exempt from the design evaluation or performance tests requirements specified in Condition 7.43.5(g)(iii) (see also 40 CFR 63.1256(g)(4)) and Condition 7.43.12 (a)(ii)

(see also 40 CFR 63.1257(e)(2)), and from the monitoring requirements specified in Condition 7.43.5(a)(ii)(C) (see also 40 CFR 63.1256(a)(2)(iii)), as well as recordkeeping and reporting requirements associated with monitoring and performance tests.

A. The wastewater or residual is discharged to a hazardous waste incinerator for which the owner or operator has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 264, subpart O, or has certified compliance with the interim status requirements of 40 CFR part 265, subpart O [40 CFR 63.1256(g)(13)(i)];

B. Pursuant to 40 CFR 63.1256(g)(13)(ii), the wastewater or residual is discharged to a process heater or boiler burning hazardous waste for which the owner or operator:

I. Has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 266, subpart H [40 CFR 63.1256 (g)(13)(ii)(A)]; or

II. Has certified compliance with the interim status requirements of 40 CFR part 266, subpart H [40 CFR 63.1256(g)(13)(ii)(B)].

C. The wastewater or residual is discharged to an underground injection well for which the owner or operator has been issued a final permit under 40 CFR part 270 or 40 CFR part 144 and complies with the requirements of 40 CFR part 122. The owner or operator shall comply with all applicable requirements of 40 CFR 63 Subpart GGG prior to the point where the wastewater enters the underground portion of the injection well [40 CFR 63.1256 (g)(13)(iii)].

xiii. *Residuals*. Pursuant to 40 CFR 63.1256(g)(14), for each residual removed from affected wastewater, the owner or operator shall control for air emissions by complying with Conditions 7.43.5(b) through (f) (see also 40 CFR 63.1256(b) through (f)) and by complying with one of the provisions in Conditions

7.43.5 (g)(xiii)(A) through (D) (see also 40 CFR 63.1256(g)(14)(i) through (iv)).

A. Recycle the residual to a production process or sell the residual for the purpose of recycling. Once a residual is returned to a production process, the residual is no longer subject to Conditions 7.43.5(a) through (i) (see also 40 CFR 63.1256) [40 CFR 63.1256 (g)(14)(i)].

B. Return the residual to the treatment process [40 CFR 63.1256(g)(14)(ii)].

C. Treat the residual to destroy the total combined mass flow rate of soluble and/or partially soluble HAP compounds by 99 percent or more, as determined by the procedures specified in 40 CFR 63.1257 (e)(2)(iii)(C) or (D) [40 CFR 63.1256 (g)(14)(iii)].

D. Comply with the requirements for RCRA treatment options specified in Condition 7.43.5(g)(xii) (see also 40 CFR 63.1256 (g)(13)) [40 CFR 63.1256(g)(14)(iv)].

h. *Control devices*. Pursuant to 40 CFR 63.1256(h), for each control device or combination of control devices used to comply with the provisions in Conditions 7.43.5(b) through (f) and (g)(iv) (see also 40 CFR 63.1256(b) through (f) and (g)(5)), the owner or operator shall operate and maintain the control device or combination of control devices in accordance with the requirements of Conditions 7.43.5(h)(i) through (iv) (see also 40 CFR 63.1256(h)(1) through (4).

i. Whenever organic HAP emissions are vented to a control device which is used to comply with the provisions of 40 CFR 63 Subpart GGG, such control device shall be operating [40 CFR 63.1256(h)(1)].

ii. Pursuant to 40 CFR 63.1256(h)(2), the control device shall be designed and operated in accordance with Condition 7.43.5(h)(ii)(A), (B), (C), or (D) (see also 40 CFR 63.1256(h)(2)(i), (ii), (iii), (iv), or (v)), as demonstrated by the provisions in Condition 7.43.12(a)(iii) (see also 40 CFR 63.1257(e)(3)).

A. Pursuant to 40 CFR 63.1256(h)(2)(i), an enclosed combustion device (including but not limited to a vapor incinerator, boiler, or process heater) shall meet the conditions in Condition 7.43.5 (h)(ii)(A)(I), (II), or (III) (see also 40 CFR 63.1256(h)(2)(i)(A), (B), or (C)), alone or in combination with other control devices. If a boiler or process heater is used as the control device, then the vent stream shall be introduced into the flame zone of the boiler or process heater.

I. Reduce the organic HAP emissions vented to the control device by 95 percent by weight or greater [40 CFR 63.1256(h)(2)(i)(A)];

II. Achieve an outlet TOC concentration of 20 ppmv on a dry basis corrected to 3 percent oxygen. The owner or operator shall use either Method 18 of 40 CFR part 60, appendix A, or any other method or data that has been validated according to the applicable procedures in Method 301 of appendix A of 40 CFR part 63 [40 CFR 63.1256(h)(2)(i)(B)]; or

III. Provide a minimum residence time of 0.5 seconds at a minimum temperature of 760°C [40 CFR 63.1256 (h)(2)(i)(C)].

B. A flare shall comply with the requirements of 40 CFR 63.11(b) [40 CFR 63.1256 (h)(2)(iii)].

C. A scrubber, alone or in combination with other control devices, shall reduce the organic HAP emissions in such a manner that 95 weight-percent is either removed, or destroyed by chemical reaction with the scrubbing liquid, or achieve an outlet TOC concentration of 20 ppmv. The 20 ppmv performance standard is not applicable to compliance with the provisions of Conditions 7.43.5(c) or (d) (see also 40 CFR 63.1256(c) or (d)) [40 CFR 63.1256 (h)(2)(iv)].

D. Any other control device used shall, alone or in combination with other

control devices, reduce the organic HAP emissions vented to the control device by 95 percent by weight or greater or achieve an outlet TOC concentration of 20 ppmv. The 20 ppmv performance standard is not applicable to compliance with the provisions of Conditions 7.43.5(c) or (d) (see also 40 CFR 63.1256(c) or (d)) [40 CFR 63.1256 (h)(2)(v)].

iii. If the control device is a combustion device, the owner or operator shall comply with the requirements in Condition 5.4.2(g) (see also 40 CFR 63.1252(g)) to control halogenated vent streams [40 CFR 63.1256(h)(3)].

iv. Except as provided in Condition 7.43.5(i) (see also 40 CFR 63.1256(i)), if gaps, cracks, tears, or holes are observed in ductwork, piping, or connections to covers and control devices during an inspection, a first effort to repair shall be made as soon as practical but no later than 5 calendar days after identification. Repair shall be completed no later than 15 calendar days after identification or discovery of the defect [40 CFR 63.1256(h)(4)].

i. *Delay of repair*. Pursuant to 40 CFR 63.1256(i), delay of repair of equipment for which a control equipment failure or a gap, crack, tear, or hole has been identified, is allowed if the repair is technically infeasible without a shutdown, as defined in 40 CFR 63.1251, or if the owner or operator determines that emissions of purged material from immediate repair would be greater than the emissions likely to result from delay of repair. Repair of this equipment shall occur by the end of the next shutdown.

i. Delay of repair of equipment for which a control equipment failure or a gap, crack, tear, or hole has been identified, is allowed if the equipment is emptied or is no longer used to treat or manage affected wastewater or residuals removed from affected wastewater [40 CFR 63.1256(i)(1)].

ii. Delay of repair of equipment for which a control equipment failure or a gap, crack, tear, or hole has been identified is also allowed if additional time is necessary due to the unavailability of parts beyond the control of the owner or operator. Repair shall be completed as soon as practical. The owner or

operator who uses this provision shall comply with the requirements of Condition 7.43.9(e) (see also 40 CFR 63.1259(h)) to document the reasons that the delay of repair was necessary [40 CFR 63.1256 (i)(2)].

j. The existing wastewater treatment plant shall be operated so that all air discharged from wastewater treatment is vented to Boiler #7 and #8 for combustion air, vented to the packed bed scrubbers (X3-1 or X9-1), or soil filters (X8 or X9C).

k. i. The new aeration tank (X9A/B) and two clarifiers (X9D and X9E) must be covered and the odorous exhaust air must be captured and controlled by the two-stage packed bed scrubber (X9-1) or vented to boilers #7 and #8 for combustion air at all times.

ii. Equalization tank X9C must be covered and the odorous exhaust air must be captured and controlled by soil filter X9C or the two-stage packed bed scrubber X9-1.

l. Except when ventilation for maintenance activity is required, X1 Raw Wastewater Wet Well (X1 Tank) shall be enclosed and vented to Boiler #7 and #8 for combustion air, vented to the packed bed scrubber (X3-1), or soil filter X8.

m. The Permittee shall, in accordance with the manufacturer(s) and/or vendor(s) recommendations, perform maintenance on the scrubbers, boilers, and soil filters such that this pollution control equipment be kept in proper working condition and not cause a violation of the Act or regulations promulgated therein.

n. The issuance of this permit does not relieve the Permittee of the responsibility of complying with the provisions of the State of Illinois Rules and Regulations, 35 IAC Subtitle C, Water Pollution Control, Chapter I.

7.43.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected wastewater tanks are subject to the following:

a. i. Sulfur dioxide emissions resulting from the Biogas Plant, i.e., from the combustion of the biogas, shall not exceed 48.72 tons/yr.

ii. This permit is issued based upon a minimal hourly emission rate and negligible annual emissions (less than 0.1 ton/year) of hydrogen sulfide from the Biogas Plant.

iii. The above limitations were established in Permit 86100066, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

b. i. This permit is issued based on negligible emissions of volatile organic material from the wastewater treatment plant controlled by the packed bed scrubber (X3-1). For this purpose, emissions shall not exceed nominal emission rates of 146 lb/month and 0.44 ton/year.

ii. The above limitations contain revisions to previously issued Permit 91040037. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, the hourly emission limit of 0.10 lb for VOM has been replaced the monthly limit of 146 lb without any increase in the annual emissions limit [T1R].

c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the

current month plus the preceding 11 months (running 12 month total).

7.43.7 Testing Requirements

a. *General*. Except as specified in 40 CFR 63.1257(a)(5), the procedures specified in Conditions 7.43.12(a) and (b) (see also 40 CFR 63.1257(e) and (f)) are required to demonstrate initial compliance with Condition 7.43.5(a) through (i) (see also 40 CFR 63.1256), and 63.1252(e), respectively. The provisions in 40 CFR 63.1257(a)(2) through (3)apply to performance tests that are specified in 40 CFR 63.1257(e). The provisions in Condition 7.43.7(a)(iii) (see also 40 CFR 63.1257(a)(6)) are used to comply with the outlet concentration requirements specified in Condition 7.43.5(h)(ii) (see also 40 CFR 63.1256 (h)(2)).

i. *Design evaluation*. Pursuant to 40 CFR 63.1257 (a)(1), to demonstrate that a control device meets the required control efficiency, a design evaluation must address the composition and organic HAP concentration of the vent stream entering the control device. A design evaluation also must address other vent stream characteristics and control device operating parameters as specified in any one of Conditions 7.43.7(a)(i)(A) through (C) (see also 40 CFR 63.1257(a)(1)(i) through (vi)), depending on the type of control device that is used. If the vent stream is not the only inlet to the control device, the efficiency demonstration also must consider all other vapors, gases, and liquids, other than fuels, received by the control device.

A. For an enclosed combustion device used to comply with the provisions of Condition 7.43.5(h)(ii)(A)(III) (see also 40 CFR 63.1256(h)(2)(i)(C)) with a minimum residence time of 0.5 seconds and a minimum temperature of 760°C, the design evaluation must document that these conditions exist [40 CFR 63.1257 (a)(1)(i)].

B. Pursuant to 40 CFR 63.1257(a)(1)(ii), for a combustion control device that does not satisfy the criteria in Condition 7.43.7 (a)(i)(A) (see also 40 CFR 63.1257 (a)(1)(i)), the design evaluation must document control efficiency and address the following characteristics, depending on the type of control device:

For a boiler or process heater, the design evaluation shall consider the vent stream flow rate; shall establish the design minimum and average flame zone temperatures and combustion zone residence time; and shall describe the method and location where the vent stream is introduced into the flame zone [40 CFR 63.1257(a)(1)(ii)(C)].

C. The design evaluation shall consider the vent stream composition; constituent concentrations; liquid-to-vapor ratio; scrubbing liquid flow rate and concentration; temperature; and the reaction kinetics of the constituents with the scrubbing liquid. The design evaluation shall establish the design exhaust vent stream organic compound concentration level and will include the type and total surface area of packing for entire column, and for individual packed sections if column contains more than one packed section [40 CFR 63.1257 (a)(1)(vi)(B)].

ii. *Exemptions from compliance demonstrations*. Pursuant to 40 CFR 63.1257(a)(4), an owner or operator using any control device specified in Conditions 7.43.7(a)(ii)(A) through (C) (see also 40 CFR 63.1257(a)(4)(i) through (iv)) is exempt from the initial compliance provisions in Condition 7.43.12(a) (see also 40 CFR 63.1257(e)).

A. A boiler or process heater with a design heat input capacity of 44 megawatts or greater [40 CFR 63.1257(a)(4)(i)].

B. A boiler or process heater into which the emission stream is introduced with the primary fuel [40 CFR 63.1257(a)(4)(ii)].

C. Pursuant to 40 CFR 63.1257(a)(4)(iii), a boiler or process heater burning hazardous waste for which the owner or operator:

I. Has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR

part 266, subpart H [40 CFR 63.1257 (a)(4)(iii)(A)]; or

II. Has certified compliance with the interim status requirements of 40 CFR part 266, subpart H [40 CFR 63.1257(a)(4)(iii)(B)].

iii. *Initial compliance with the 20 ppmv outlet limit*. Initial compliance with the 20 ppmv TOC and hydrogen halide and halogen concentration is demonstrated when the outlet TOC concentration is 20 ppmv or less, and the outlet hydrogen halide and halogen concentration is 20 ppmv or less. To demonstrate initial compliance, the operator shall use test methods described in Condition 7.43.7(b) (see also 40 CFR 63.1257(b)). The owner or operator shall comply with the monitoring provisions in Condition 7.43.8(b)(i) through (iii) (see also 40 CFR 63.1258(b)(1) through (5)) on the initial compliance date [40 CFR 63.1257(a)(6)].

b. *Test methods*. Pursuant to 40 CFR 63.1257(b), when testing is conducted to measure emissions from an affected source, the test methods specified in Conditions 7.43.7(b)(i) through (vi) (see also 40 CFR 63.1257(b)(1) through (10)) shall be used.

i. EPA Method 1 or 1A of appendix A of 40 CFR part 60 is used for sample and velocity traverses [40 CFR 63.1257(b)(1)].

ii. EPA Method 2, 2A, 2C, or 2D of appendix A of 40 CFR part 60 is used for velocity and volumetric flow rates [40 CFR 63.1257(b)(2)].

iii. EPA Method 3 of appendix A of 40 CFR part 60 is used for gas analysis [40 CFR 63.1257(b)(3)].

iv. EPA Method 4 of appendix A of 40 CFR part 60 is used for stack gas moisture [40 CFR 63.1257 (b)(4)].

v. Pursuant to 40 CFR 63.1257(b)(6), concentration measurements shall be adjusted to negate the dilution effects of introducing nonaffected gaseous streams into the vent streams prior to control or measurement. The following methods are specified for concentration measurements:

A. Method 18 may be used to determine HAP concentration in any control device efficiency determination [40 CFR 63.1257 (b)(6)(i)].

B. Method 25 of appendix A of 40 CFR part 60 may be used to determine total gaseous nonmethane organic concentration for control efficiency determinations in combustion devices [40 CFR 63.1257 (b)(6)(ii)].

C. Method 26 of appendix A of 40 CFR part 60 shall be used to determine hydrogen chloride concentrations in control device efficiency determinations or in the 20 ppmv outlet hydrogen halide concentration standard [40 CFR 63.1257(b)(6)(iii)].

D. Pursuant to 40 CFR 63.1257(b)(6)(iv), Method 25A of appendix A of 40 CFR part 60 may be used to determine the HAP or TOC concentration for control device efficiency determinations under the conditions specified in Method 25 of appendix A for direct measurement of an effluent with a flame ionization detector, or in demonstrating compliance with the 20 ppmv TOC outlet standard. If Method 25A is used to determine the concentration of TOC for the 20 ppmv standard, the instrument shall be calibrated on methane or the predominant HAP. If calibrating on the predominant HAP, the use of Method 25A shall comply with Conditions 7.43.7 (b)(v)(D)(I) through (III) (see also 40 CFR 63.1257(b)(6)(iv)(A) through (C)).

I. The organic HAP used as the calibration gas for Method 25A, 40 CFR part 60, appendix A, shall be the single organic HAP representing the largest percent by volume [40 CFR 63.1257(b)(6)(iv)(A)].

II. The use of Method 25A, 40 CFR part 60, appendix A, is acceptable if the response from the high level calibration gas is at least 20 times the standard deviation of the response from the zero calibration gas when the instrument is zeroed

on the most sensitive scale [40 CFR 63.1257(b)(6)(iv)(B)].

III. The span value of the analyzer must be less than 100 ppmv [40 CFR 63.1257(b)(6)(iv)(C)].

vi. *Wastewater testing*. Pursuant to 40 CFR 63.1257 (b)(10), wastewater analysis shall be conducted in accordance with Condition 7.43.7(b)(vi)(A), (B), (C), or (D) (see also 40 CFR 63.1257 (b)(10)(i), (ii), (iii), or (iv)).

A. *Method 305*. Use procedures specified in Method 305 of 40 CFR part 63, appendix A and comply with requirements specified in Condition 7.43.7(b)(vi)(E) (see also 40 CFR 63.1257(b)(10)(v)) [40 CFR 63.1257 (b)(10)(i)].

B. *Method 624, 625, 1624, 1625, or 8270*. Use procedures specified in Method 624, 625, 1624, 1625, or 8270 of 40 CFR part 136, appendix A and comply with requirements in Condition 7.43.7(b)(vi)(E) (see also 40 CFR 63.1257(b)(10)(v)) [40 CFR 63.1257 (b)(10)(ii)].

C. *Other EPA Methods*. Pursuant to 40 CFR 63.1257(b)(10)(iii), use procedures specified in the method, validate the method using the procedures in Conditions 7.43.7(b)(vi)(C)(I) or (II) (see also 40 CFR 63.1257(b)(10)(iii)(A) or (B)), and comply with the procedures in Condition 7.43.7(b)(vi)(E) (see also 40 CFR 63.1257 (b)(10)(v)).

I. Validate the method according to section 5.1 or 5.3 of Method 301 of 40 CFR part 63, appendix A [40 CFR 63.1257(b)(10)(iii)(A)].

II. Follow the procedure as specified in "Alternative Validation Procedure for EPA Waste Methods" 40 CFR part 63, appendix D [40 CFR 63.1257 (b)(10)(iii)(B)].

D. *Methods other than an EPA method*. Use procedures specified in the method, validate the method using the procedures in Condition 7.43.7(b)(vi)(C)(I) (see

also 40 CFR 63.1257(b)(10)(iii)(A)), and comply with the requirements in Condition 7.43.7 (b)(vi)(E) (see also 40 CFR 63.1257 (b)(10)(v)) [40 CFR 63.1257(b)(10)(iv)].

E. *Sampling plan*. The owner or operator shall prepare a sampling plan. Wastewater samples shall be collected using sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity. The sample plan shall include procedures for determining recovery efficiency of the relevant partially soluble and soluble HAP compounds. An example of an acceptable sampling plan would be one that incorporates similar sampling and sample handling requirements to those of Method 25D of 40 CFR part 60, appendix A. The sampling plan shall be maintained at the facility [40 CFR 63.1257(b)(10)(v)].

c. Pursuant to Section 39.5(7)(b) of the Act, testing for the vapor pressure of the organic material in the effluent water received by the effluent water separator or discharged from any pump or compressor shall be performed as follows:

Upon reasonable request by the Illinois EPA, the vapor pressure of the organic material in the effluent water received by the effluent water separator or discharged from any pump or compressor shall be determined according to ASTM D2879-83, Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope (see 40 CFR 60.17(a)(37))

7.43.8 Monitoring Requirements

a. The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard as specified in this section. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish the operating parameter level [40 CFR 63.1258(a)].

b. *Monitoring for control devices*.

i. *Parameters to monitor*. Pursuant to 40 CFR 63.1258(b)(1), except as specified in Condition 7.43.8(b)(i)(A) (see also 40 CFR 63.1258 (b)(1)(i)), for each control device, the owner or operator shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4 of 40 CFR 63 Subpart GGG and in Conditions 7.43.8 (b)(i)(B) through (F) (see also 40 CFR 63.1258 (b)(1)(ii) through (xi)).

A. *Periodic verification*. For control devices that control vent streams totaling less than 1 ton/yr HAP emissions, before control, monitoring shall consist of a daily verification that the device is operating properly. If the control device is used to control batch process vents alone or in combination with other streams, the verification may be on a per batch basis. This verification shall include, but not be limited to, a daily or per batch demonstration that the unit is working as designed and may include the daily measurements of the parameters described in Conditions 7.43.8(b)(i)(B) through (F) (see also 40 CFR 63.1258 (b)(1)(ii) through (x)). This demonstration shall be included in the Precompliance report, to be submitted 6 months prior to the compliance date of the standard [40 CFR 63.1258(a)(1)(i)].

B. *Scrubbers*. Pursuant to 40 CFR 63.1258 (b)(1)(ii), for affected sources using liquid scrubbers, the owner or operator shall establish a minimum scrubber liquid flow rate or pressure drop as a site-specific operating parameter which must be measured and recorded every 15 minutes during the period in which the scrubber is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG. If the scrubber uses a caustic solution to remove acid emissions, the owner or operator shall establish a minimum pH of the effluent scrubber liquid as a site-specific operating parameter which must be monitored at

least once a day. The minimum scrubber flowrate or pressure drop shall be based on the conditions anticipated under worst-case conditions, as defined in 40 CFR 63.1257(b)(8)(i).

I. The monitoring device used to determine the pressure drop shall be certified by the manufacturer to be accurate to within a gage pressure of ±10 percent of the maximum pressure drop measured [40 CFR 63.1258(b)(1)(ii)(A)].

II. The monitoring device used for measurement of scrubber liquid flowrate shall be certified by the manufacturer to be accurate within ±10 percent of the design scrubber liquid flowrate [40 CFR 63.1258 (b)(1)(ii)(B)].

III. The monitoring device shall be calibrated annually [40 CFR 63.1258 (b)(1)(ii)(C)].

C. *Flares*. For each flare, the presence of the pilot flame shall be monitored every 15 minutes during the period in which the flare is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG [40 CFR 63.1258(b)(1)(vi)].

D. *Process heaters and boilers*.

I. Pursuant to 40 CFR 63.1258 (b)(1)(ix)(A), except as specified in Condition 7.43.8(b)(i)(D)(II) (see also 40 CFR 63.1258 (b)(1)(ix)(B)), for each boiler or process heater, the owner or operator shall establish the minimum temperature of the gases exiting the combustion chamber as the site-specific operating parameter which must be monitored and recorded at least once every 15 minutes during the period in which the boiler or process heater is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG.

(1) The temperature monitoring device must be accurate to within ±0.75 percent of the temperature measured in degrees Celsius or ±2.5°C, whichever is greater [40 CFR 63.1258(b)(1)(ix)(A)(1)].

(2) The temperature monitoring device must be calibrated annually [40 CFR 63.1258 (b)(1)(ix)(A)(2)].

II. Pursuant to 40 CFR 63.1258 (b)(1)(ix)(B), the owner or operator is exempt from the monitoring requirements specified in Condition 7.43.8(b)(i)(D)(I) (see also 40 CFR 63.1258(b)(1)(ix)(A)) if either:

(1) All vent streams are introduced with primary fuel [40 CFR 63.1258 (b)(1)(ix)(B)(1)]; or

(2) The design heat input capacity of the boiler or process heater is 44 megawatts or greater [40 CFR 63.1258 (b)(1)(ix)(B)(2)].

E. *Continuous emission monitor*. As an alternative to the parameters specified in Conditions 7.43.8(b)(i)(B) through (D) (see also 40 CFR 63.1258(b)(1)(ii) through (ix)), an owner or operator may monitor and record the outlet HAP concentration or both the outlet TOC concentration and outlet hydrogen halide and halogen concentration every 15 minutes during the period in which the control device is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG. The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens. The HAP or TOC monitor must meet the requirements of Performance Specification 8 or 9 of appendix B of part 60 and must be installed, calibrated, and maintained,

according to 40 CFR 63.8. As part of the QA/QC Plan, calibration of the device must include, at a minimum, quarterly cylinder gas audits [40 CFR 63.1258(b)(1)(x)].

F. *CVS visual inspections*. The owner or operator shall perform monthly visual inspections of each closed vent system as specified in 40 CFR 63.1252(b) [40 CFR 63.1258(b)(1)(xi)].

ii. *Averaging periods*. Pursuant to 40 CFR 63.1258 (b)(2), averaging periods for parametric monitoring levels shall be established according to Conditions 7.43.8(b)(ii)(A) through (C) (see also 40 CFR 63.1258(b)(2)(i) through (iii)).

A. Except as provided in Condition 7.43.8 (b)(ii)(C) (see also 40 CFR 63.1258 (b)(2)(iii)), a daily (24-hour) or block average shall be calculated as the average of all values for a monitored parameter level set according to the procedures in 40 CFR 63.1258(b)(3)(iii) recorded during the operating day or block [40 CFR 63.1258 (b)(2)(i)].

B. The operating day or block shall be defined in the Notification of Compliance Status report. The daily average may be from midnight to midnight or another continuous 24-hour period. The block average is limited to a period of time that is, at a maximum, equal to the time from the beginning to end of a batch process [40 CFR 63.1258(b)(2)(ii)].

C. Monitoring values taken during periods in which the control devices are not functioning in controlling emissions, as indicated by periods of no flow, shall not be considered in the averages. Where flow to the device could be intermittent, the owner or operator shall install, calibrate and operate a flow indicator at the inlet or outlet of the control device to identify periods of no flow [40 CFR 63.1258(b)(2)(iii)].

iii. *Request approval to monitor alternative parameters*. An owner or operator may request approval to monitor parameters other than

those required by Conditions 7.43.8(b)(i)(B) through (D) (see also 40 CFR 63.1258(b)(1)(ii) through (ix)). The request shall be submitted according to the procedures specified in 40 CFR 63.8(f) or included in the Precompliance report [40 CFR 63.1258(b)(4)].

iv. *Exceedances of operating parameters*. Pursuant to 40 CFR 63.1258(b)(6), an exceedance of an operating parameter is defined as one of the following:

A. If the parameter, averaged over the operating day or block, is below a minimum value established during the initial compliance demonstration [40 CFR 63.1258 (b)(6)(i)].

B. If the parameter, averaged over the operating day or block, is above the maximum value established during the initial compliance demonstration [40 CFR 63.1258(b)(6)(ii)].

C. Each loss of pilot flame for flares [40 CFR 63.1258(b)(6)(iii)].

v. *Excursions*. Pursuant to 40 CFR 63.1258(b)(7), excursions are defined by either of the two cases listed in Condition 7.43.8(b)(v)(A) or (B) (see also 40 CFR 63.1258(b)(7)(i) or (ii)).

A. When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in Condition 7.43.8 (b)(v)(C) (see also 40 CFR 63.1258 (b)(7)(iii)), for at least 75 percent of the operating hours [40 CFR 63.1258 (b)(7)(i)].

B. When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data [40 CFR 63.1258(b)(7)(ii)].

C. Monitoring data are insufficient to constitute a valid hour of data, as used in Conditions 7.43.8(b)(v)(A) and (B)

(see also 40 CFR 63.1258(b)(7)(i) and (ii)), if measured values are unavailable for any of the required 15-minute periods within the hour [40 CFR 63.1258(b)(7)(ii)].

vi. *Violations*. Pursuant to 40 CFR 63.1258(b)(8), exceedances of parameters monitored according to the provisions of Conditions 7.43.8(b)(i)(B) through (D) (see also 40 CFR 63.1258(b)(1)(ii) and (iv) through (ix)) or excursions as defined by Conditions 7.43.8(b)(v)(A) through (C) (see also 40 CFR 63.1258(b)(7)(i) through (iii)) constitute violations of the operating limit according to Conditions 7.43.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the temperature limit monitored according to the provisions of 40 CFR 63.1258(b)(1)(iii) or exceedances of the outlet concentrations monitored according to the provisions of Condition 7.43.8(b)(i)(E) (see also 40 CFR 63.1258(b)(1)(x)) constitute violations of the emission limit according to Condition 7.43.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of 40 CFR 63.1258(b)(5) constitute violations of the emission limit according to the provisions of Conditions 7.43.8(b)(vi)(C) and (D) (see also 40 CFR 63.1258(b)(8)(iii) and (iv)).

A. Except as provided in Condition 7.43.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process [40 CFR 63.1258(b)(8)(i)].

B. Except as provided in Condition 7.43.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device, for each process for which the control device is in service [40 CFR 63.1258(b)(8)(ii)].

C. Except as provided in Condition 7.43.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device. Except as provided in Condition 7.43.8(b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv hydrogen halide or halogen outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device [40 CFR 63.1258 (b)(8)(iii)].

D. Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur during a startup, shutdown, or malfunction, and the facility follows its startup, shutdown, and malfunction plan [40 CFR 63.1258 (b)(8)(iv)].

c. *Pollution prevention*. The owner or operator of any affected source that chooses to comply with the requirements of Conditions 5.4.1(e)(ii) and (iii) (see also 40 CFR 63.1252(e)(2) and (3)) shall calculate a yearly rolling average of kg HAP consumption per kg production and kg VOC consumption per kg production every month or every 10 batches. Each rolling average kg/kg factor that exceeds the value established in Condition 7.43.12(b)(i)(B) (see also 40 CFR 63.1257 (f)(1)(ii)) will be considered a violation of the emission limit [40 CFR 63.1258(e)].

d. *Inspection and monitoring of waste management units and treatment processes*.

i. For each wastewater tank, surface impoundment, container, individual drain system, and oil-water separator that receives, manages, or treats wastewater, a residual removed from wastewater, a recycled wastewater, or a recycled residual removed from wastewater, the owner or operator shall comply with the inspection requirements specified in Table 7 of 40 CFR 63 Subpart GGG [40 CFR 63.1258(g)(1)].

ii. For each biological treatment unit used to comply with Condition 7.43.5(g) (see also 40 CFR 63.1256(g)), the owner or operator shall

monitor TSS, BOD, and the biomass concentration at a frequency approved by the Illinois EPA and/or USEPA and using methods approved by the Illinois EPA and/or USEPA. The owner or operator may request approval to monitor other parameters. The request shall be submitted in the Precompliance report according to the procedures specified in Condition 7.43.10(c) (see also 40 CFR 63.1260(e)), and shall include a description of planned reporting and recordkeeping procedures. The owner or operator shall include as part of the submittal the basis for the selected monitoring frequencies and the methods that will be used. The Illinois EPA and/or USEPA will specify appropriate reporting and recordkeeping requirements as part of the review of the permit application or by other appropriate means [40 CFR 63.1258(g)(2)].

iii. For nonbiological treatment units, the owner or operator shall request approval to monitor appropriate parameters that demonstrate proper operation of the selected treatment process. The request shall be submitted in the Precompliance report according to the procedures specified in Condition 7.43.10(c) (see also 40 CFR 63.1260(e)), and shall include a description of planned reporting and recordkeeping procedures. The Illinois EPA and/or USEPA will specify appropriate reporting and recordkeeping requirements as part of the review of the permit application or by other appropriate means [40 CFR 63.1258(g)(3)].

e. Leak inspection provisions for vapor suppression equipment.

i. Except as provided in Condition 7.43.8(e)(ix) (see also 40 CFR 63.1258(h)(9)), for each vapor collection system, closed-vent system, fixed roof, cover, or enclosure required to comply with this section, the owner or operator shall comply with the requirements of Conditions 7.43.8(e)(ii) through (viii) (see also 40 CFR 63.1258(h)(2) through (8)) [40 CFR 63.1258 (h)(1)].

ii. Pursuant to 40 CFR 63.1258(h)(2), except as provided in Conditions 7.43.8(e)(vi) and (vii) (see also 40 CFR 63.1258(h)(6) and (7)), each vapor collection system and closed-vent system

shall be inspected according to the procedures and schedule specified in Conditions 7.43.8 (e)(ii)(A) and (C) (see also 40 CFR 63.1258 (h)(2)(i) and (ii)) and each fixed roof, cover, and enclosure shall be inspected according to the procedures and schedule specified in Condition 7.43.8(e)(ii)(C) (see also 40 CFR 63.1258(h)(2)(iii)).

A. Pursuant to 40 CFR 63.1258(h)(2)(i), if the vapor collection system or closed-vent system is constructed of hard-piping, the owner or operator shall:

   I. Conduct an initial inspection according to the procedures in Condition 7.43.8(e)(iii) (see also 40 CFR 63.1258(h)(3)) [40 CFR 63.1258(h)(2)(i)(A)]; and

   II. Conduct annual visual inspections for visible, audible, or olfactory indications of leaks [40 CFR 63.1258 (h)(2)(i)(B)].

B. Pursuant to 40 CFR 63.1258(h)(2)(ii), if the vapor collection system or closed-vent system is constructed of ductwork, the owner or operator shall:

   I. Conduct an initial inspection according to the procedures in Condition 7.43.8(e)(iii) (see also 40 CFR 63.1258(h)(3)) [40 CFR 63.1258(h)(2)(ii)(A)];

   II. Conduct annual inspections according to the procedures in Condition 7.43.8(e)(iii) (see also 40 CFR 63.1258(h)(3)) [40 CFR 63.1258 (h)(2)(ii)(B)]; and

   III. Conduct annual visual inspections for visible, audible, or olfactory indications of leaks [40 CFR 63.1258 (h)(2)(ii)(C)].

C. Pursuant to 40 CFR 63.1258(h)(2)(iii), for each fixed roof, cover, and enclosure, the owner or operator shall:

   I. Conduct an initial inspection according to the procedures in Condition 7.43.8(e)(iii) (see also

40 CFR 63.1258(h)(3)) [40 CFR 63.1258(h)(2)(iii)(A)]; and

II. Conduct semiannual visual inspections for visible, audible, or olfactory indications of leaks [40 CFR 63.1258(h)(2)(iii)(B)].

iii. Pursuant to 40 CFR 63.1258(h)(3), each vapor collection system, closed-vent system, fixed roof, cover, and enclosure shall be inspected according to the procedures specified in Conditions 7.43.8(e)(iii)(A) through (E) (see also 40 CFR 63.1258(h)(3)(i) through (v)).

A. Inspections shall be conducted in accordance with Method 21 of 40 CFR part 60, appendix A [40 CFR 63.1258(h)(3)(i)].

B. *Detection instrument performance criteria.*

I. Except as provided in Condition 7.43.8(e)(iii)(B)(II) (see also 40 CFR 63.1258(h)(3)(ii)(B)), the detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the average composition of the process fluid not each individual VOC in the stream. For process streams that contain nitrogen, air, or other inerts which are not organic HAP or VOC, the average stream response factor shall be calculated on an inert-free basis [40 CFR 63.1258(h)(3)(ii)(A)].

II. If no instrument is available at the plant site that will meet the performance criteria specified in Condition 7.43.8(e)(iii)(B)(I) (see also 40 CFR 63.1258(h)(3)(ii)(A)), the instrument readings may be adjusted by multiplying by the average response factor of the process fluid, calculated on an inert-free basis as described in Condition 7.43.8(e)(iii)(B)(I) (see also 40 CFR 63.1258(h)(3)(ii)(A)) [40 CFR 63.1258(h)(3)(ii)(B)].

C. The detection instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A [40 CFR 63.1258(h)(3)(iii)].

D. Calibration gases shall be as follows:

I. Zero air (less than 10 parts per million hydrocarbon in air) [40 CFR 63.1258(h)(3)(iv)(A)]; and

II. Mixtures of methane in air at a concentration less than 10,000 parts per million. A calibration gas other than methane in air may be used if the instrument does not respond to methane or if the instrument does not meet the performance criteria specified in Condition 7.43.8 (e)(ii)(B)(I) (see also 40 CFR 63.1258(h)(2)(ii)(A)). In such cases, the calibration gas may be a mixture of one or more of the compounds to be measured in air [40 CFR 63.1258(h)(3)(iv)(B)].

E. An owner or operator may elect to adjust or not adjust instrument readings for background. If an owner or operator elects to not adjust readings for background, all such instrument readings shall be compared directly to the applicable leak definition to determine whether there is a leak. If an owner or operator elects to adjust instrument readings for background, the owner or operator shall measure background concentration using the procedures in 40 CFR 63.180(b) and (c). The owner or operator shall subtract background reading from the maximum concentration indicated by the instrument [40 CFR 63.1258 (h)(3)(v)].

F. The background level shall be determined according to the procedures in Method 21 of 40 CFR part 60 appendix A [40 CFR 63.1258(h)(3)(vi)].

G. The arithmetic difference between the maximum concentration indicated by the instrument and the background level shall

be compared with 500 parts per million for determining compliance [40 CFR 63.1258 (h)(3)(vii)].

iv. Pursuant to 40 CFR 63.1258(h)(4), leaks, as indicated by an instrument reading greater than 500 parts per million above background or by visual inspections, shall be repaired as soon as practicable, except as provided in Condition 7.43.8(e)(v) (see also 40 CFR 63.1258(h)(5)).

A. A first attempt at repair shall be made no later than 5 calendar days after the leak is detected [40 CFR 63.1258(h)(4)(i)].

B. Repair shall be completed no later than 15 calendar days after the leak is detected, except as provided in Condition 7.43.8 (e)(iv)(C) (see also 40 CFR 63.1258 (h)(4)(iii)) [40 CFR 63.1258(h)(4)(ii)].

C. For leaks found in vapor collection systems used for transfer operations, repairs shall be completed no later than 15 calendar days after the leak is detected or at the beginning of the next transfer loading operation, whichever is later [40 CFR 63.1258(h)(4)(iii)].

v. Delay of repair of a vapor collection system, closed-vent system, fixed roof, cover, or enclosure for which leaks have been detected is allowed if the repair is technically infeasible without a shutdown, as defined in 40 CFR 63.1251, or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next shutdown [40 CFR 63.1258(h)(5)].

vi. Pursuant to 40 CFR 63.1258(h)(6), any parts of the vapor collection system, closed-vent system, fixed roof, cover, or enclosure that are designated, as described in Condition 7.43.8 (e)(viii)(A) (see also 40 CFR 63.1258(h)(8)(i)), as unsafe to inspect are exempt from the inspection requirements of Conditions 7.43.8 (e)(ii)(A), (B), and (C)

(see also 40 CFR 63.1258(h)(2)(i), (ii), and (iii)) if:

A. The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with Conditions 7.43.8(e)(ii)(A), (B), or (C) (see also 40 CFR 63.1258(h)(2)(i), (ii), or (iii)) [40 CFR 63.1258(h)(6)(i)]; and

B. The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times [40 CFR 63.1258 (h)(6)(ii)].

vii. Pursuant to 40 CFR 63.1258(h)(7), any parts of the vapor collection system, closed-vent system, fixed roof, cover, or enclosure that are designated, as described in Condition 7.43.8 (e)(viii)(B) (see also 40 CFR 63.1258 (h)(8)(ii)), as difficult to inspect are exempt from the inspection requirements of Conditions 7.43.8(e)(ii)(A), (B), (C)(I) (see also 40 CFR 63.1258(h)(2)(i), (ii), and (iii)(A)) if:

A. The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface [40 CFR 63.1258(h)(7)(i)]; and

B. The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years [40 CFR 63.1258(h)(7)(ii)].

viii. Records shall be maintained as specified in Condition 7.43.9(f)(iv) through (ix) (see also 40 CFR 63.1259(i)(4) through (9)) [40 CFR 63.1258(h)(8)].

ix. If a closed-vent system subject to this section is also subject to the equipment leak provisions of Condition 5.4.2 (see also 40 CFR 63.1255), the owner or operator shall comply with the provisions of Condition 5.4.2 (see also 40 CFR 63.1255 and is exempt from the requirements of Conditions 7.43.8(a) through (e) (see also 40 CFR 63.1258) [40 CFR 63.1258(h)(9)].

f. Pursuant to Sections 39.5(7)(b) and (d) of the Act, the Biogas Plant shall be equipped with a hydrogen sulfide monitor to measure the hydrogen sulfide content of the biogas. Operation, calibration, and maintenance for the instrument shall be conducted in accordance with the manufacturer's recommendations.

7.43.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected wastewater treatment tank to demonstrate compliance with Conditions 5.5.1, 7.43.3, 7.43.5, and 7.43.6, pursuant to Section 39.5(7)(b) of the Act:

a. *Records of equipment operation*. Pursuant to 40 CFR 63.1259(b), the owner or operator must keep the following records up-to-date and readily accessible:

i. Each measurement of a control device operating parameter monitored in accordance with Conditions 7.43.8(a) through (e) (see also 40 CFR 63.1258) and each measurement of a treatment process parameter monitored in accordance with Condition 7.43.8(d)(ii) and (iii) (see also 40 CFR 63.1258(g)(2) and (3)) [40 CFR 63.1259 (b)(1)].

ii. For processes subject to Condition 5.4.1(e) (see also 40 CFR 63.1252(e)), records of consumption, production, and the rolling average values of the production-indexed HAP and VOC consumption factors [40 CFR 63.1259(b)(2)].

iii. For each continuous monitoring system used to comply with 40 CFR 63 Subpart GGG, records documenting the completion of calibration checks and maintenance of continuous monitoring systems [40 CFR 63.1259(b)(3)].

iv. Wastewater concentration per POD or process [40 CFR 63.1259(b)(7)].

v. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].

vi. Description of worst-case operating conditions as determined using the procedures described in 40 CFR 63.1257(b)(8) for control devices [40 CFR 63.1259(b)(10)].

vii. Periods of planned routine maintenance as described in 40 CFR 63.1257(c)(5) [40 CFR 63.1259(b)(11)].

b. *Records of operating scenarios*. The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with 40 CFR 63 Subpart GGG [40 CFR 63.1259(c)].

c. *Records of delay of repair*. Documentation of a decision to use a delay of repair due to unavailability of parts, as specified in Condition 7.43.5(i) (see also 40 CFR 63.1256(i)), shall include a description of the failure, the reason additional time was necessary (including a statement of why replacement parts were not kept onsite and when delivery from the manufacturer is scheduled), and the date when the repair was completed [40 CFR 63.1259(f)].

d. *Record of wastewater stream or residual transfer*. The owner or operator transferring an affected wastewater stream or residual removed from an affected wastewater stream in accordance with Condition 7.43.5(a)(iv) (see also 40 CFR 63.1256(a)(5)) shall keep a record of the notice sent to the treatment operator stating that the wastewater stream or residual contains organic HAP which are required to be managed and treated in accordance with the provisions of 40 CFR 63 Subpart GGG [40 CFR 63.1259(g)].

e. *Records of extensions*. The owner or operator shall keep documentation of a decision to use an extension, as specified in Condition 7.43.5(b)(vi)(B) or (b)(ix) (see also 40 CFR 63.1256(b)(6)(ii) or (b)(9)), in a readily accessible location. The documentation shall include a description of the failure, documentation that alternate storage capacity is unavailable, and specification of a schedule of actions that will ensure that the control equipment will be repaired and the tank will be emptied as soon as practical [40 CFR 63.1259(h)].

f. *Records of inspections*. Pursuant to 40 CFR 63.1259(i), the owner or operator shall keep records specified in Conditions 7.43.9(f)(i) through (ix) (see also 40 CFR 63.1259(i)(1) through (9)).

i. A record that each waste management unit inspection required by Condition 7.43.5(b) through (f) (see also 40 CFR 63.1256(b) through (f)) was performed [40 CFR 63.1259(i)(1)].

ii. A record that each inspection for control devices required by Condition 7.43.5(h) (see also 40 CFR 63.1256(h)) was performed [40 CFR 63.1259(i)(2)].

iii. A record of the results of each seal gap measurement required by Conditions 7.43.5(b)(v) and (f)(iii) (see also 40 CFR 63.1256(b)(5) and (f)(3)). The records shall include the date of measurement, the raw data obtained in the measurement, and the calculations described in 40 CFR 63.120(b)(2) through (4) [40 CFR 63.1259 (i)(3)].

iv. Records identifying all parts of the vapor collection system, closed-vent system, fixed roof, cover, or enclosure that are designated as unsafe to inspect in accordance with Condition 7.43.8(e)(vi) (see also 40 CFR 63.1258(h)(6)), an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment [40 CFR 63.1259(i)(4)].

v. Records identifying all parts of the vapor collection system, closed-vent system, fixed roof, cover, or enclosure that are designated as difficult to inspect in accordance with Condition 7.43.8(e)(vii) (see also 40 CFR 63.1258(h)(7)), an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment [40 CFR 63.1259 (i)(5)].

vi. Pursuant to 40 CFR 63.1259(i)(6), for each vapor collection system or closed-vent system that contains bypass lines that could divert a vent stream away from the control device and to the atmosphere, the owner or operator shall keep a record of the information specified in either Condition 7.43.9(f)(vi)(A) or (B) (see also 40 CFR 63.1259(i)(6)(i) or (ii)).

A. Hourly records of whether the flow indicator specified under Condition 5.4.1 (b)(i) (see also 40 CFR 63.1252(b)(1)) was operating and whether a diversion was detected at any time during the hour, as well as records of the times and durations of all periods when the vent stream is diverted from the control device or the flow indicator is not operating [40 CFR 63.1259(i)(6)(i)].

B. Where a seal mechanism is used to comply with Condition 5.4.1(b)(ii) (see also 40 CFR 63.1252(b)(2)), hourly records of flow are not required. In such cases, the owner or operator shall record that the monthly visual inspection of the seals or closure mechanisms has been done, and shall record the occurrence of all periods when the seal mechanism is broken, the bypass line valve position has changed, or the key for a lock-and-key type lock has been checked out, and records of any car-seal that has broken [40 CFR 63.1259(i)(6)(ii)].

vii. Pursuant to 40 CFR 63.1259(i)(7), for each inspection conducted in accordance with Condition 7.43.8(e)(ii) and (iii) (see also 40 CFR 63.1258(h)(2) and (3)) during which a leak is detected, a record of the information specified in Conditions 7.43.9(f)(vii)(A) through (H) (see also 40 CFR 63.1259(i)(7)(i) through (viii)).

A. The instrument identification numbers; operator name or initials; and identification of the equipment [40 CFR 63.1259(i)(7)(i)].

B. The date the leak was detected and the date of the first attempt to repair the leak [40 CFR 63.1259(i)(7)(ii)].

C. Maximum instrument reading measured by the method specified in Condition 7.43.8 (e)(iv) (see also 40 CFR 63.1258(h)(4)) after the leak is successfully repaired or determined to be nonrepairable [40 CFR 63.1259(i)(7)(iii)].

D. "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak [40 CFR 63.1259(i)(7)(iv)].

E. The name, initials, or other form of identification of the owner or operator (or designee) whose decision it was that repair could not be effected without a shutdown [40 CFR 63.1259(i)(7)(v)].

F. The expected date of successful repair of the leak if a leak is not repaired within

15 calendar days [40 CFR 63.1259 (i)(7)(vi)].

G. Dates of shutdowns that occur while the equipment is unrepaired [40 CFR 63.1259 (i)(7)(vii)].

H. The date of successful repair of the leak [40 CFR 63.1259(i)(7)(viii)].

viii. For each inspection conducted in accordance with Condition 7.43.8(e)(iii) (see also 40 CFR 63.1258(h)(3)) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected [40 CFR 63.1259(i)(8)].

ix. For each visual inspection conducted in accordance with Condition 7.43.8(e)(ii)(A)(II) or (e)(ii)(C)(II) (see also 40 CFR 63.1258 (h)(2)(i)(B) or (h)(2)(iii)(B)) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected [40 CFR 63.1259(i)(9)].

g. Records of the testing of the organic material in the effluent water pursuant to Condition 7.43.7(c), which include the following [Section 39.5(7)(e) of the Act]:

i. Identification of material tested;

ii. Results of analysis;

iii. Documentation of analysis methodology; and

iv. Person performing analysis.

h. Records addressing use of good operating practices for the scrubbers, boilers, flare, and soil filters:

i. Records for periodic inspection of the scrubbers, boilers, flare, and soil filters with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

i. A daily summary of the following parameters from the Biogas Plant, which are monitored on an hourly basis:

   i. Gas flow rate of the biogas, scfm;

   ii. Methane content of the biogas, % by Wt;

   iii. Amount of biogas diverted to the flare, scf;

   iv. Amount of biogas vented to the emergency venting stack, scf;

j. Information on the production and utilization of biogas as follows:

   i. Monthly production of biogas, scf;

   ii. Average hydrogen sulfide content on a monthly basis, % by Wt;

   iii. Average methane content on a monthly basis, % by Wt;

   iv. Average methane heat content on a monthly basis, Btu/scf;

   v. Amount of biogas burned in the flare on a monthly basis, scf;

   vi. Monthly sulfur dioxide emissions, lb/mo; and

   vii. Aggregate annual sulfur dioxide emissions (the sum of each month plus the previous 11 months), ton/yr.

k. The operating schedule of affected wastewater treatment tanks; and

l. Monthly and annual aggregate H_2S, SO_2, VOM, and HAP emissions from the affected wastewater treatment tanks shall be maintained, based on the operating schedule and typical hourly emission rate, with supporting calculations.

7.43.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected wastewater treatment tank with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. *Periodic reports*. Pursuant to 40 CFR 63.1260(g), an owner or operator shall prepare Periodic reports in accordance with Conditions 7.43.10(a)(i) and (ii) (see also 40 CFR 63.1260(g)(1) and (2)) and submit them to the Illinois EPA and/or USEPA.

i. *Submittal schedule*. Pursuant to 40 CFR 63.1260 (g)(1), Except as provided in Conditions 7.43.10 (a)(i)(A), (B), and (C) (see also 40 CFR 63.1260 (g)(1)(i), (ii) and (iii)), an owner or operator shall submit Periodic reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due.

A. When the Illinois EPA and/or USEPA determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source [40 CFR 63.1260 (g)(1)(i)]; or

B. When the monitoring data are used directly for compliance determination and the source experience excess emissions, in which case quarterly reports shall be submitted. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in 40 CFR 63.10(e)(3)(ii) and (iii) shall apply, except that the term "excess emissions and continuous monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of Condition 7.43.10 (see also 40 CFR 63.1260) [40 CFR 63.1260(g)(1)(ii)].

C. When a new operating scenario has been operated since the last report, in which case quarterly reports shall be submitted [40 CFR 63.1260(g)(1)(iii)].

ii. *Content of Periodic report*. Pursuant to 40 CFR 63.1260(g)(2), the owner or operator shall

include the information in Conditions 7.43.10 (a)(ii)(A) through (D) (see also 40 CFR 63.1260 (g)(2)(i) through (vii)), as applicable.

A. Each Periodic report must include the information in 40 CFR 63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the information in 40 CFR 63.10(e)(3)(vi)(J) [40 CFR 63.1260(g)(2)(i)].

B. Pursuant to 40 CFR 63.1260(g)(2)(ii), if the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in Conditions 7.43.10(a)(ii)(B)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(ii)(A) through (D)).

I. Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(A)].

II. Duration of excursions, as defined in Condition 7.43.8(b)(v) (see also 40 CFR 63.1258(b)(7)) [40 CFR 63.1260(g)(2)(ii)(B)].

III. Operating logs and operating scenarios for all operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(C)].

IV. When a continuous monitoring system is used, the information required

in 40 CFR 63.10(c)(5) through (13) [40 CFR 63.1260(g)(2)(ii)(D)].

C. Pursuant to 40 CFR 63.1260(g)(2)(v), the information in Conditions 7.43.10 (a)(ii)(C)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(v)(A) through (D)) shall be stated in the Periodic report, when applicable.

I. No excess emissions [40 CFR 63.1260 (g)(2)(v)(A)].

II. No exceedances of a parameter [40 CFR 63.1260(g)(2)(v)(B)].

III. No excursions [40 CFR 63.1260 (g)(2)(v)(C)].

IV. No continuous monitoring system has been inoperative, out of control, repaired, or adjusted [40 CFR 63.1260(g)(2)(v)(D)].

D. Each new operating scenario which has been operated since the time period covered by the last Periodic report. For the initial Periodic report, each operating scenario for each process operated since the compliance date shall be submitted [40 CFR 63.1260(g)(2)(vii)].

b. *Notification of process change*.

i. Pursuant to 40 CFR 63.1260(h)(1), except as specified in Condition 7.43.10(b)(ii) (see also 40 CFR 63.1260(h)(2)), whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report quarterly. The report may be submitted as part of the next Periodic report required under Condition 7.43.10(a) (see also 40 CFR 63.1260(g)). The report shall include:

A. A brief description of the process change [40 CFR 63.1260(h)(1)(i)].

B. A description of any modifications to standard procedures or quality assurance procedures [40 CFR 63.1260(h)(1)(ii)].

C. Revisions to any of the information reported in the original Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) [40 CFR 63.1260(h)(1)(iii)].

D. Information required by the Notification of Compliance Status Report under Condition 5.7.3(k) (see also 40 CFR 63.1260(f)) for changes involving the addition of processes or equipment [40 CFR 63.1260(h)(1)(iv)].

ii. Pursuant to 40 CFR 63.1260(h)(2), an owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

A. Any change in the activity covered by the Precompliance report [40 CFR 63.1260 (h)(2)(i)].

B. A change in the status of a control device from small to large [40 CFR 63.1260 (h)(2)(ii)].

c. *Reports of startup, shutdown, and malfunction*. For the purposes of 40 CFR 63 Subpart GGG, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the periodic reports required under Condition 7.43.10(a) (see also 40 CFR 63.1260(g)) instead of the schedule specified in 40 CFR 63.10 (d)(5)(i). These reports shall include the information specified in Condition 5.6.2(n)(iii)(A) through (C) (see also 40 CFR 63.1259(a)(3)(i) through (iii)) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in 40 CFR 63.10(d)(4)(ii) [40 CFR 63.1260(i)].

d. *Notification of performance test and test plan*. The owner or operator of an affected source shall notify the Illinois EPA and/or USEPA of the planned date of a performance test at least 60 days before the test in accordance with 40 CFR 63.7(b). The owner or operator also must submit the test plan required by

40 CFR 63.7(c) and the emission profile required by 40 CFR 63.1257(b)(8)(ii) with the notification of the performance test [40 CFR 63.1260(l)].

e. *Request for extension of compliance*. An owner or operator may submit to the Illinois EPA and/or USEPA a request for an extension of compliance in accordance with 40 CFR 63.1250(f)(4) [40 CFR 63.1260(m)].

f. The Permittee shall notify the Illinois EPA of a determination that vapor pressure of the organic material in the effluent water received by the effluent water separator is equal to or above 17.24 kPa (2.5 psia) at 294.3°K (70°F) within 30 calendar days of such an occurrence.

g. Emissions of H_2S, SO_2, and/or VOM in excess of the limits specified in Conditions 7.43.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.43.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.43.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.43.9 and the emission factors and formulas listed below:

a. *Compliance with the NESHAP for Pharmaceutical Manufacturing Wastewater Provisions.*

i. *Determining annual average concentration and annual load*. Pursuant to 40 CFR 63.1257(e)(1), to determine the annual average concentration and annual load of partially soluble and/or soluble HAP compounds in a wastewater stream, as required by Condition 7.43.5(a)(i) (see also 40 CFR 63.1256(a)(1)), an owner or operator shall comply with the provisions in Conditions 7.43.12 (a)(i)(A) through (B) (see also 40 CFR 63.1257 (e)(1)(i) through (iii)). A wastewater stream is exempt from the requirements of Condition 7.43.5 (a)(ii) (see also 40 CFR 63.1256(a)(2)) if the owner or operator determines the annual average concentration and annual load are below all of the applicability cutoffs specified in Condition 7.43.5(a)(i)(A)(I) through (IV) (see also 40 CFR 63.1256(a)(1)(i)(A) through (D)). For annual

average concentration, only initial rinses are included. Concentration measurements based on Method 305 shall be adjusted by dividing each concentration by the compound-specific Fm factor listed in Table 8 of 40 CFR 63 Subpart GGG. Concentration measurements based on methods other than Method 305 may not be adjusted by the compound-specific Fm factor listed in Table 8 of 40 CFR 63 Subpart GGG.

A. *Determination of annual average concentration*. Pursuant to 40 CFR 63.1257 (e)(1)(ii), an owner or operator shall determine annual average concentrations of partially soluble and/or soluble HAP compounds in accordance with the provisions specified in Condition 7.43.12 (a)(i)(A)(I), (II), or (III) (see also 40 CFR 63.1257(e)(1)(ii)(A), (B), or (C)). The owner or operator may determine annual average concentrations by process simulation. Data and other information supporting the simulation shall be reported in the Precompliance Report for approval by the Illinois EPA and/or USEPA. The annual average concentration shall be determined either at the POD or downstream of the POD with adjustment for concentration changes made according to Condition 7.43.12(a)(i)(A)(IV) (see also 40 CFR 63.1257(e)(1)(ii)(D).

I. *Test methods*. The concentration of partially soluble HAP, soluble HAP, or total HAP shall be measured using any of the methods described in Conditions 7.43.7(b)(vi)(A) through (B) (see also 40 CFR 63.1257 (b)(10)(i) through (iv) [40 CFR 63.1257(e)(1)(ii)(A)].

II. *Knowledge of the wastewater stream*. Pursuant to 40 CFR 63.1257 (e)(1)(ii)(B), the concentration of partially soluble HAP, soluble HAP, or total HAP shall be calculated based on knowledge of the wastewater stream according to the procedures in Conditions 7.43.12(a)(i)(A)(I)(1) and (2) (see also 40 CFR 63.1257 (e)(1)(ii)(B)(1) and (2)). The owner or operator shall document

concentrations in the Notification of Compliance Status report described in Condition 5.7.3(d) (see also 40 CFR 63.1260(f)).

(1) *Mass balance*. The owner or operator shall calculate the concentrations of HAP compounds in wastewater considering the total quantity of HAP discharged to the water, the amount of water at the POD, and the amounts of water and solvent lost to other mechanisms such as reactions, air emissions, or uptake in product or other processing materials. The quantities of HAP and water shall be based on batch sheets, manufacturing tickets, or FDA bills of materials. In cases where a chemical reaction occurs that generates or consumes HAP, the amount of HAP remaining after a reaction shall be based on stoichometry assuming 100 percent theoretical consumption or yield, as applicable [40 CFR 63.1257(e)(1)(ii)(B)(1)].

(2) *Published water solubility data*. For single components in water, owners and operators may use the water solubilities published in standard reference texts at the POD temperature to determine maximum HAP concentration [40 CFR 63.1257(e)(1)(ii)(B)(2)].

III. *Bench scale or pilot-scale test data*. The concentration of partially soluble HAP, soluble HAP, or total HAP shall be calculated based on bench scale or pilot-scale test data. The owner or operator shall provide sufficient information to demonstrate that the bench-scale or pilot-scale test concentration data are

representative of actual HAP concentrations. The owner or operator shall also provide documentation describing the testing protocol, and the means by which sample variability and analytical variability were accounted for in the determination of HAP concentrations. Documentation of the pilot-scale or bench scale analysis shall be provided in the precompliance report [40 CFR 63.1257 (e)(1)(ii)(C)].

IV. *Adjustment for concentrations determined downstream of the POD*. The owner or operator shall make corrections to the annual average concentration when the concentration is determined downstream of the POD at a location where: two or more wastewater streams have been mixed; one or more wastewater streams have been treated; or, losses to the atmosphere have occurred. The owner or operator shall make the adjustments either to the individual data points or to the final annual average concentration [40 CFR 63.1257(e)(1)(ii)(D)].

B. *Determination of annual load*. An owner or operator shall calculate the partially soluble and/or soluble HAP load in a wastewater stream based on the annual average concentration determined in Condition 7.43.12(a)(i)(A)(I), (II), (III) (see also 40 CFR 63.1257(e)(1)(ii)(A), (B), or (C)) and the total volume of the wastewater stream, based on knowledge of the wastewater stream in accordance with Condition 7.43.12(a)(i)(A)(II) (see also 40 CFR 63.1257(e)(1)(ii)(B)). The owner or operator shall maintain records of the total liters of wastewater discharged per year as specified in Condition 5.6.2(b) (see also 40 CFR 63.1259(b)) [40 CFR 63.1257(e)(1)(iii)].

ii. *Compliance with treatment unit control provisions*.

A. *Performance tests and design evaluations-general*. To comply with the control options in Condition 7.43.5(g)(ix) or (xii) (see also 40 CFR 63.1256(g)(10) or (13)), neither a design evaluation nor a performance test is required. For any other nonbiological treatment process, the owner or operator shall conduct either a design evaluation as specified in Condition 7.43.12(a)(ii)(B) (see also 40 CFR 63.1257(e)(2)(ii)), or a performance test as specified in Condition 7.43.12 (a)(ii)(C) (see also 40 CFR 63.1257 (e)(2)(iii)) to demonstrate that each nonbiological treatment process used to comply with Condition 7.43.5(g)(vii) , (viii), and/or (xi) (see also 40 CFR 63.1256(g)(8), (9), and/or (12)) achieves the conditions specified for compliance. The owner or operator shall demonstrate by the procedures in either Condition 7.43.12 (a)(ii)(B) or (C) (see also 40 CFR 63.1257 (e)(2)(ii) or (iii)) that each closed biological treatment process used to comply with Condition 7.43.5(g)(vii)(B), (g)(viii)(B), (g)(x), or (g)(xi) (see also 40 CFR 63.1256(g)(8)(ii), (g)(9)(ii), (g)(11), or (g)(12)) achieves the conditions specified for compliance. If an open biological treatment unit is used to comply with Condition 7.43.5(g)(vii)(B), (g)(viii)(B), (g)(x), or (g)(xi) (see also 40 CFR 63.1256(g)(8)(ii), (g)(9)(ii), (g)(11), or (g)(12)), the owner or operator shall comply with the performance test requirements in Condition 7.43.12 (a)(ii)(C) (see also 40 CFR 63.1257 (e)(2)(iii)) [40 CFR 63.1257(e)(2)(i)].

B. *Design evaluation*. A design evaluation and supporting documentation that addresses the operating characteristics of the treatment process and that is based on operation at a wastewater stream flow rate and a concentration under which it would be most difficult to demonstrate compliance. For closed biological treatment processes, the percent reduction from removal/destruction in the treatment unit and control device shall be determined by a mass balance over the

unit. The mass flow rate of soluble and/or partially soluble HAP compounds exiting the treatment process shall be the sum of the mass flow rate of soluble and/or partially soluble HAP compounds in the wastewater stream exiting the biological treatment process and the mass flow rate of the vented gas stream exiting the control device. The mass flow rate entering the treatment process minus the mass flow rate exiting the process determines the actual mass removal. Compounds that meet the requirements specified in 40 CFR 63.1257 (e)(2)(iii)(A)(4) are not required to be included in the design evaluation; the term "performance test" in 40 CFR 63.1257 (e)(2)(iii)(A)(4) shall mean "design evaluation" for the purposes of this paragraph [40 CFR 63.1257(e)(2)(ii)].

C. *Performance tests*. Performance tests shall be conducted using test methods and procedures that meet the applicable requirements specified in 40 CFR 63.1257 (e)(2)(iii)(A) through (G) [40 CFR 63.1257 (e)(2)(iii)].

iii. *Compliance with control device provisions*. Pursuant to 40 CFR 63.1257(e)(3), except as provided in Condition 7.43.12(a)(iii)(D) (see also 40 CFR 63.1257(e)(3)(iv)), an owner or operator shall demonstrate that each control device or combination of control devices achieves the appropriate conditions specified in Condition 7.43.5(h)(ii) (see also 40 CFR 63.1256 (h)(2)) by using one or more of the methods specified in Conditions 7.43.12(a)(iii)(A), (B), or (C) (see also 40 CFR 63.1257(e)(3)(i), (ii), or (iii)).

A. *Performance test for control devices other than flares*. Pursuant to 40 CFR 63.1257 (e)(3)(i), this paragraph applies to performance tests that are conducted to demonstrate compliance of a control device with the efficiency limits specified in Condition 7.43.5(h)(ii) (see also 40 CFR 63.1256(h)(2)). If complying with the 95-percent reduction efficiency requirement, comply with the requirements specified in Conditions 7.43.12(a)(iii)(A)(I) through (X) (see also 40 CFR 63.1257(e)(3)(i)(A) through

(J)). If complying with the 20 ppm by volume requirement, comply with the requirements specified in Conditions 7.43.12(a)(iii)(A)(I) through (VII) and (a)(iii)(A)(X) (see also 40 CFR 63.1257 (e)(3)(i)(A) through (G) and (e)(3)(i)(J)).

I. *General*. The owner or operator shall comply with the general performance test provisions in Conditions 7.43.12(a)(ii)(C)(I)(1) through (4) (see also 40 CFR 63.1257 (e)(2)(iii)(A)(1) through (4)), except that the term treatment unit" shall mean "control device" for the purposes of this Condition [40 CFR 63.1257(e)(3)(i)(A)].

II. *Sampling sites*. Sampling sites shall be selected using Method 1or 1A of 40 CFR part 60, appendix A, as appropriate. For determination of compliance with the 95 percent reduction requirement, sampling sites shall be located at the inlet and the outlet of the control device. For determination of compliance with the 20 ppmv limit, the sampling site shall be located at the outlet of the control device [40 CFR 63.1257(e)(3)(i)(B)].

III. *Concentration in gas stream entering or exiting the control device*. The concentration of total organic HAP or TOC in a gas stream shall be determined as provided in this paragraph. Samples may be grab samples or composite samples (i.e., integrated samples). Samples shall be taken at approximately equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of three runs. Concentration measurements shall be determined using Method 18 of 40 CFR part 60, appendix A. Alternatively, any other test method validated according to the procedures in Method 301 of

appendix A of 40 CFR part 63 may be used [40 CFR 63.1257(e)(3)(i)(C)].

IV. *Volumetric flow rate of gas stream entering or exiting the control device*. The volumetric flow rate of the gas stream shall be determined using Method 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as appropriate. Volumetric flow rate measurements shall be taken at the same time as the concentration measurements [40 CFR 63.1257 (e)(3)(i)(D)].

V. *Calculation of TOC concentration*. The owner or operator shall compute TOC in accordance with the procedures in 40 CFR 63.1257(a)(2) [40 CFR 63.1257(e)(3)(i)(E)].

VI. *Calculation of total organic HAP concentration*. The owner or operator determining compliance based on total organic HAP concentration shall compute the total organic HAP concentration in accordance with the provisions in 40 CFR 63.1257(a)(2) [40 CFR 63.1257(e)(3)(i)(F)].

VII. *Requirements for combustion control devices*. If the control device is a combustion device, the owner or operator shall correct TOC and organic HAP concentrations to 3 percent oxygen in accordance with the provisions in 40 CFR 63.1257 (a)(3), and demonstrate initial compliance with the requirements for halogenated streams in accordance with Condition 7.43.7(a)(iii) (see also 40 CFR 63.1257(a)(6)) [40 CFR 63.1257(e)(3)(i)(G)].

VIII. *Mass rate calculation*. The mass rate of either TOC (minus methane and ethane) or total organic HAP for each sample run shall be calculated using the following equations. Where the mass rate of TOC is being calculated, all organic compounds (minus methane

and ethane) measured by methods specified in Condition 7.43.12(a)(iii)(A)(III) (see also 40 CFR 63.1257(e)(3)(i)(C)) are summed using Equations 52 and 53 of 40 CFR 63 Subpart GGG. Where the mass rate of total organic HAP is being calculated, only soluble and partially soluble HAP compounds shall be summed using Equations 52 and 53 [40 CFR 63.1257(e)(3)(i)(H)].

IX. *Percent reduction calculation*. The percent reduction in TOC or total organic HAP for each sample run shall be calculated using Equation 54 of 40 CFR 63 Subpart GGG [40 CFR 63.1257(e)(3)(i)(I)].

X. *Compare mass destruction efficiency to required efficiency*. If complying with the 95-percent reduction efficiency requirement, compliance is demonstrated if the mass destruction efficiency (calculated in Equation 51 of 40 CFR 63 Subpart GGG) is 95 percent or greater. If complying with the 20 ppmv limit, compliance is demonstrated if the outlet TOC concentration is 20 ppmv, or less [40 CFR 63.1257 (e)(3)(i)(J)].

B. *Design evaluation*. A design evaluation conducted in accordance with the provisions in Condition 7.43.7(a)(i) (see also 40 CFR 63.1257(a)(1)). Compounds that meet the requirements specified in 40 CFR 63.1257(e)(2)(iii)(A)(4) are not required to be included in the design evaluation [40 CFR 63.1257(e)(3)(ii)].

C. *Compliance demonstration for flares*. When a flare is used to comply with Condition 7.43.5(h) (see also 40 CFR 63.1256(h)), the owner or operator shall comply with the flare provisions in 40 CFR 63.11(b). An owner or operator is not required to conduct a performance test to determine percent emission reduction or outlet organic HAP or TOC concentration when a flare is used [40 CFR 63.1257(e)(3)(iii)].

D. *Exemptions from compliance demonstrations*. An owner or operator using any control device specified in Condition 7.43.7 (a)(ii) (see also 40 CFR 63.1257(a)(4)) is exempt from the requirements in Conditions 7.43.12(a)(iii)(A) through (C) (see also 40 CFR 63.1257(e)(3)(i) through (e)(3)(iii)) and from the requirements in 40 CFR 63.6(f) [40 CFR 63.1257(e)(3)(iv)].

b. *Pollution prevention alternative standard*. Pursuant to 40 CFR 63.1257(f), the owner or operator shall demonstrate compliance with Condition 5.4.1(e)(ii) (see also 40 CFR 63.1252(e)(2)) using the procedures described in Condition 7.43.12(b)(i) and (iii) (see also 40 CFR 63.1257(f)(1) and (f)(3)). The owner or operator shall demonstrate compliance with Condition 5.4.1(e)(iii) (see also 40 CFR 63.1252(e)(3)) using the procedures described in Conditions 7.43.12(b)(ii) and (b)(iii) (see also 40 CFR 63.1257(f)(2) and (f)(3)).

i. Pursuant to 40 CFR 63.1257(f)(1), compliance is demonstrated when the annual kg/kg factor, calculated according to the procedure in Conditions 7.43.12(b)(i)(A) and (C) (see also 40 CFR 63.1257(f)(1)(i) and (iii)), is reduced by at least 75 percent as calculated according to the procedure in Condition 7.43.12(b)(i)(A) and (B) (see also 40 CFR 63.1257(f)(1)(i) and (ii)).

A. The production-indexed HAP consumption factors shall be calculated by dividing annual consumption of total HAP by the annual production rate, per process. The production-indexed total VOC consumption factor shall be calculated by dividing annual consumption of total VOC by the annual production rate, per process [40 CFR 63.1257(f)(1)(i)].

B. The baseline factor is calculated from yearly production and consumption data for the first 3-year period in which the PMPU was operational, beginning no earlier than the 1987 calendar year, or for a minimum period of 12 months from startup of the process until the present in which the PMPU was operational and data are available, beginning no earlier

than the 1987 calendar year [40 CFR 63.1257 (f)(1)(ii)].

C. Pursuant to 40 CFR 63.1257(f)(1)(iii), the annual factor is calculated on the following bases:

I. For continuous processes, the annual factor shall be calculated every 30 days for the 12-month period preceding the 30th day (30-day rolling average) [40 CFR 63.1257 (f)(1)(iii)(A)].

II. For batch processes, the annual factor shall be calculated every 10 batches for the 12-month period preceding the 10th batch (10-batch rolling average). The annual factor shall be calculated every 5 batches if the number of batches is less than 10 for the 12-month period preceding the 10th batch and shall be calculated every year if the number of batches is less than 5 for the 12-month period preceding the 5th batch [40 CFR 63.1257 (f)(1)(iii)(B)].

ii. Pursuant to 40 CFR 63.1257(f)(2), compliance is demonstrated when the requirements of Conditions 7.43.12(b)(ii)(A) through (D) (see also 40 CFR 63.1257(f)(2)(i) through (iv)) are met.

A. The annual kg/kg factor, calculated according to the procedure in Conditions 7.43.12(b)(i)(A) and (b)(i)(C) (see also 40 CFR 63.1257(f)(1)(i) and (f)(1)(iii)), is reduced to a value equal to or less than 50 percent of the baseline factor calculated according to the procedure in Conditions 7.43.12(b)(i)(A) and (B) (see also 40 CFR 63.1257(f)(1)(i) and (ii)) [40 CFR 63.1257(f)(2)(i)].

B. Pursuant to 40 CFR 63.1257(f)(2)(ii), the yearly reductions associated with add-on controls that meet the criteria of 40 CFR 63.1252(h)(3)(ii)(A) through (D) must be equal to or greater than the amounts calculated in Conditions 7.43.12 (b)(ii)(B)(I) and (II) (see also 40 CFR 63.1257(f)(2)(ii)(A) and (B)):

I. The mass of HAP calculated using Equation 55 of 40 CFR 63 Subpart GGG [40 CFR 63.1257(f)(2)(ii)(A)].

II. The mass of VOC calculated using Equation 56 of 40 CFR 63 Subpart GGG [40 CFR 63.1257(f)(2)(ii)(B)].

C. Demonstration that the criteria in Conditions 5.4.1(e)(iii)(B)(I) through (IV) (see also 40 CFR 63.1252(e)(3)(ii)(A) through (D)) are met shall be accomplished through a description of the control device and of the material streams entering and exiting the control device [40 CFR 63.1257(f)(2)(iii)].

D. The annual reduction achieved by the add-on control shall be quantified using the methods described in 40 CFR 63.1257(d) [40 CFR 63.1257(f)(2)(iv)].

iii. Pursuant to 40 CFR 63.1257(f)(3), each owner or operator of a PMPU complying with the P2 standard shall prepare a P2 demonstration summary that shall contain, at a minimum, the following information:

A. Descriptions of the methodologies and forms used to measure and record daily consumption of HAP compounds reduced as part of the P2 standard [40 CFR 63.1257 (f)(3)(i)].

B. Descriptions of the methodologies and forms used to measure and record daily production of products which are included in the P2 standard [40 CFR 63.1257 (f)(3)(ii)].

C. Supporting documentation for the descriptions provided in Conditions 7.43.12(b)(iii)(A) and (B) (see also 40 CFR 63.1257(f)(3)(i) and (ii)) including, but not limited to, operator log sheets and copies of daily, monthly, and annual inventories of materials and products [40 CFR 63.1257(f)(3)(iii)].

c. Compliance with Conditions 7.43.3(c) and (d) is addressed by sampling the effluent water received by the effluent water separator or discharged from any

pump or compressor to verify that the vapor pressure of the organic material is below 17.24 kPa (2.5 psia) at 294.3°K (70°F).

d. For the purpose of estimating VOM and HAP emissions from the affected wastewater treatment tanks to determine compliance with Conditions 5.5.1, 7.43.3(e), and 7.43.6, the TOXCHEM+ program is acceptable.

e. To determine compliance with Conditions 5.5.1 and 7.43.6(a), SO_2 emissions from the Biogas Plant shall be calculated based on the following:

   i. Sulfur dioxide emissions from flaring of the Biogas shall be determined assuming stoichiometric conversion of sulfur in the biogas to sulfur dioxide.

   ii. Sulfur dioxide emissions from firing of the biogas in boilers shall be determined by comparing the average sulfur dioxide emissions from the coal fired in the boilers (i.e., 1.3 lb sulfur dioxide/million Btu).

7.44 Unit R-14 Research and Development Building R-14

7.44.1 Description

Laboratory building R-14 is similar to other research and development facilities at the source, which contain offices and laboratory hoods and vacuum pumps. This building houses approximately 143 chemists and engineers.

7.44.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
R-14	Laboratory Building R-14 Lab Hoods and Vacuum Pumps	None

7.44.3 Applicability Provisions and Applicable Regulations

a. The Laboratory Building R-14 Lab Hoods and Vacuum Pumps are an "affected laboratory" for the purpose of these unit-specific conditions.

b. The affected laboratory is subject to the emission limits identified in Condition 5.2.2.

c. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

d. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

7.44.4 Non-Applicability of Regulations of Concern

a. The affected laboratory is not subject to the NESHAP for Equipment Leaks, 40 CFR 63 Subparts A and H because, pursuant to 40 CFR 63.160(f), which excludes bench-scale batch processes, regardless of whether the processes are located at the same plant site as a process subject to the provisions of 40 CFR 63 Subpart H.

b. The affected laboratory is not subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subpart GGG, pursuant to 40 CFR 63.1250(a), because the affected laboratory is not used to manufacture any pharmaceutical product as defined in 40 CFR 63.1251.

c. The affected laboratory is not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

d. The affected laboratory is not subject to the control requirements of 35 IAC 218.501, Control Requirements for Batch Operations, pursuant to 35 IAC 218.501(b)(2), which excludes any emission unit included within the category specified in 35 IAC 218 Subpart T.

e. The affected laboratory is not subject to 35 IAC 212.324, Process Emission Units In Certain Areas, because the source is not located in a non-attainment area for PM_{10}, as identified in 35 IAC 212.324(a)(1).

7.44.5 Operational and Production Limits and Work Practices

None

7.44.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected laboratory is subject to the following:

a. Emissions of VOM from the Research and Development Building R-14 Lab Hoods and Vacuum Pumps shall not exceed 3.5 tons/year, combined.

b. The above limitations were established in Permit 98070020, pursuant to 35 IAC Part 203. These limits

ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 (see Attachment 4) [T1].

c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.44.7 Testing Requirements

Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.44.4(c) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in 35 IAC 218.105(f)(1) [35 IAC 218.487].

7.44.8 Monitoring Requirements

None

7.44.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected laboratory to demonstrate compliance with Conditions 5.5.1, 5.5.3(a), 7.44.3, 7.44.4(c), and 7.44.6(a), pursuant to Section 39.5(7)(b) of the Act:

a. Records of the testing pursuant to Condition 7.44.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

b. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which

the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.44.4(c) (see also 35 IAC 218.480(a)), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.44.4(c) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.44.4(c) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

c. These records shall be maintained by the owner or operator for a minimum of two years after the date on which they are made [35 IAC 218.489(e)].

d. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

e. Types and quantities of solvent used in the affected laboratory, lb/batch, lb/mo, and ton/yr;

f. The aggregate monthly and annual VOM emissions from the affected laboratory based on the solvent usage, with supporting calculations.

7.44.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected laboratory with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

b. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission

standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.44.4(c) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.44.4(c) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

c. Emissions of VOM in excess of the limits in Conditions 5.5.3(a), 7.44.3(d) and/or 7.44.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.44.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.44.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.44.9 and the emission factors and formulas listed below:

a. Determinations of daily and annual emissions for purposes of 35 IAC 218.480 shall be made using both data on the hourly emission rate (or the emissions per unit of throughput) and appropriate daily and annual data from records of emission unit operation (or material throughput or material consumption data). In the absence of representative test data pursuant to Condition 7.44.7 (see also 35 IAC 218.487) for the hourly emission rate (or the emissions per unit of throughput) such items shall be calculated using engineering calculations, including the methods described in Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/2-78-029). This Condition shall not affect the Illinois EPA's or the USEPA's authority to require emission tests to be performed pursuant to Condition 7.44.7 (see also 35 IAC 218.487)) [35 IAC 218.480(h)].

b. To determine compliance with Conditions 5.5.1, 5.5.3(a), 7.44.3(d), 7.44.4(c), and 7.44.6, VOM emissions from the affected laboratory shall be calculated based on a 13.5% loss of solvent.

VOM Emissions (lb) = (Solvent Usage, lb) x (0.135 lb VOM Emitted/lb Solvent Used)

7.45 Units M-4B — Chemical and Agricultural Products Division Building M-4B

Controls M-4B — Scrubber, Cyclone, and Dust Collectors

7.45.1 Description

Building M-4B houses the Dry Materials and Liquid Materials Weigh/Transfer Booths. The operation conducted in this area consists of the transfer of organic and inorganic liquids from 55 gallon drums and smaller volume containers. Transfer is accomplished by gravity flow or container pressurization. Sold materials are also weighed and transferred from 30 and 50 gallon containers to smaller containers. Gaseous emission losses from this operation consists primarily of vapor losses, which occur in weighing out acetic acid. Particulate matter emissions occur during transfer solids loss and is picked up by spot exhaust and are controlled by a dust collector.

7.45.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
M-4B LC	Chemical Weigh Booth - Liquids and Corrosives	Scrubber and Cyclone U-1530
M-4B P	Chemical Weigh Booth - Powders	Dust Collector U-1528
M-4B S	Chemical Weigh Booth - Solids	Dust Collector U-2207

7.45.3 Applicability Provisions and Applicable Regulations

a. The Building M-4B Chemical Weigh Booths are "affected weigh booths" for the purpose of these unit-specific conditions.

b. Each affected weigh booth is subject to the emission limits identified in Condition 5.2.2.

c. The Chemical Weigh Booth - Solids is subject to 35 IAC 212.321(a), which provides that:

> No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

d. The Chemical Weigh Booth - Liquids and Corrosives and Chemical Weigh Booth - Powders are subject to 35 IAC 212.322(a), which provides that:

> No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit for which construction or modification commenced prior to April 14, 1972, which, either alone or in combination with the emission of particulate matter from all other similar process emission at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 (see also Attachment 2) [35 IAC 212.322(a)].

e. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

7.45.4 Non-Applicability of Regulations of Concern

a. The process vents associated with the affected weigh booths are not subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1254(a) for Process Vents at Existing Sources pursuant to 40 CFR 63.1250(a)(3) because the affected manufacturing units do not process, use or produce HAP.

b. The affected weigh booths are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

c. The affected weigh booths are not subject to the control requirements of 35 IAC 218.501, Control Requirements for Batch Operations, pursuant to 35 IAC 218.501(b)(2), which excludes any emission unit included within the category specified in 35 IAC 218 Subpart T.

d. The affected fermentation manufacturing units are not subject to 35 IAC 212.324, Process Emission Units In Certain Areas, because the source is not located in a non-attainment area for PM_{10}, as identified in 35 IAC 212.324(a)(1).

7.45.5 Operational and Production Limits and Work Practices

a. The owner or operator shall install covers on all in-process tanks used to manufacture pharmaceuticals and containing a VOL at any time. These covers must remain closed, except as production, sampling, maintenance or inspection procedures require operator access [35 IAC 218.484].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The Permittee shall follow good operating practices for the scrubber, cyclone, and dust collectors including periodic inspection, routine maintenance and prompt repair of defects.

7.45.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected weigh booths are subject to the following:

a. This permit is issued based on negligible emissions of particulate matter from the chemical weigh booth for solids. For this purpose, emissions shall not exceed nominal emission rates of 0.01 lb/hr and 0.044 ton/yr.

b. The above limitations were established in Permit 91100043, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a

new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.45.7 Testing Requirements

Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.45.4(b) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in 35 IAC 218.105(f)(1) [35 IAC 218.487].

7.45.8 Monitoring Requirements

None

7.45.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected weigh booth to demonstrate compliance with Conditions 5.5.1, 7.45.3, 7.45.4(b), 7.45.5 and 7.45.6, pursuant to Section 39.5(7)(b) of the Act:

a. Records of the testing pursuant to Condition 7.45.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

b. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical

manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.45.4(b) (see also 35 IAC 218.480(a)), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.45.4(b) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.45.4(b) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

c. These records shall be maintained by the owner or operator for a minimum of two years after the date on which they are made [35 IAC 218.489(e)].

d. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

e. Records addressing use of good operating practices for the scrubber, cyclone, and dust collectors:

i. Records for periodic inspection of the scrubber, cyclone, and dust collectors with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

f. Types and quantities of raw materials, excluding water, used for each affected weigh booth, lb/batch, lb/mo, and ton/yr;

g. The operating schedule of the affected fermentation manufacturing units or number of hours the affected weigh booths have been operated; and

h. The monthly and aggregate annual PM and VOM emissions from the affected weigh booths based on the material and solvent usage and air pollution control equipment efficiencies, with supporting calculations.

7.45.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected weigh booth with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

b. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.45.4(b) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.45.4(b) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

c. Emissions of PM and/or VOM, in excess of the limits in Conditions 5.5.3(a), 7.45.3, and/or 7.45.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.45.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.45.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.45.9 and the emission factors and formulas listed below:

a. Determinations of daily and annual emissions for purposes of Condition 7.45.4(b) (see also 35 IAC 218.480)shall be made using both data on the hourly emission rate (or the emissions per unit of throughput) and appropriate daily and annual data from records of emission unit operation (or material throughput or material consumption data). In the absence of representative test data pursuant to Condition 7.45.7 (see also 35 IAC 218.487) for the hourly emission rate (or the emissions per unit of throughput) such items shall be calculated using engineering calculations, including the methods

described in Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/2-78-029). This Condition shall not affect the Illinois EPA's or the USEPA's authority to require emission tests to be performed pursuant to Condition 7.45.7 (see also 35 IAC 218.487)) [35 IAC 218.480(h)].

b. Compliance with Conditions 7.45.3(b), (c), and (d) is assumed by proper operation of the scrubber, cyclone and dust collectors, as addressed by Condition 7.45.5(c).

c. To determine compliance with Conditions 5.5.1, 7.45.3(e), and 7.45.4(b), VOM emissions from the Chemical Weigh Booth - Liquids and Corrosives shall be calculated based on a 0.1% loss of solvent.

VOM Emissions (lb) = (Solvent Usage, lb) x (0.001 lb VOM Emitted/lb Solvent Used)

d. To determine compliance with Conditions 5.5.1, 7.45.3(c), 7.45.3(d), and 7.45.6, PM emissions from the affected weigh booths shall be calculated based on a 0.1% loss of powder and solids.

PM Emissions (lb) = (Powder/Solid Usage, lb) x (0.001 lb PM Emitted/lb Powder/Solid Used) x [1 - (Overall Scrubber/Cyclone or Dust Collector Efficiency* (%)/100)]

*As specified by manufacturer(s) or vendor(s) of the scrubber, cyclone and dust collectors.

7.46 Units M-2 Pharmaceutical Products Division Building M-2 Liquid Products Manufacturing
Controls M-2 Dry Filters and Dust Collector

7.46.1 Description

Abbott Laboratories' Pharmaceutical Products Division North Chicago Operations manufactures and packages pharmaceutical liquids (both prescription and over-the-counter), eye and ear care solutions, creams, ointments, suppositories, shampoos, and aerosols.

Many types of liquid products are made by utilizing large mixing tanks of various sizes and designs to mix both dry and liquid ingredients. While tanks can be used for mixing and storing a wide variety of products, they are divided into four basic groups: 1) flammable liquids; 2) sterile liquids; 3) selenium products; 4) other products. Regardless of which tanks are used for which product is being made, the manufacturing process is the same. Liquids are added to a tank and dry ingredients are added while mixing. After the mixing process is complete and passes quality testing, the product is pumped to the filling/finishing area.

Since the manufacturing process involves the handling of liquids, creams and ointments, very little particulate matter is generated. The only time that particulate matter is generated is during drug weigh and tank charging. Although flammable solvents, which are classified as VOM, are used to manufacture some liquids, the volume is low and the mixing and filling is done in closed systems, thereby keeping the VOM emissions very small.

7.46.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
G-0333	Liquid Products Manufacturing Selenium Sulfide Slurry Milling (Sweco Mill G-0333)	Dust Collector DC 12 (U-1758)
NN-9080	907 Gallon Liquid Products Manufacturing Sterile Products Mix Tank (Tank 707)	Dry Filter 823-8
NN-9081	907 Gallon Liquid Products Manufacturing Sterile Products Mix Tank (Tank 727)	Dry Filter 823-8
Q-472	660 Gallon Liquid Products Manufacturing Flammable Liquids Raw Material Mixing Tank (Mix Tank 425)	Dry Filter 823-6

Emission Unit	Description	Emission Control Equipment
Q-837	37 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 13)	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1201	380 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 428)	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1262	1,990 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 501)	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1263	1,990 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 502)	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1264	1,990 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 503)	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1344	1,530 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 310)	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1345	1,530 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 309)	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1346	1,530 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 308)	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1672	580 Gallon Liquid Products Manufacturing Flammable Liquids Raw Material Mixing Tank (Mix Tank 407)	Dry Filter 823-6
Q-1673	580 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 408)	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1674	580 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 409)	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1685	1,930 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 515)	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1686	1,930 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 516)	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1687	1,930 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 514)	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1987	134 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 12)	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-2021	3,690 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 519)	Dry Filters 823-1, 823-2, 823-3, and 823-4

Emission Unit	Description	Emission Control Equipment
Q-2022	3,690 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 518)	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-2040	3,690 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 517)	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-2581	2,442 Gallon Liquid Products Manufacturing Sterile Products Mix Tank (Tank 747)	None
Q-3043	Liquid Products Manufacturing Flammable Liquids Raw Material Mixing Tank	Dry Filter 823-6
R-297	400 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 427)	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-306	1,240 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 426)	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-349	1,250 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 312)	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-350	1,250 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 311)	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-351	1,250 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 313)	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-352	1,250 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 314)	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-471	660 Gallon Liquid Products Manufacturing Solution Mix Tank (Tank 424)	Dry Filters 823-1, 823-2, 823-3, and 823-4
T-2069	907 Gallon Liquid Products Manufacturing Sterile Products Mix Tank (Tank 737)	Dry Filter 823-8

7.46.3 Applicability Provisions and Applicable Regulations

a. The Liquid Products Manufacturing Tanks and Mills are "affected liquid products manufacturing units" for the purpose of these unit-specific conditions.

b. Each affected liquid products manufacturing unit is subject to the emission limits identified in Condition 5.2.2.

c. The affected liquid products manufacturing units are subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1254(a) for Process Vents at Existing Sources.

The Illinois EPA is administering the NESHAP in Illinois on behalf of the USEPA under a delegation agreement. Pursuant to 40 CFR 63.1250(f)(1), an owner or operator of an existing affected source must comply with the provisions of 40 CFR 63 Subpart GGG within 3 years after September 21, 1998.

d. The affected liquid products manufacturing units, which were constructed on or after April 14, 1972, are subject to 35 IAC 212.321(a), which provides that:

> No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

e. The affected liquid products manufacturing units, which were constructed prior to April 14, 1972, are subject to 35 IAC 212.322(a), which provides that:

> No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit for which construction or modification commenced prior to April 14, 1972, which, either alone or in combination with the emission of particulate matter from all other similar process emission at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 (see also Attachment 2) [35 IAC 212.322(a)].

f. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

7.46.4 Non-Applicability of Regulations of Concern

a. The affected liquid products manufacturing units are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical

Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

b. The affected liquid products manufacturing units are not subject to the control requirements of 35 IAC 218.501, Control Requirements for Batch Operations, pursuant to 35 IAC 218.501(b)(2), which excludes any emission unit included within the category specified in 35 IAC 218 Subpart T.

c. The affected liquid products manufacturing units are not subject to 35 IAC 212.324, Process Emission Units In Certain Areas, because the source is not located in a non-attainment area for PM_{10}, as identified in 35 IAC 212.324(a)(1).

7.46.5 Operational and Production Limits and Work Practices

a. The owner or operator shall install covers on all in-process tanks used to manufacture pharmaceuticals and containing a VOL at any time. These covers must remain closed, except as production, sampling, maintenance or inspection procedures require operator access [35 IAC 218.484].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The Permittee shall follow good operating practices for dry filters and dust collector including periodic inspection, routine maintenance and prompt repair of defects.

7.46.6 Emission Limitations

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.46.7 Testing Requirements

a. *General*. Except as specified in 40 CFR 63.1257(a)(5), the procedures specified in 40 CFR 63.1257(d) and (f) are required to demonstrate initial compliance with 40 CFR 63.1254 and 63.1252(e), respectively. The provisions in 40 CFR 63.1257(a)(2) apply to performance tests that are specified in 40 CFR 63.1257(d). The provisions in 40 CFR 63.1257(a)(5) are used to demonstrate initial compliance with the alternative standards specified in 40 CFR 63.1254(c). The provisions in 40 CFR 63.1257(a)(6) are used to comply with the outlet concentration requirements specified in 40 CFR 63.1254(a)(2)(i) and (a)(3)(ii)(B) [40 CFR 63.1257(a)].

b. *Test methods*. When testing is conducted to measure emissions from an affected source, the test methods specified in 40 CFR 63.1257(b)(1) through (10) shall be used [40 CFR 63.1257(b)].

c. Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.46.4(a) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in 35 IAC 218.105(f)(1) [35 IAC 218.487].

7.46.8 Monitoring Requirements

a. The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard as specified in 40 CFR 63.1258. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish the operating parameter level [40 CFR 63.1258(a)].

b. *Monitoring for control devices*.

i. *Parameters to monitor*. Except as specified in 40 CFR 63.1258(b)(1)(i), for each control

device, the owner or operator shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4 of 40 CFR 63 Subpart GGG and in 40 CFR 63.1258(b)(1)(ii) through (xi) [40 CFR 63.1258(b)(1)].

ii. *Averaging periods*. Averaging periods for parametric monitoring levels shall be established according to 40 CFR 63.1258(b)(2)(i) through (iii) [40 CFR 63.1258(b)(2)].

iii. *Monitoring for the alternative standards*. For control devices that are used to comply with the provisions of 40 CFR 63.1254(c), the owner or operator shall monitor and record the outlet TOC concentration and the outlet hydrogen halide and halogen concentration every 15 minutes during the period in which the device is functioning in achieving the HAP removal required by 40 CFR 63 Subpart GGG. A TOC monitor meeting the requirements of Performance Specification 8 or 9 of appendix B of 40 CFR Part 60 shall be installed, calibrated, and maintained, according to 40 CFR 63.8. The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens [40 CFR 63.1258(b)(5)].

iv. *Exceedances of operating parameters*. Pursuant to 40 CFR 63.1258(b)(6), an exceedance of an operating parameter is defined as one of the following:

A. If the parameter, averaged over the operating day or block, is below a minimum value established during the initial compliance demonstration [40 CFR 63.1258 (b)(6)(i)].

B. If the parameter, averaged over the operating day or block, is above the maximum value established during the initial compliance demonstration [40 CFR 63.1258(b)(6)(ii)].

C. Each loss of pilot flame for flares [40 CFR 63.1258(b)(6)(iii)].

v. *Excursions*. Pursuant to 40 CFR 63.1258(b)(7), excursions are defined by either of the two cases listed in Conditions 7.46.8(b)(v)(A) or (B) (see also 40 CFR 63.1258(b)(7)(i) or (ii)).

A. When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in Condition 7.46.8 (b)(v)(C) (see also 40 CFR 63.1258 (b)(7)(iii)), for at least 75 percent of the operating hours [40 CFR 63.1258 (b)(7)(i)].

B. When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data [40 CFR 63.1258(b)(7)(ii)].

C. Monitoring data are insufficient to constitute a valid hour of data, as used in Conditions 7.46.8(b)(v)(A) and (B) (see also 40 CFR 63.1258(b)(7)(i) and (ii)), if measured values are unavailable for any of the required 15-minute periods within the hour [40 CFR 63.1258(b)(7)(iii)].

vi. *Violations*. Pursuant to 40 CFR 63.1258(b)(8), exceedances of parameters monitored according to the provisions of 40 CFR 63.1258(b)(1)(ii) and (iv) through (ix) or excursions as defined by Conditions 7.46.8(b)(v)(A) through (C) (see also 40 CFR 63.1258(b)(7)(i) through (iii)) constitute violations of the operating limit according to Conditions 7.46.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of 40 CFR 63.1258(b)(1)(x) constitute violations of the emission limit according to Conditions 7.46.8(b)(vi)(A), (B), and (D) (see also 40 CFR 63.1258(b)(8)(i), (ii), and (iv)). Exceedances of the outlet concentrations monitored according to the provisions of Condition 7.46.8(b)(iii) (see also 40 CFR 63.1258 (b)(5)) constitute violations of the emission limit according to

the provisions of Conditions 7.46.8(b)(vi)(C) and (D) (see also 40 CFR 63.1258 (b)(8)(iii) and (iv)).

A. Except as provided in Condition 7.46.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process [40 CFR 63.1258(b)(8)(i)].

B. Except as provided in Condition 7.46.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device, for each process for which the control device is in service [40 CFR 63.1258(b)(8)(ii)].

C. Except as provided in Condition 7.46.8 (b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device. Except as provided in Condition 7.46.8(b)(vi)(D) (see also 40 CFR 63.1258 (b)(8)(iv)), exceedances of the 20 ppmv hydrogen halide or halogen outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device [40 CFR 63.1258 (b)(8)(iii)].

D. Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur during a startup, shutdown, or malfunction, and the facility follows its startup, shutdown, and malfunction plan [40 CFR 63.1258 (b)(8)(iv)].

c. Monitoring for emission limits. The owner or operator of any affected source complying with the provisions of 40 CFR 63.1254(a)(1) shall demonstrate continuous compliance with the 2,000 lb/yr emission limits by

calculating daily a 365-day rolling summation of emissions. For owners and operators opting to switch compliance strategy from the 93 percent control requirement to the 2,000 lb/yr compliance method, as described in 40 CFR 63.1254(a), the rolling average must include emissions from the past 365 days. Each day that the total emissions per process exceeds 2,000 lb/yr will be considered a violation of the emission limit [40 CFR 63.1258(c)].

7.46.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected liquid products manufacturing unit to demonstrate compliance with Conditions 5.5.1, 7.46.3, and 7.46.4(a), pursuant to Section 39.5(7)(b) of the Act:

a. *Records of equipment operation*. Pursuant to 40 CFR 63.1259(b), the owner or operator must keep the following records up-to-date and readily accessible:

i. Each measurement of a control device operating parameter monitored in accordance with Condition 7.46.8 (see also 40 CFR 63.1258) [40 CFR 63.1259 (b)(1)].

ii. For each continuous monitoring system used to comply with 40 CFR 63 Subpart GGG, records documenting the completion of calibration checks and maintenance of continuous monitoring systems [40 CFR 63.1259(b)(3)].

iii. For processes in compliance with the 2,000 lb/yr emission limit of 40 CFR 63.1254(a)(1), records of the rolling annual total emissions [40 CFR 63.1259(b)(4)].

iv. Pursuant to 40 CFR 63.1259(a)(5), records of the following, as appropriate:

A. The number of batches per year for each batch process [40 CFR 63.1259(a)(5)(i)].

B. The operating hours per year for continuous processes [40 CFR 63.1259 (a)(5)(ii)].

v. Uncontrolled and controlled emissions per batch for each process [40 CFR 63.1259(b)(6)].

vi. Wastewater concentration per POD or process [40 CFR 63.1259(b)(7)].

vii. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].

viii. Description of worst-case operating conditions as determined using the procedures described in 40 CFR 63.1257(b)(8) for control devices [40 CFR 63.1259(b)(10)].

b. *Records of operating scenarios*. The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with 40 CFR 63 Subpart GGG [40 CFR 63.1259(c)].

c. Records of the testing pursuant to Condition 7.46.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

d. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.46.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

e. Pursuant to 35 IAC 218.489(c), the following records shall be kept for emission units subject to Condition 7.46.5(a) (see also 35 IAC 218.484) which contain VOL:

i. For maintenance and inspection:

A. The date and time each cover is opened [35 IAC 218.489(c)(1)(A)];

B. The length of time the cover remains open [35 IAC 218.489(c)(1)(B)]; and

C. The reason why the cover is opened [35 IAC 218.489(c)(1)(C)].

ii. For production and sampling, detailed written procedures or manufacturing directions specifying the circumstances under which covers may be opened and the procedures for opening covers [35 IAC 218.489(c)(2)].

f. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.46.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.46.4(a) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.46.4(a) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

g. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

h. Records addressing use of good operating practices for the dry filters and dust collector:

i. Records for periodic inspection of the dry filters and dust collector with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

i. Types and quantities of raw materials, excluding water, used for each affected liquid products manufacturing unit, lb/batch, lb/mo, and ton/yr;

j. The operating schedule of the affected liquid products manufacturing units or number of hours the affected liquid products manufacturing units have been operated; and

k. The monthly and aggregate annual PM, VOM, and HAP emissions from the affected liquid products manufacturing units based on the material and solvent usage and air pollution control equipment efficiencies, with supporting calculations.

7.46.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected liquid product manufacturing unit with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. *Periodic reports*. Pursuant to 40 CFR 63.1260(g), an owner or operator shall prepare Periodic reports in accordance with Conditions 7.46.10(a)(i) and (ii) (see also 40 CFR 63.1260(g)(1) and (2)) and submit them to the Illinois EPA and/or USEPA.

i. *Submittal schedule*. Pursuant to 40 CFR 63.1260 (g)(1), Except as provided in Conditions 7.46.10 (a)(i)(A), (B), and (C) (see also 40 CFR 63.1260 (g)(1)(i), (ii) and (iii)), an owner or operator shall submit Periodic reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due.

A. When the Illinois EPA and/or USEPA determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status

of the affected source [40 CFR 63.1260 (g)(1)(i)]; or

B. When the monitoring data are used directly for compliance determination and the source experience excess emissions, in which case quarterly reports shall be submitted. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in 40 CFR 63.10(e)(3)(ii) and (iii) shall apply, except that the term "excess emissions and continuous monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of Condition 7.46.10 (see also 40 CFR 63.1260) [40 CFR 63.1260(g)(1)(ii)].

C. When a new operating scenario has been operated since the last report, in which case quarterly reports shall be submitted [40 CFR 63.1260(g)(1)(iii)].

ii. *Content of Periodic report.* Pursuant to 40 CFR 63.1260(g)(2), the owner or operator shall include the information in Conditions 7.46.10 (a)(ii)(A) through (D) (see also 40 CFR 63.1260 (g)(2)(i) through (vii)), as applicable.

A. Each Periodic report must include the information in 40 CFR 63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the information in 40 CFR 63.10(e)(3)(vi)(J) [40 CFR 63.1260(g)(2)(i)].

B. Pursuant to 40 CFR 63.1260(g)(2)(ii), if the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in

Conditions 7.46.10(a)(ii)(B)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(ii)(A) through (D)).

I. Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(A)].

II. Duration of excursions, as defined in Condition 7.46.8(b)(v) (see also 40 CFR 63.1258(b)(7)) [40 CFR 63.1260(g)(2)(ii)(B)].

III. Operating logs and operating scenarios for all operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status report or operating permit [40 CFR 63.1260(g)(2)(ii)(C)].

IV. When a continuous monitoring system is used, the information required in 40 CFR 63.10(c)(5) through (13) [40 CFR 63.1260(g)(2)(ii)(D)].

C. Pursuant to 40 CFR 63.1260(g)(2)(v), the information in Conditions 7.46.10 (a)(ii)(C)(I) through (IV) (see also 40 CFR 63.1260(g)(2)(v)(A) through (D)) shall be stated in the Periodic report, when applicable.

I. No excess emissions [40 CFR 63.1260 (g)(2)(v)(A)].

II. No exceedances of a parameter [40 CFR 63.1260(g)(2)(v)(B)].

III. No excursions [40 CFR 63.1260 (g)(2)(v)(C)].

IV. No continuous monitoring system has been inoperative, out of control, repaired, or adjusted [40 CFR 63.1260(g)(2)(v)(D)].

D. Each new operating scenario which has been operated since the time period covered by the last Periodic report. For the initial Periodic report, each operating scenario for each process operated since the compliance date shall be submitted [40 CFR 63.1260(g)(2)(vii)].

b. *Notification of process change*.

i. Pursuant to 40 CFR 63.1260(h)(1), except as specified in Condition 7.46.10(b)(ii) (see also 40 CFR 63.1260(h)(2)), whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report quarterly. The report may be submitted as part of the next Periodic report required under Condition 7.46.10(a) (see also 40 CFR 63.1260(g)). The report shall include:

A. A brief description of the process change [40 CFR 63.1260(h)(1)(i)].

B. A description of any modifications to standard procedures or quality assurance procedures [40 CFR 63.1260(h)(1)(ii)].

C. Revisions to any of the information reported in the original Notification of Compliance Status Report under Condition 5.7.46(k) (see also 40 CFR 63.1260(f)) [40 CFR 63.1260(h)(1)(iii)].

D. Information required by the Notification of Compliance Status Report under Condition 5.7.46(k) (see also 40 CFR 63.1260(f)) for changes involving the addition of processes or equipment [40 CFR 63.1260(h)(1)(iv)].

ii. Pursuant to 40 CFR 63.1260(h)(2), an owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

A. Any change in the activity covered by the Precompliance report [40 CFR 63.1260 (h)(2)(i)].

B. A change in the status of a control device from small to large [40 CFR 63.1260 (h)(2)(ii)].

c. *Reports of startup, shutdown, and malfunction*. For the purposes of 40 CFR 63 Subpart GGG, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the periodic reports required under Condition 7.46.10(a) (see also 40 CFR 63.1260(g)) instead of the schedule specified in 40 CFR 63.10 (d)(5)(i). These reports shall include the information specified in Condition 5.6.2(n)(iii)(A) through (C) (see also 40 CFR 63.1259(a)(3)(i) through (iii)) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in 40 CFR 63.10 (d)(4)(ii) [40 CFR 63.1260(i)].

d. *Notification of performance test and test plan*. The owner or operator of an affected source shall notify the Illinois EPA and/or USEPA of the planned date of a performance test at least 60 days before the test in accordance with 40 CFR 63.7(b). The owner or operator also must submit the test plan required by 40 CFR 63.7(c) and the emission profile required by 40 CFR 63.1257(b)(8)(ii) with the notification of the performance test [40 CFR 63.1260(l)].

e. *Request for extension of compliance*. An owner or operator may submit to the Illinois EPA and/or USEPA a request for an extension of compliance in accordance with 40 CFR 63.1250(f)(4) [40 CFR 63.1260(m)].

f. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

g. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.46.4(a) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded

the applicability cutoffs in Condition 7.46.4(a) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

h. Emissions of PM or VOM in excess of the limits in Condition 7.46.3 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.46.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.46.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.46.9 and the emission factors and formulas listed below:

a. Determinations of daily and annual emissions for purposes of Condition 7.46.4(a) (see also 35 IAC 218.480) shall be made using both data on the hourly emission rate (or the emissions per unit of throughput) and appropriate daily and annual data from records of emission unit operation (or material throughput or material consumption data). In the absence of representative test data pursuant to Condition 7.46.7(c) (see also 35 IAC 218.487) for the hourly emission rate (or the emissions per unit of throughput) such items shall be calculated using engineering calculations, including the methods described in Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/2-78-029). This Condition shall not affect the Illinois EPA's or the USEPA's authority to require emission tests to be performed pursuant to Condition 7.46.7(c) (see also 35 IAC 218.487)) [35 IAC 218.480(h)].

b. Compliance with Conditions 7.46.3(b), (d), and (e) is assumed by proper operation of the dry filters and dust collector, as addressed by Condition 7.46.5(c).

c. To determine compliance with Conditions 5.5.1 and 7.46.3(f), VOM emissions from the affected liquid products manufacturing units shall be calculated based on a 1% loss of the liquid solvent throughput.

VOM Emissions (lb) = (Liquid Solvent Throughput, lb) x (0.01 lb VOM/lb Liquid Solvent)

d. To determine compliance with Conditions 5.5.1, 7.46.3(d), and 7.46.3(e), PM emissions from the affected liquid products manufacturing units shall be calculated 1% loss of the dry material throughput.

PM Emissions (lb) = (Dry Material Throughput, lb) x (0.01 lb PM/lb Dry Material) x [1 - (Overall Dry Filter or Dust Collector Efficiency* (%)/100)]

*As specified by manufacturer(s) or vendor(s) of the dry filters and dust collector.

7.47 Units M-2T Pharmaceutical Products Division Building M-2 Liquid Products Manufacturing Storage Tanks

7.47.1 Description

Abbott Laboratories' Pharmaceutical Products Division North Chicago Operations manufactures and packages pharmaceutical liquids (both prescription and over-the-counter), eye and ear care solutions, creams, ointments, suppositories, shampoos, and aerosols.

Many types of liquid products are made by utilizing large mixing tanks of various sizes and designs to mix both dry and liquid ingredients. While tanks can be used for mixing and storing a wide variety of products, they are divided into four basic groups: 1) flammable liquids; 2) sterile liquids; 3) selenium products; 4) other products. Regardless of which tanks are used for which product is being made, the manufacturing process is the same. Liquids are added to a tank and dry ingredients are added while mixing. After the mixing process is complete and passes quality testing, the product is pumped to the filling/finishing area.

Since the manufacturing process involves the handling of liquids, creams and ointments, very little particulate matter is generated. The only time that particulate matter is generated is during drug weigh and tank charging. Although flammable solvents, which are classified as VOM, are used to manufacture some liquids, the volume is low and the mixing and filling is done in closed systems, thereby keeping the VOM emissions very small.

7.47.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Q-1675	1,940 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 510)	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1676	1,940 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 512)	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1677	1,940 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 511)	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1678	1,930 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 513)	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1679	1,940 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 509)	Dry Filters 823-1, 823-2, 823-3, and 823-4

Emission Unit	Description	Emission Control Equipment
Q-1680	1,940 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 504)	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1681	1,940 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 506)	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1682	1,940 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 507)	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1683	1,940 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 508)	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-1684	1,940 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 505)	Dry Filters 823-1, 823-2, 823-3, and 823-4
Q-2433	565 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 423)	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-344	576 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 420)	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-347	576 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 422)	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-434	1,620 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 301)	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-435	1,620 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 302)	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-436	1,620 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 303)	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-445	1,620 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 305)	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-446	1,620 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 304)	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-447	1,620 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 306)	Dry Filters 823-1, 823-2, 823-3, and 823-4
R-448	1,620 Gallon Liquid Products Manufacturing Solution Storage Tank (Tank 307)	Dry Filters 823-1, 823-2, 823-3, and 823-4

7.47.3 Applicability Provisions and Applicable Regulations

a. The Building M-2 Liquid Products Manufacturing Storage Tanks are “affected tanks” for the purpose of these unit-specific conditions.

b. Each affected tank is subject to the emission limits identified in Condition 5.2.2.

c. The affected tanks, which were constructed on or after April 14, 1972, are subject to 35 IAC 212.321(a), which provides that:

> No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

d. The affected tanks, which were constructed prior to April 14, 1972, are subject to 35 IAC 212.322(a), which provides that:

> No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit for which construction or modification commenced prior to April 14, 1972, which, either alone or in combination with the emission of particulate matter from all other similar process emission at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 (see also Attachment 2) [35 IAC 212.322(a)].

e. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

7.47.4 Non-Applicability of Regulations of Concern

a. The affected tanks are not subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subparts A and GGG, specifically 40 CFR 63.1253 for Storage Tanks, because each affected tank has a design capacity of less than 38 m^3 (10,000 gallons).

b. The affected tanks are not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which

Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subparts A and Ka, because each affected tank has a storage capacity less than 151,416 l (40,000 gal).

c. The affected tanks are not subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subparts A and Kb, because each affected tank has a storage capacity less than 40 cubic meters.

d. The affected tanks are not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119, because the capacity of each affected tank is less than 151 m^3 (40,000 gal).

e. The affected tanks are not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(2), which exempts storage tanks with capacities less than 151.42 m^3 (40,000 gal) and pursuant to 35 IAC 218.123(a)(6), which exempts stationary storage tanks in which volatile petroleum liquid is not stored.

f. The affected tanks are not subject to the requirements of 35 IAC 218.122, Loading Operations, because pursuant to 35 IAC 218.122(c), if no odor nuisance exists the limitations of this 35 IAC 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F).

g. The affected tanks are not subject to the control requirements of 35 IAC 218 Subpart T, because, pursuant to 35 IAC 218.480(a), the rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission units of VOM, including but not limited to reactors, distillation units, dryers, storage tanks for VOL, equipment for the transfer of VOL, filters, crystallizers, washers, laboratory hoods, pharmaceutical coating operations, mixing operations and centrifuges used in manufacturing, including packaging, of pharmaceuticals, and emitting more than 6.8 kg/day (15 lb/day) and more than 2,268 kg/year (2.5 tons/year) of VOM. If such an emission unit emits less than 2,268 kg/year (2.5 tons/year) of VOM, the requirements of 35 IAC 218 Subpart T still apply to the emission unit if VOM emissions from the emission unit exceed 45.4 kg/day (100 lb/day).

h. The affected tanks are not subject to 35 IAC 212.324, Process Emission Units In Certain Areas, because the source is not located in a non-attainment area for PM_{10}, as identified in 35 IAC 212.324(a)(1).

7.47.5 Operational and Production Limits and Work Practices

a. The owner or operator of a pharmaceutical manufacturing source shall:

i. Provide a vapor balance system that is at least 90 percent effective in reducing VOM emissions from truck or railcar deliveries to storage tanks with capacities equal to or greater than 7.57 m^3 (2,000 gal) that store VOL with vapor pressures greater than 28.0 kPa (4.1 psi) at 294.3°K (70°F) [35 IAC 218.483(a)]; and

ii. Install, operate, and maintain pressure/vacuum conservation vents set at 0.2 kPa (0.03 psi) or greater on all storage tanks that store VOL with vapor pressures greater than 10 kPa (1.5 psi) at 294.3°K (70°F) [35 IAC 218.483(b)].

b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].

c. The Permittee shall follow good operating practices for the dry filters including periodic inspection, routine maintenance and prompt repair of defects.

d. The affected tanks shall only be used for the storage of materials with a vapor pressure of less than 2.5 psia at 70°F.

7.47.6 Emission Limitations

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.47.7 Testing Requirements

Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218

Subpart T or exempt from 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.47.4(g) (see also 35 IAC 218.480), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in 35 IAC 218.105(f)(1) [35 IAC 218.487].

7.47.8 Monitoring Requirements

None

7.47.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected tank to demonstrate compliance with Conditions 5.5.1, 7.47.3, and 7.47.4(g),, pursuant to Section 39.5(7)(b) of the Act:

a. Records of the testing of the affected tanks pursuant to Condition 7.47.7, which include the following [Section 39.5(7)(e) of the Act]:

   i. The date, place and time of sampling or measurements;

   ii. The date(s) analyses were performed;

   iii. The company or entity that performed the analyses;

   iv. The analytical techniques or methods used;

   v. The results of such analyses; and

   vi. The operating conditions as existing at the time of sampling or measurement.

b. Each storage vessel with a design capacity less than 40,000 gallons is subject to no provisions of 35 IAC Part 218 other than those required by maintaining readily accessible records of the dimensions of the storage vessel and analysis of the capacity of the storage vessel [35 IAC 218.129(f)];

c. Pursuant to 35 IAC 218.489(b), for any leak subject to Condition 7.47.5(b) (see also 35 IAC 218.485) which cannot be readily repaired within one hour after detection, the following records shall be kept:

   i. The name of the leaking equipment [35 IAC 218.489(b)(1)];

ii. The date and time the leak is detected [35 IAC 218.489(b)(2)];

iii. The action taken to repair the leak [35 IAC 218.489(b)(3)]; and

iv. The date and time the leak is repaired [35 IAC 218.489(b)(4)].

d. Pursuant to 35 IAC 218.489(d), for each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.47.4(g) (see also 35 IAC 218.480(a)), the owner or operator shall:

i. Maintain a demonstration including detailed engineering calculations of the maximum daily and annual emissions for each such emission unit showing that the emissions are below the applicability cutoffs in Condition 7.47.4(g) (see also 35 IAC 218.480(a)) for the current and prior calendar years [35 IAC 218.489(d)(1)]; and

ii. Maintain appropriate operating records for each such emission source to identify whether the applicability cutoffs in Condition 7.47.4(g) (see also 35 IAC 218.480(a)) are ever exceeded [35 IAC 218.489(d)(2)].

e. Copies of the records shall be made available to the Illinois EPA or the USEPA upon verbal or written request [35 IAC 218.489(f)].

f. Records addressing use of good operating practices for the dry filters:

i. Records for periodic inspection of the dry filters with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

g. Identification of the material stored in each affected tank;

h. The throughput of each affected tank, gal/mo and gal/yr; and

i. The monthly and aggregate annual PM, VOM, and HAP emissions from the affected tanks based on the material stored, the tank throughput, and the applicable emission factors and formulas with supporting calculations.

7.47.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected tank with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart T shall notify the Illinois EPA and the USEPA of that intent not less than 30 calendar days before the planned initiation of the test [35 IAC 218.487(b)].

b. For each emission unit used in the manufacture of pharmaceuticals for which the owner or operator of a pharmaceutical manufacturing source claims emission standards are not applicable, because the emissions are below the applicability cutoffs in Condition 7.47.4(g) (see also 35 IAC 218.480(a)), the owner or operator shall provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in Condition 7.47.4(g) (see also 35 IAC 218.480(a)) [35 IAC 218.489(d)(3)].

c. The storage of any VOL or VPL other than the materials specified in Condition 7.47.5(d) for the affected tanks within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

d. Emissions of VOM in excess of the limits in Conditions 7.47.3 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.47.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.47.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.47.9 and the emission factors and formulas listed below:

a. Determinations of daily and annual emissions for purposes of Condition 7.47.4(g) (see also 35 IAC 218.480) shall be made using both data on the hourly emission rate (or the emissions per unit of throughput) and appropriate daily and annual data from records of emission unit operation (or material throughput or material consumption data). In the absence of representative test data pursuant to Condition 7.47.7 (see also 35 IAC 218.487) for the hourly emission rate (or the emissions per unit of throughput) such items shall be calculated using engineering calculations, including the methods described in Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/2-78-029). This Condition shall not affect the Illinois EPA's or the USEPA's authority to require emission tests to be performed pursuant to Condition 7.47.7 (see also 35 IAC 218.487)) [35 IAC 218.480(h)].

b. Compliance with Conditions 7.47.3(b), (c), and (d) is assumed by proper operation of the dry filters and dust collector, as addressed by Condition 7.47.5(c).

c. For the purpose of estimating VOM emissions from each affected tank to determine compliance with Conditions 5.5.1, and 7.47.3(e), Version 3.1 of the TANKS program is acceptable.

d. To determine compliance with Conditions 5.5.1, 7.47.3(c), and 7.47.3(d), PM emissions from the affected tanks shall be calculated 1% loss of the dry material throughput.

PM Emissions (lb) = (Dry Material Throughput, lb) x (0.01 lb VOM/lb Dry Material) x [1 - (Overall Dry Filter or Dust Collector Efficiency* (%)/100)]

*As specified by manufacturer(s) or vendor(s) of the dry filters and dust collector.

7.48 Unit M-8 Gasoline Tank
Controls M-8 Submerged Loading Pipe and Vapor Collection/Balance System

7.48.1 Description

The M-8 gasoline storage tank is an above ground, rectangular steel tank. The tank is equipped with a submerged loading pipe and a vapor collection/balance system. The vapor collection/balance system returns the storage tank vapors, displaced during its filling, to the tanker truck gasoline delivery vessel.

7.48.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
M-8	1,500 Gallon Unleaded Gasoline Storage Tank (M-8 Gasoline Tank)	Submerged Loading Pipe and Vapor Collection/Balance System

7.48.3 Applicability Provisions and Applicable Regulations

a. The M-8 Gasoline Tank is an "affected tank" for the purpose of these unit-specific conditions.

b. No person shall cause or allow the loading of any organic material into any stationary tank having a storage capacity of greater than 946 l (250 gal), unless such tank is equipped with a permanent submerged loading pipe or an equivalent device approved by the Illinois EPA according to the provisions of 35 IAC 201, and further processed consistent with 35 IAC 218.108 [35 IAC 218.122(b)].

c. The affected tank is subject to 35 IAC 218.583(c), which provides no person shall cause or allow the transfer of gasoline from any delivery vessel into any stationary storage tank at a gasoline dispensing operation unless:

i. The tank is equipped with a submerged loading pipe [35 IAC 218.583(a)(1)]; and

ii. The vapors displaced from the storage tank during filling are processed by a vapor control system that includes one or more of the following:

A. A vapor collection system that meets the requirements of Condition 7.48.5(c) (see also 35 IAC 218.583(d)(4)) [35 IAC 218.583(a)(2)(A)]; or

B. A refrigeration-condensation system or any other system approved by the Illinois EPA and approved by the USEPA as a SIP revision, that recovers at least 90 percent by weight of all vaporized organic material from the equipment being controlled [35 IAC 218.583(a)(2)(B)]; and

C. The delivery vessel displays the appropriate sticker pursuant to the requirements of 35 IAC 218.584(b) or (d) [35 IAC 218.583(a)(2)(C)]; and

iii. All tank vent pipes are equipped with pressure/vacuum relief valves with the pressure/vacuum relief valve shall be set to resist a pressure of at least 3.5 inches water column and to resist a vacuum of no less than 6.0 inches water column [35 IAC 218.583(a)(3)].

d. The affected tank is subject to 35 IAC 218.585, which provides that:

i. No person shall sell, offer for sale, dispense, supply, offer for supply, or transport for use in Illinois gasoline whose Reid vapor pressure exceeds the applicable limitations set forth in Conditions 7.48.3(d)(ii) and (d)(iii) (see also 35 IAC 218.585(b) and (c)) during the regulatory control periods, which shall be May 1 to September 15 for retail outlets, wholesale purchaser-consumer, operations, and all other operations [35 IAC 218.585(a)].

ii. The Reid vapor pressure of gasoline, a measure of its volatility, shall not exceed 9.0 psi (62.07 kPa) during the regulatory control period in 1990 and each year thereafter [35 IAC 218.585(b)].

iii. The Reid vapor pressure of ethanol blend gasoline shall not exceed the limitations for gasoline set forth in Condition 7.48.3(d)(ii) (see also 35 IAC 218.585(b)) by more than 1.0 psi (6.9 kPa). Notwithstanding this limitation, blenders of ethanol blend gasoline whose Reid vapor pressure is less than 1.0 psi above the base stock gasoline immediately after blending with ethanol are prohibited from adding butane or any product that will

increase the Reid vapor pressure of the blended gasoline [35 IAC 218.585(c)].

7.48.4 Non-Applicability of Regulations of Concern

a. The affected tank is not subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subpart Kb, because the affected tank has a capacity less than 40 m^3.

b. The affected tank is not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119, because the affected tank is used to store a petroleum liquid and the capacity is less than 151 m^3 (40,000 gal).

c. The affected tank is not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(2), which exempts storage tanks with a capacity less than 151.42 m^3 (40,000 gal).

d. The affected tank is not subject to the requirements of 35 IAC 218.586, Gasoline Dispensing Operations - Motor Vehicle Fueling Operations, pursuant to 35 IAC 218.586(b), which exempts any gasoline dispensing operation which dispenses an average monthly volume of less than 10,000 gallons of motor vehicle fuel per month. Pursuant to 35 IAC 218.586(a)(1), average monthly volume means the amount of motor vehicle fuel dispensed per month from a gasoline dispensing operation based upon a monthly average for the 2-year period of November, 1990 through October, 1992 or, if not available, the monthly average for the most recent twelve calendar months. Monthly averages are to include only those months when the operation was operating.

7.48.5 Operational and Production Limits and Work Practices

a. The affected tank shall only be used for the storage of gasoline.

b. Pursuant to 35 IAC 218.583(c), each owner of a gasoline dispensing operation shall:

i. Install all control systems and make all process modifications required by Condition 7.48.3(b) (see also 35 IAC 218.583(a)) [35 IAC 218.583(c)(1)];

ii. Provide instructions to the operator of the gasoline dispensing operation describing necessary maintenance operations and procedures for prompt notification of the owner in case of any malfunction of a vapor control system [35 IAC 218.583(c)(2)]; and

iii. Repair, replace or modify any worn out or malfunctioning component or element of design [35 IAC 218.583(c)(3)].

c. Pursuant to 35 IAC 218.583(d), each operator of a gasoline dispensing operation shall:

i. Maintain and operate each vapor control system in accordance with the owner's instructions [35 IAC 218.583(d)(1)];

ii. Promptly notify the owner of any scheduled maintenance or malfunction requiring replacement or repair of a major component of a vapor control system [35 IAC 218.583(d)(2)];

iii. Maintain gauges, meters or other specified testing devices in proper working order [35 IAC 218.583(d)(3)]; and

iv. Operate the vapor collection system and delivery vessel unloading points in a manner that prevents:

A. A reading equal to or greater than 100 percent of the LEL (measured as propane) when tested in accordance with the procedure described in EPA 450/2-78-051 Appendix B [35 IAC 218.583(d)(4)(A)]; and

B. Avoidable leaks of liquid during the filling of storage tanks [35 IAC 218.583(d)(4)(B)].

7.48.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected tank is subject to the following:

a. This permit is issued based on negligible emissions of VOM from Tank M8. For this purpose, emissions shall not exceed 85 lb/month and 0.25 tons/year.

b. The above limitations contain revisions to previously issued Permit 00010033. The source has requested

that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, the hourly emission limit of 0.057 lb for VOM has been replaced the monthly limit of 85 lb without any increase in the annual emissions limit [T1R].

c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.48.7 Testing Requirements

a. Pursuant to 35 IAC 218.583(a)(4), no person shall cause or allow the transfer of gasoline from any delivery vessel into any stationary storage tank at a gasoline dispensing operation unless the owner or operator of a gasoline dispensing operation demonstrates compliance with Condition 7.48.3(c)(iii) (see also 35 IAC 218.583(a)(3)), by March 15, 1995 or 30 days after installation of each pressure/vacuum relief valve, whichever is later, and at least annually thereafter, by measuring and recording the pressure indicated by a pressure/vacuum gauge at each tank vent pipe. The test shall be performed on each tank vent pipe within two hours after product delivery into the respective storage tank. For manifold tank vent systems, observations at any point within the system shall be adequate. The owner or operator shall maintain any records required by this Condition for a period of three years.

b. Within 15 business days after discovery of the leak by the owner, operator, or the Illinois EPA, repair and retest a vapor collection system which exceeds the limits of Condition 7.48.5(c)(4)(A) (see also 35 IAC 218.583(d)(4)(A)) [35 IAC 218.583(d)(5)].

c. Upon reasonable request by the Illinois EPA, pursuant to Section 39.5(7)(b) of the Act, the Reid vapor pressure of gasoline and the ethanol content of ethanol blend gasoline shall be determine according to the methods specified below:

i Pursuant to 35 IAC 218.585(d), all sampling of gasoline required pursuant to the provisions of Conditions 7.48.7(c)(ii) and (c)(iii) (see also 35 IAC 218.585(e) and (f)) shall be conducted by one or more of the following approved methods or procedures:

A. For manual sampling, ASTM D4057 [35 IAC 218.585(d)(1)];

B. For automatic sampling, ASTM D4177 [35 IAC 218.585(d)(2)]; or

C. Sampling procedures for Fuel Volatility, 40 CFR 80 Appendix D [35 IAC 218.585(d)(3)].

ii. The Reid vapor pressure of gasoline shall be measured in accordance with either test method ASTM D323 or a modification of ASTM D323 known as the "dry method" as set forth in 40 CFR 80, Appendix E. For gasoline - oxygenate blends which contain water-extractable oxygenates, the Reid vapor pressure shall be measured using the dry method test [35 IAC 218.585(e)].

iii. The ethanol content of ethanol blend gasoline shall be determined by use of one of the approved testing methodologies specified in 40 CFR 80, Appendix F [35 IAC 218.585(f)].

7.48.8 Monitoring Requirements

None

7.48.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected tank to demonstrate compliance with Conditions 5.5.1, 7.48.3, and 7.48.6, pursuant to Section 39.5(7)(b) of the Act:

a. Records of the testing of the affected tank pursuant to Condition 7.48.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

b. Each storage vessel with a design capacity less than 40,000 gallons is subject to no provisions of 35 IAC Part 218 other than those required by maintaining readily accessible records of the dimensions of the storage vessel and analysis of the capacity of the storage vessel [35 IAC 218.129(f)].

c. Design information for the tank showing the presence of a permanent submerged loading pipe;

d. Maintenance and repair records for the tank, as related to the repair or replacement of the loading pipe;

e. The throughput of the affected tank, gal/mo and gal/yr; and

f. The annual VOM emissions from the affected tank based on the material stored, the tank throughput, and the applicable emission factors and formulas with supporting calculations.

7.48.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of an affected tank with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. Any storage of VOL in an affected tank that is not in compliance with the requirements of Conditions 7.48.3(b) and (c)(i) (see also 35 IAC 218.122(b) and 218.583(a)(1)), e.g., no "permanent submerged loading pipe," within five days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-

compliance, and the steps taken to avoid future non-compliance;

b. Any storage of VOL in an affected tank that is out of compliance with the requirements of Conditions 7.48.3(b) and (c)(i) (see also 35 IAC 218.122(b) and 218.583(a)(1)) due to damage, deterioration, or other condition of the loading pipe, within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance;

c. Upon request by the Illinois EPA, the owner or operator of a gasoline dispensing operation which claims to be exempt from the requirements of 35 IAC 218.586 shall submit records to the Illinois EPA within 30 calendar days from the date of the request which demonstrate that the gasoline dispensing operation is in fact exempt; and

d. The storage of any VOL or VPL other than the material specified in Condition 7.48.5(a) within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

7.48.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.48.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.48.9 and the emission factors and formulas listed below:

For the purpose of estimating VOM emissions from each affected tank, the versions 3.1 or 4.0 of the TANKS program are acceptable.

8.0 GENERAL PERMIT CONDITIONS

8.1 Permit Shield

Pursuant to Section 39.5(7)(j) of the Act, the Permittee has requested and has been granted a permit shield. This permit shield provides that compliance with the conditions of this permit shall be deemed compliance with applicable requirements which were applicable as of the date the proposed permit for this source was issued, provided that either the applicable requirements are specifically identified within this permit, or the Illinois EPA, in acting on this permit application, has determined that other requirements specifically identified are not applicable to this source and this determination (or a concise summary thereof) is included in this permit.

This permit shield does not extend to applicable requirements which are promulgated after April 14, 2000 (the date of issuance of the draft permit) unless this permit has been modified to reflect such new requirements.

8.2 Applicability of Title IV Requirements (Acid Deposition Control)

This source is not an affected source under Title IV of the CAA and is not subject to requirements pursuant to Title IV of the CAA.

8.3 Emissions Trading Programs

No permit revision shall be required for increases in emissions allowed under any USEPA approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for elsewhere in this permit and that are authorized by the applicable requirement [Section 39.5(7)(o)(vii) of the Act].

8.4 Operational Flexibility/Anticipated Operating Scenarios

8.4.1 Changes Specifically Addressed by Permit

Physical or operational changes specifically addressed by the Conditions of this permit that have been identified as not requiring Illinois EPA notification may be implemented without prior notice to the Illinois EPA.

8.4.2 Changes Requiring Prior Notification

The Permittee is authorized to make physical or operational changes that contravene express permit terms without applying for or obtaining an amendment to this permit, provided that [Section 39.5(12)(a)(i) of the Act]:

a. The changes do not violate applicable requirements;

b. The changes do not contravene federally enforceable permit terms or conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements;

c. The changes do not constitute a modification under Title I of the CAA;

d. Emissions will not exceed the emissions allowed under this permit following implementation of the physical or operational change; and

e. The Permittee provides written notice to the Illinois EPA, Division of Air Pollution Control, Permit Section, at least 7 days before commencement of the change. This notice shall:

i. Describe the physical or operational change;

ii. Identify the schedule for implementing the physical or operational change;

iii. Provide a statement of whether or not any New Source Performance Standard (NSPS) is applicable to the physical or operational change and the reason why the NSPS does or does not apply;

iv. Provide emission calculations which demonstrate that the physical or operational change will not result in a modification; and

v. Provide a certification that the physical or operational change will not result in emissions greater than authorized under the Conditions of this permit.

8.5 Testing Procedures

Tests conducted to measure composition of materials, efficiency of pollution control devices, emissions from process or control equipment, or other parameters shall be conducted using standard test methods. Documentation of the test date, conditions, methodologies, calculations, and test results shall be retained pursuant to the recordkeeping procedures of this permit. Reports of any tests conducted as required by this permit or as the result of a request by the Illinois EPA shall be submitted as specified in Condition 8.6.

8.6 Reporting Requirements

8.6.1 Monitoring Reports

If monitoring is required by any applicable requirements or conditions of this permit, a report summarizing the required monitoring results, as specified in the conditions of this permit, shall be submitted to the Air Compliance Section of the Illinois EPA every six months as follows [Section 39.5(7)(f) of the Act]:

Monitoring Period	Report Due Date
January - June	September 1
July - December	March 1

All instances of deviations from permit requirements must be clearly identified in such reports. All such reports shall be certified in accordance with Condition 9.9.

8.6.2 Test Notifications

Unless otherwise specified elsewhere in this permit, a written test plan for any test required by this permit shall be submitted to the Illinois EPA for review at least 60 days prior to the testing pursuant to Section 39.5(7)(a) of the Act. The notification shall include at a minimum:

a. The name and identification of the affected unit(s);

b. The person(s) who will be performing sampling and analysis and their experience with similar tests;

c. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and the means by which the operating parameters for the source and any control equipment will be determined;

d. The specific determination of emissions and operation which are intended to be made, including sampling and monitoring locations;

e. The test method(s) which will be used, with the specific analysis method, if the method can be used with different analysis methods;

f. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification; and

g. Any proposed use of an alternative test method, with detailed justification.

8.6.3 Test Reports

Unless otherwise specified elsewhere in this permit, the results of any test required by this permit shall be submitted to the Illinois EPA within 60 days of completion of the testing. The test report shall include at a minimum [Section 39.5(7)(e)(i) of the Act]:

a. The name and identification of the affected unit(s);

b. The date and time of the sampling or measurements;

c. The date any analyses were performed;

d. The name of the company that performed the tests and/or analyses;

e. The test and analytical methodologies used;

f. The results of the tests including raw data, and/or analyses including sample calculations;

g. The operating conditions at the time of the sampling or measurements; and

h. The name of any relevant observers present including the testing company's representatives, any Illinois EPA or USEPA representatives, and the representatives of the source.

8.6.4 Reporting Addresses

a. The following addresses should be utilized for the submittal of reports, notifications, and renewals:

i. Illinois EPA - Air Compliance Section

Illinois Environmental Protection Agency
Bureau of Air
Compliance Section (MC 40)
P.O. Box 19276
Springfield, Illinois 62794-9276

ii. Illinois EPA - Air Regional Field Office

Illinois Environmental Protection Agency
Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016

iii. Illinois EPA - Air Permit Section (MC 11)

Illinois Environmental Protection Agency
Division of Air Pollution Control
Permit Section
P.O. Box 19506

Springfield, Illinois 62794-9506

iv. USEPA Region 5 - Air Branch

USEPA (AR - 17J)
Air & Radiation Division
77 West Jackson Boulevard
Chicago, Illinois 60604

b. Unless otherwise specified in the particular provision of this permit, reports shall be sent to the Illinois EPA - Air Compliance Section with a copy sent to the Illinois EPA - Air Regional Field Office.

8.7 Obligation to comply with Title I requirements

Any term, condition, or requirement identified in this permit by T1, T1R, or T1N is established or revised pursuant to 35 IAC Part 203 or 40 CFR 52.21 ("Title I provisions") and incorporated into this permit pursuant to both Section 39.5 and Title I provisions. Notwithstanding the expiration date on the first page of this permit, the Title I conditions remain in effect pursuant to Title I provisions until the Illinois EPA deletes or revises them in accordance with Title I procedures.

9.0 STANDARD PERMIT CONDITIONS

9.1 Effect of Permit

9.1.1 The issuance of this permit does not release the Permittee from compliance with State and Federal regulations which are part of the Illinois State Implementation Plan, as well as with other applicable statutes and regulations of the United States or the State of Illinois or applicable ordinances, except as specifically stated in this permit and as allowed by law and rule [Section 39.5(7)(j)(iv) of the Act].

9.1.2 In particular, this permit does not alter or affect the following:

a. The provisions of Section 303 (emergency powers) of the CAA, including USEPA's authority under that Section;

b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;

c. The applicable requirements of the acid rain program consistent with Section 408(a) of the CAA; and

d. The ability of USEPA to obtain information from a source pursuant to Section 114 (inspections, monitoring, and entry) of the CAA.

9.1.3 Notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.

9.2 General Obligations of Permittee

9.2.1 Duty to Comply

The Permittee must comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the CAA and the Act, and is grounds for any or all of the following: enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application [Section 39.5(7)(o)(i) of the Act].

The Permittee shall meet applicable requirements that become effective during the permit term in a timely manner unless an alternate schedule for compliance with the applicable requirement is established.

9.2.2 Duty to Maintain Equipment

The Permittee shall maintain all equipment covered under this permit in such a manner that the performance or operation of such equipment shall not cause a violation of applicable requirements.

9.2.3 Duty to Cease Operation

No person shall cause, threaten or allow the continued operation of any emission unit during malfunction or breakdown of the emission unit or related air pollution control equipment if such operation would cause a violation of an applicable emission standard, regulatory requirement, ambient air quality standard or permit limitation unless such malfunction or breakdown is allowed by a permit condition [Section 39.5(6)(c) of the Act].

9.2.4 Disposal Operations

The source shall be operated in such a manner that the disposal of air contaminants collected by the equipment operations, or activities shall not cause a violation of the Act or regulations promulgated thereunder.

9.2.5 Duty to Pay Fees

The Permittee must pay fees to the Illinois EPA consistent with the fee schedule approved pursuant to Section 39.5(18) of the Act, and submit any information relevant thereto [Section 39.5(7)(o)(vi) of the Act]. The check should be payable to "Treasurer, State of Illinois" and sent to: Fiscal Services Section, Illinois Environmental Protection Agency, P.O. Box 19276, Springfield, Illinois 62794-9276.

9.3 Obligation to Allow Illinois EPA Surveillance

Upon presentation of proper credentials and other documents, the Permittee shall allow the Illinois EPA, or an authorized representative to perform the following [Section 39.5(7)(a) and (p)(ii) of the Act and 415 ILCS 5/4]:

a. Enter upon the Permittee's premises where an actual or potential emission unit is located; where any regulated equipment, operation, or activity is located or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect during hours of operation any sources, equipment (including monitoring and air pollution control

equipment), practices, or operations regulated or required under this permit;

d. Sample or monitor any substances or parameters at any location:

i. At reasonable times, for the purposes of assuring permit compliance; or

ii. As otherwise authorized by the CAA, or the Act.

e. Obtain and remove samples of any discharge or emission of pollutants authorized by this permit; and

f. Enter and utilize any photographic, recording, testing, monitoring, or other equipment for the purposes of preserving, testing, monitoring, or recording any activity, discharge or emission at the source authorized by this permit.

9.4 Obligation to Comply With Other Requirements

The issuance of this permit does not release the Permittee from applicable State and Federal laws and regulations, and applicable local ordinances addressing subjects other than air pollution control.

9.5 Liability

9.5.1 Title

This permit shall not be considered as in any manner affecting the title of the premises upon which the permitted source is located.

9.5.2 Liability of Permittee

This permit does not release the Permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the sources.

9.5.3 Structural Stability

This permit does not take into consideration or attest to the structural stability of any unit or part of the source.

9.5.4 Illinois EPA Liability

This permit in no manner implies or suggests that the Illinois EPA (or its officers, agents or employees) assumes any liability, directly or indirectly, for any

loss due to damage, installation, maintenance, or operation of the source.

9.5.5 Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege [Section 39.5(7)(o)(iv) of the Act].

9.6 Recordkeeping

9.6.1 Control Equipment Maintenance Records

A maintenance record shall be kept on the premises for each item of air pollution control equipment. As a minimum, this record shall show the dates of performance and nature of preventative maintenance activities.

9.6.2 Records of Changes in Operation

A record shall be kept describing changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under this permit, and the emissions resulting from those changes [Section 39.5(12)(b)(iv) of the Act].

9.6.3 Retention of Records

a. Records of all monitoring data and support information shall be retained for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit [Section 39.5(7)(e)(ii) of the Act].

b. Other records required by this permit shall be retained for a period of at least 5 years from the date of entry unless a longer period is specified by a particular permit provision.

9.7 Annual Emissions Report

The Permittee shall submit an annual emissions report to the Illinois EPA, Compliance Section no later than May 1 of the following year, as required by 35 IAC Part 254.

9.8 Requirements for Compliance Certification

Pursuant to Section 39.5(7)(p)(v) of the Act, the Permittee shall submit annual compliance certifications. The compliance

certifications shall be submitted no later than May 1 or more frequently as specified in the applicable requirements or by permit condition. The compliance certifications shall be submitted to the Air Compliance Section, Air Regional Field Office, and USEPA Region 5 – Air Branch. The addresses for the submittal of the compliance certifications are provided in Condition 8.6.4 of this permit.

a. The certification shall include the identification of each term or condition of this permit that is the basis of the certification; the compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source, both currently and over the reporting period consistent with the conditions of this permit.

b. All compliance certifications shall be submitted to USEPA Region 5 in Chicago as well as to the Illinois EPA.

c. All compliance reports required to be submitted shall include a certification in accordance with Condition 9.9.

9.9 Certification

Any document (including reports) required to be submitted by this permit shall contain a certification by a responsible official of the Permittee that meets the requirements of Section 39.5(5) of the Act [Section 39.5(7)(p)(i) of the Act]. An example Certification by a Responsible Official is included as an attachment to this permit.

9.10 Defense to Enforcement Actions

9.10.1 Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit [Section 39.5(7)(o)(ii) of the Act].

9.10.2 Emergency Provision

a. An emergency shall be an affirmative defense to an action brought for noncompliance with the technology-based emission limitations under this permit if the following conditions are met through properly signed, contemporaneous operating logs, or other relevant evidence:

i. An emergency occurred as provided in Section 39.5(7)(k) of the Act and the Permittee can identify the cause(s) of the emergency.

Normally, an act of God such as lightning or flood is considered an emergency;

ii. The permitted source was at the time being properly operated;

iii. The Permittee submitted notice of the emergency to the Illinois EPA within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken; and

iv. During the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission limitations, standards, or regulations in this permit.

b. This provision is in addition to any emergency or upset provision contained in any applicable requirement. This provision does not relieve a Permittee of any reporting obligations under existing federal or state laws or regulations.

9.11 Permanent Shutdown

This permit only covers emission units and control equipment while physically present at the indicated source location(s). Unless this permit specifically provides for equipment relocation, this permit is void for the operation or activity of any item of equipment on the date it is removed from the permitted location(s) or permanently shut down. This permit expires if all equipment is removed from the permitted location(s), notwithstanding the expiration date specified on this permit.

9.12 Reopening and Reissuing Permit for Cause

9.12.1 Permit Actions

This permit may be modified, reopened, and reissued, for cause pursuant to Section 39.5(15) of the Act. The filing of a request by the Permittee for a permit modification, revocation, and reissuance, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition [Section 39.5(7)(o)(iii) of the Act].

9.12.2 Reopening and Revision

This permit must be reopened and revised if any of the following occur [Section 39.5(15)(a) of the Act]:

a. Additional requirements become applicable to the equipment covered by this permit and three or more years remain before expiration of this permit;

b. Additional requirements become applicable to an affected source for acid deposition under the acid rain program;

c. The Illinois EPA or USEPA determines that this permit contains a material mistake or inaccurate statement when establishing the emission standards or limitations, or other terms or conditions of this permit; and

d. The Illinois EPA or USEPA determines that this permit must be revised to ensure compliance with the applicable requirements of the Act.

9.12.3 Inaccurate Application

The Illinois EPA has issued this permit based upon the information submitted by the Permittee in the permit application. Any misinformation, false statement or misrepresentation in the application shall be grounds for revocation under Section 39.5(15)(b) of the Act.

9.12.4 Duty to Provide Information

The Permittee shall furnish to the Illinois EPA, within a reasonable time specified by the Illinois EPA any information that the Illinois EPA may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to the Illinois EPA copies of records required to be kept by this permit, or for information claimed to be confidential, the Permittee may furnish such records directly to USEPA along with a claim of confidentiality [Section 39.5(7)(o)(v) of the Act].

9.13 Severability Clause

The provisions of this permit are severable, and should any one or more be determined to be illegal or unenforceable, the validity of the other provisions shall not be affected. The rights and obligations of the Permittee shall be construed and enforced as if this permit did not contain the particular provisions held to be invalid and the applicable requirements underlying these provisions shall remain in force [Section 39.5(7)(i) of the Act].

9.14 Permit Expiration and Renewal

The right to operate terminates on the expiration date unless the Permittee has submitted a timely and complete renewal application. For a renewal to be timely it must be submitted no later than 9 and no sooner than 12 months prior to expiration. The equipment may continue to operate during the renewal period until final action is taken by the Illinois EPA, in accordance with the original permit conditions [Section 39.5(5)(l), (n), and (o) of the Act].

10.0 ATTACHMENTS

10.1 Attachment 1 Emissions of Particulate Matter from New Process Emission Units

10.1.1 Process Emission Units for Which Construction or Modification Commenced On or After April 14, 1972

a. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 [35 IAC 212.321(a)].

b. Interpolated and extrapolated values of the data in subsection (c) of 35 IAC 212.321 shall be determined by using the equation [35 IAC 212.321(b)]:

$$E = A(P)^B$$

where

P = Process weight rate; and
E = Allowable emission rate; and,

i. Up to process weight rates of 408 Mg/hr (450 T/hr):

	Metric	English
P	Mg/hr	T/hr
E	kg/hr	lb/hr
A	1.214	2.54
B	0.534	0.534

ii. For process weight rate greater than or equal to 408 Mg/hr (450 T/hr):

	Metric	English
P	Mg/hr	T/hr
E	kg/hr	lb/hr
A	11.42	24.8
B	0.16	0.16

c. Limits for Process Emission Units For Which Construction or Modification Commenced On or After April 14, 1972 [35 IAC 212.321(c)]:

Metric		English	
P	E	P	E

Mg/hr	kg/hr	T/hr	lb/hr
0.05	0.25	0.05	0.55
0.1	0.29	0.10	0.77
0.2	0.42	0.2	1.10
0.3	0.64	0.30	1.35
0.4	0.74	0.40	1.58
0.5	0.84	0.50	1.75
0.7	1.00	0.75	2.40
0.9	1.15	1.00	2.60
1.8	1.66	2.00	3.70
2.7	2.1	3.00	4.60
3.6	2.4	4.00	5.35
4.5	2.7	5.00	6.00
9.0	3.9	10.00	8.70
13.0	4.8	15.00	10.80
18.0	5.7	20.00	12.50
23.0	6.5	25.00	14.00
27.0	7.23	30.00	15.60
32.0	7.7	35.00	17.00
36.0	8.2	40.00	18.20
41.0	8.8	45.00	19.20
45.0	9.3	50.00	20.50
90.0	13.4	100.00	29.50
140.0	17.0	150.00	37.00
180.0	19.4	200.00	43.00
230.0	22.0	250.00	48.50
270.0	24.0	300.00	53.00
320.0	26.0	350.00	58.00
360.0	28.0	400.00	62.00
408.0	30.1	450.00	66.00
454.0	30.4	500.00	67.00

10.2 Attachment 2 Emissions of Particulate Matter from Existing Process Emission Units

10.2.1 Process Emission Units for Which Construction or Modification Commenced Prior to April 14, 1972

a. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit for which construction or modification commenced prior to April 14, 1972, which, either alone or in combination with the emission of particulate matter from all other similar process emission at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 [35 IAC 212.322(a)].

b. Interpolated and extrapolated values of the data in subsection (c) of 35 IAC 212.322 shall be determined by using the equation [35 IAC 212.322(b)]:

$$E = C + A(P)^B$$

where:

P = Process weight rate; and
E = Allowable emission rate; and,

i. Up to process weight rates up to 27.2 Mg/hr (30 T/hr):

	Metric	English
P	Mg/hr	T/hr
E	kg/hr	lb/hr
A	1.985	4.10
B	0.67	0.67
C	0	0

ii. For process weight rate in excess of 27.2 Mg/hr (30 T/hr):

	Metric	English
P	Mg/hr	T/hr
E	kg/hr	lb/hr
A	25.21	55.0
B	0.11	0.11
C	-18.4	-40.0

c. Limits for Process Emission Units For Which Construction or Modification Commenced Prior to April 14, 1972 [35 IAC 212.322(c)]:

Metric		English	
P	E	P	E
Mg/hr	kg/hr	T/hr	lb/hr

Metric		English	
P	E	P	E
Mg/hr	kg/hr	T/hr	lb/hr
0.05	0.27	0.05	0.55
0.1	0.42	0.10	0.87
0.2	0.68	0.2	1.40
0.3	0.89	0.30	1.83
0.4	1.07	0.40	2.22
0.5	1.25	0.50	2.58
0.7	1.56	0.75	3.38
0.9	1.85	1.00	4.10
1.8	2.9	2.00	6.52
2.7	3.9	3.00	8.56
3.6	4.7	4.00	10.40
4.5	5.4	5.00	12.00
9.0	8.7	10.00	19.20
13.0	11.1	15.00	25.20
18.0	13.8	20.00	30.50
23.0	16.2	25.00	35.40
27.2	18.15	30.00	40.00
32.0	18.8	35.00	41.30
36.0	19.3	40.00	42.50
41.0	19.8	45.00	43.60
45.0	20.2	50.00	44.60
90.0	23.2	100.00	51.20
140.0	25.3	150.00	55.40
180.0	26.5	200.00	58.60
230.0	27.7	250.00	61.00
270.0	28.5	300.00	63.10
320.0	29.4	350.00	64.90
360.0	30.0	400.00	66.20
400.0	30.6	450.00	67.70
454.0	31.3	500.00	69.00

10.3 Attachment 3 New Source Review Emissions Summary for Permit 97120079

The net increase in emissions of volatile organic material (VOM) emissions during the five (5) calendar years prior to the issuance of Permit 97120079 for the entire source were as follows:

Permit #	Project	Date Issued	VOM Increase (Tons/yr)
93120062	Temporary Boiler II	1/14/1994	0.36
83050056	R-6 Tank Farm	1/27/1994	0.0536
87090032	Bovine Lung Lipids Production	2/1/1994	0.24
94030003	PC-6 Vacuum Tray Dryer	4/13/1994	0.0565
94030004	R-9 Pilot Plant Valproic Acid	4/16/1994	0.44
94030108	C-19 Muliproduct Hydrogenation	5/11/1994	0.782
87090032	Bovine Lungs Lipids Production	6/14/1994	0.13
94060002	Building R-6 Tank Farm	6/22/1994	0.86
94060010	Bldg. R-10 Cyclosporin Prod.	6/24/1994	0.12
94060081	Bldg. R-9 Peptide Process	7/14/1994	0.052
94080077	PPD Pilot Plant M-3 R&D	9/16/1994	0.41
95030062	S-30 Storage Tanks	4/20/1995	0.88
95060114	Building C-2 New Centrifuge	7/14/1995	0.44
95060190	M3B Oncology Facility	7/20/1995	0.47
90030042	Tank Farms S-3, S-5, S-7, S-23, & C-10	12/15/1995	0.44
92070070	Building R-10 Pilot Plant	1/19/1996	0.12
95110030	Fermentation Tanks 977 & 978 Seed Tank 571	1/25/1996	1.32
95120237	PC-941 Chromatography Installation	1/30/1996	0.44
96010081	PC-5 Reactors & Centrifuge	2/9/1996	0.2
96040080	Tank TA-9602	5/22/1996	0.44
96070039	Bldg. R-12 Glass Scale Up Lab	8/1/1996	0.88
90030042	Tank Farms S-3, S-5, S-7, S-23, & C-10	8/6/1996	0.44
96070062	Fermentor No. 911	8/13/1996	0.44
96080008	R-7A Tank	9/4/1996	0.44
96100066	Fermentor 572 (Seed Tank)	11/26/1996	0.44
96120093	Temporary Boiler 3	1/9/1997	0.63
97010014	Fermentor Seed Tanks 501 & 503	2/4/997	0.88
97030068	Portable Centrifuge	3/31/1997	0.1
97030101	Fermentors 912 & 913	4/8/1997	0.88
97030069	Research and Development Building R14	4/10/1997	4.5
97040050	Fermentation Pilot Plant - Building R10	5/8/1997	0.044
97040051	Portable Dryer	5/12/1997	0.1
97040053	Ery Salt Tank #49	5/13/1997	0.044
83050001	Erythromycin Extraction	5/13/1997	0.44
97050109	Building R-10 Rental Units	6/10/1997	0.22
97070083	MVR #1 & MVR #2	8/25/1997	0.088
97100015	Fermentor Replacements	11/5/1997	3.96
97100013	Bldg. R7 - PC 3 Equip.	11/6/1997	0.8
97100014	S-35 Acetic Acid Loading Station	11/10/1997	0.044
97120007	Acetic Acid Storage Tank	12/31/1997	0.044
97120045	R-7A Chromatography Feed Tank	1/5/1998	0.1

Total	23.7681

10.4 Attachment 4 Net VOM Emissions Increase Determination for Permit 98070020

Table 1 Prior Contemporaneous VOM Increases[1]

Emission Unit/Activity	Permit	Potential VOM Increase (Ton/year)[2]
Temporary Boiler II	93120062	0.36
R-6 Tank Farm	83050056	0.0536
Bovine Lung Lipids Production	87090032	0.24
PC-6 Vacuum Tray Dryer	94030003	0.0565
R-9 Pilot Plant Valproic Acid	94030004	0.44
C-19 Multiproduct Hydrogenation	94030108	0.782
Bovine Lungs Lipids Production	87090032	0.13
Building R-6 Tank Farm	94060002	0.86
Bldg. R-10 Cyclosporine Prod.	94060010	0.12
Bldg. R-9 Peptide Process	94060081	0.052
PPD Pilot Plant M-3 R&D	94080077	0.41
S-30 Storage Tanks	95030062	0.88
Building C-2 New Centrifuge	95060114	0.44
M3B Oncology Facility	95060190	0.47
Tank Farms S-3, S-5, S-7, S-23, & C-10	90030042	0.44
Building R-10 Pilot Plant	92070070	0.12
Fermentation Tanks 977 & 978 Seed Tank 571	95110030	1.32
PC-941 Chromatography Installation	95120237	0.44
PC-5 Reactors & Centrifuge	96010081	0.2
Tank TA-9602	96040080	0.44
Bldg. R-12 Glass Scale Up Lab	96070039	0.88
Tank Farms S-3, S-5, S-7, S-23, & C-10	90030042	0.44
Fermentor No. 911	96070062	0.44
R-7A Tank	96080008	0.44
Fermentor 572 (Seed Tank)	96100066	0.44
Temporary Boiler 3	96120093	0.63
Fermentor Seed Tanks 501 & 503	97010014	0.88
Portable Centrifuge	97030068	0.1
Fermentors 912 & 913	97030101	0.88
Research and Development Building R14	97030069	4.5
Fermentation Pilot Plant - Building R10	97040050	0.044
Portable Dryer	97040051	0.1
Ery Salt Tank #49	97040053	0.044
Erythromycin Extraction	83050001	0.44
Building R-10 Rental Units	97050109	0.22
MVR #1 & MVR #2	97070083	0.088
Tank TA 2314	97080047	0.51
Fermentor Replacements	97100015	3.96

[1] Does not account for lower potential to emit from units to be re-permitted.

[2] Maximum emissions allowed by permit.

Table 1 (Continued)

Emission Unit/Activity	Permit	Potential VOM Increase (Ton/year)[1]
Bldg. R7 - PC 3 Equip.	97100013	0.8
S-35 Acetic Acid Loading Station	97100014	0.044
Acetic Acid Storage Tank	97120007	0.044
R-7A Chromatography Feed Tank	97120045	0.1
Fermentor & Seed Tank Replacements	97120079	-1.76
Building C-11 East Reactor	98030035	0.22
Bldg. C10 Equip. Replacement for PC 860	98030059	0.22
Utilities Division	97090028	1.51
	Total	24.4681

Table 2 Units Being Re-Permitted with Lower Potential to Emit[2]

Emission Unit/Activity	Permit	Previous Limit (Ton/yr)	New Limit (Ton/yr)	Net Change (Ton/yr)
Tanks 102A, 102B, 113 and 114	83050056	0.0536	0.00	0.0536[3]
Valproic Distillation System	94030004	0.44	0.002	0.438[4]
Tanks TA-9501 and TA-9502	95030062	0.88	0.25	0.63[4]
Tanks T-1701 and T-1858	90030042	0.44	0.1	0.34[4]
Tank Q-1863	90030042	0.44	0.15	0.29[4]
Fermentors 977 and 978 and Seed Tank 571	95110030	1.32	0.93	0.39[4]
PC-941 Chromatography Installation	95120237	0.44	0.10	0.34[4]
Tank TA-9602	96040080	0.44	0.20	0.24[4]
Seed Tank 572	96100066	0.44	0.10	0.34[4]
Seed Tanks 501 and 503	97010014	0.88	0.088	0.792[4]
Building R14 Lab Hoods and Vacuum Pumps	97030069	4.5	3.5	1.0 [4]
			Total	4.8536

Table 3 Contemporaneous VOM Decreases

Emission Unit/Activity	Permit	VOM (Ton/year)
Tank #32	96020032	0.09[1]

[1] Maximum emissions allowed by permit.

[2] The limits on the potential to emit from these units do not restrict the production of these units.

[3] Based upon these tanks storing acetone, which has been de-listed as VOM. It should be noted that Tank 113 has also been shut down.

[4] Based upon these units being re-permitted with smaller increases in VOM emissions.

Table 4 VOM Emission Increases from New Units

	VOM (Ton/year)
Rental Evaporator W/Condenser & Vacuum Pump (Cyclosporine, R-10) Conditions 5.5.3(a) and 7.7.6(a)	+ 4.6600

Table 5 Net VOM Emissions Increase

	VOM (Ton/year)
Previous Contemporaneous Increases[2]	+19.6145
Rental Evaporator W/Condenser & Vacuum Pump (Cyclosporine, R-10) Conditions 5.5.3(a) and 7.7.6(a)	+ 4.6600
Contemporaneous Decreases	- 0.09
	+24.1854

[1] Based upon the actual VOM emissions from Tank 32 storing methanol, averaged over the last two years of methanol stored (1994-1995).

[2] Includes adjustments to units re-permitted with lower potential to emit.

10.5 Attachment 5 New Source Review Emissions Summary for Permits 72100547 and 79120037

The net increase in emissions of volatile organic material (VOM) emissions during the five (5) calendar years prior December 29, 1997 for the entire source was as follows:

Permit #	Project	Date Issued	VOM Increase (Tons/yr)
93120062	Temporary Boiler II	1/14/1994	0.3600
83050056	R-6 Tank Farm	1/31/1994	0.0536
87090032	Bovine Lung Lipids Production	2/1/1994	0.2400
94030003[+]	PC-6 Vacuum Tray Dryer	4/13/1994	0.0565
94030004[+]	R-9 Pilot Plant Valproic Acid	4/16/1994	0.44
94030108[*]	C-19 Multiproduct Hydrogenation	5/11/1994	0.782
87090032	Bovine Lungs Lipids Production	6/14/1994	0.13
94060002	Building R-6 Tank Farm	6/22/1994	0.86
94060010	Bldg. R-10 Cyclosporin Prod.	6/24/1994	0.12
94060081[+]	Bldg. R-9 Peptide Process	7/14/1994	0.052
94080077	PPD Pilot Plant M-3 R&D	9/16/1994	0.41
95030062	S-30 Storage Tanks	4/20/1995	0.88
95060114[*]	Building C-2 New Centrifuge	7/14/1995	0.44
95060190	M3B Oncology Facility	7/20/1995	0.47
90030042	Tank Farms S-3, S-5, S-7, S-23, & C-10	12/15/1995	0.44
92070070	Building R-10 Pilot Plant	1/19/1996	0.12
95110030	Fermentation Tanks 977 & 978 Seed Tank 571	1/25/1996	1.32
95120237[+]	PC-941 Chromatography Installation	1/30/1996	0.44
96010081[+]	PC-5 Reactors & Centrifuge	2/9/1996	0.2
96040080	Tank TA-9602	5/22/1996	0.44
96070039	Bldg. R-12 Glass Scale Up Lab	8/1/1996	0.88
90030042	Tank Farms S-3, S-5, S-7, S-23, & C-10	8/6/1996	0.44
96070062	Fermentor No. 911	8/13/1996	0.44
96080008[*]	R-7A Tank	9/4/1996	0.44
96100066	Fermentor 572 (Seed Tank)	11/26/1996	0.44
96120093	Temporary Boiler 3	1/9/1997	0.63
97010014	Fermentor Seed Tanks 501 & 503	2/4/997	0.88
97030068[+]	Portable Centrifuge	3/31/1997	0.1
97030101	Fermentors 912 & 913	4/8/1997	0.88
97030069	Research and Development Building R14	4/10/1997	4.5
97040050	Fermentation Pilot Plant - Building R10	5/8/1997	0.044
97040051[+]	Portable Dryer	5/12/1997	0.1
97040053	Ery Salt Tank #49	5/13/1997	0.044
83050001	Erythromycin Extraction	5/13/1997	0.44
97050109	Building R-10 Rental Units	6/10/1997	0.22
97070083	MVR #1 & MVR #2	8/25/1997	0.088
97080047	Tank TA 2314	9/5/1997	0.5100
97100015	Fermentor Replacements	11/5/1997	3.9600

[+] Projects in the Building R-8 R&D Laboratories or the Chemical Pilot Plant (Permit 79120037).

[*] Projects in Chemical Manufacturing Area (Permit 72100547).

Permit #	Project	Date Issued	VOM Increase (Tons/yr)
97100013*	Bldg. R7 - PC 3 Equip.	11/6/1997	0.8000
97100014	S-35 Acetic Acid Loading Station	11/10/1997	0.0440
		Total	24.1341

* Projects in Chemical Manufacturing Area (Permit 72100547).

10.6 Attachment 6 Net VOM Emissions Increase Determination for Permit 97090028

Historical Operation and Emissions from the Existing Boilers

Table 1 1993-1994 Average Fuel Usage

Emission Unit	Natural Gas Usage (Mft^3/yr)	Coal Usage (Ton/yr)
Temporary Boiler #1	313.5	0
Temporary Boiler #2	21.5	0
Boiler #3	0.0	28
Boiler #4	0.0	50
Boiler #5	101.5	4,180
Boiler #6	113.0	5,179
Boiler #7	78.5	30,019
Boiler #8	79.0	27,923

Table 2 1993-1994 Average Emissions from Natural Gas Combustion

	E M I S S I O N S				
	CO	NO_x	PM_{10}	SO_2	VOM
Emission Unit	ton/yr	ton/yr	ton/yr	ton/yr	ton/yr
Temporary Boiler #1	13.17	15.68	1.19	0.09	0.86
Temporary Boiler #2	0.90	1.08	0.08	0.01	0.06
Boiler #5	4.26	5.08	0.39	0.03	0.28
Boiler #6	4.75	5.65	0.43	0.03	0.31
Boiler #7	3.30	16.66	0.30	0.02	0.22
Boiler #8	3.32	17.46	0.30	0.02	0.22
Totals	29.70	61.61	2.69	0.20	1.96

This table defines the actual emissions from natural gas combustion from the existing boilers averaged over the calendar years 1993 and 1994 and are based on the actual fuel usage and standard emission factors.

Table 3 1993-1994 Average Emissions from Coal Combustion

	E M I S S I O N S				
	CO	NO_x	PM_{10}	SO_2	VOM
Emission Unit	ton/yr	ton/yr	ton/yr	ton/yr	ton/yr
Boiler #3	0.07	0.19	0.11	0.47	0.01
Boiler #4	0.12	0.34	0.19	0.85	0.01
Boiler #5	10.45	28.63	16.30	71.47	0.10
Boiler #6	12.95	35.48	20.20	88.56	0.13
Boiler #7	75.05	210.13	117.07	513.32	0.75
Boiler #8	69.81	195.46	108.90	477.48	0.70
Total	168.45	470.23	262.77	1,152.15	1.70

This table defines the actual emissions from coal combustion from the existing boilers averaged over calendar years 1993 and 1994 and are based on the actual fuel usage, standard emission factors, and a sulfur content for coal of 0.9 weight percent.

Table 4 Net Changes in Emissions

	E M I S S I O N S				
	CO ton/yr	NO_x ton/yr	PM_{10} ton/yr	SO_2 ton/yr	VOM ton/yr
1993-1994 Average Total Emissions	198.15	531.84	265.46	1,152.35	3.66
Utilities Division (Condition 5.5.3(d))	297.15	570.84	279.46	1,191.35	6.16
Net Change in Emissions	+99.00	+39.00	+14.00	+39.00	+2.50

The Illinois EPA has determined that 1993 and 1994 are considered representative years because the source was evaluating NO_x control techniques for the coal fired boilers and the source was co-firing natural gas with coal as an interim measure, pending shakedown of the gas turbine occurred in 1995 and 1996, and unexpected boiler outages which had occurred in 1997. In addition, SO_2 emission levels in 1995 and 1996 are significantly less than SO_2 emission levels than from previous years.

10.7 Attachment 7 New Source Review Emissions Summary for Permit 97090028

The net increase in emissions of volatile organic material (VOM) emissions during the five (5) calendar years prior to October 15, 1998 for this source has been as follows:

Permit #	Project	Date Issued	VOM Increase (Tons/yr)
93120062*	Temporary Boiler II	1/14/1994	0.36
83050056	R-6 Tank Farm	1/27/1994	0.0536
87090032	Bovine Lung Lipids Production	2/1/1994	0.24
94030003	PC-6 Vacuum Tray Dryer	4/13/1994	0.0565
94030004	R-9 Pilot Plant Valproic Acid	4/16/1994	0.44
94030108	C-19 Multiproduct Hydrogenation	5/11/1994	0.782
87090032	Bovine Lungs Lipids Production	6/14/1994	0.13
94060002	Building R-6 Tank Farm	6/22/1994	0.86
94060010	Bldg. R-10 Cyclosporin Prod.	6/24/1994	0.12
94060081	Bldg. R-9 Peptide Process	7/14/1994	0.052
94080077	PPD Pilot Plant M-3 R&D	9/16/1994	0.41
95030062	S-30 Storage Tanks	4/20/1995	0.88
95060114	Building C-2 New Centrifuge	7/14/1995	0.44
95060190	M3B Oncology Facility	7/20/1995	0.47
90030042	Tank Farms S-3, S-5, S-7, S-23, & C-10	12/15/1995	0.44
92070070	Building R-10 Pilot Plant	1/19/1996	0.12
95110030	Fermentation Tanks 977 & 978 Seed Tank 571	1/25/1996	1.32
95120237	PC-941 Chromatography Installation	1/30/1996	0.44
96010081	PC-5 Reactors & Centrifuge	2/9/1996	0.2
96040080	Tank TA-9602	5/22/1996	0.44
96070039	Bldg. R-12 Glass Scale Up Lab	8/1/1996	0.88
90030042	Tank Farms S-3, S-5, S-7, S-23, & C-10	8/6/1996	0.44
96070062	Fermentor No. 911	8/13/1996	0.44
96080008	R-7A Tank	9/4/1996	0.44
96100066	Fermentor 572 (Seed Tank)	11/26/1996	0.44
96120093*	Temporary Boiler 3	1/9/1997	0.63
97010014	Fermentor Seed Tanks 501 & 503	2/4/997	0.88
97030068	Portable Centrifuge	3/31/1997	0.1
97030101	Fermentors 912 & 913	4/8/1997	0.88
97030069	Research and Development Building R14	4/10/1997	4.5
97040050	Fermentation Pilot Plant - Building R10	5/8/1997	0.044
97040051	Portable Dryer	5/12/1997	0.1
97040053	Ery Salt Tank #49	5/13/1997	0.044
83050001	Erythromycin Extraction	5/13/1997	0.44
97050109	Building R-10 Rental Units	6/10/1997	0.22
97070083	MVR #1 & MVR #2	8/25/1997	0.088
97080047	Tank TA 2314	9/5/1997	0.51
97100015	Fermentor Replacements	11/5/1997	3.96
97100013	Bldg. R7 - PC 3 Equip.	11/6/1997	0.8

* Projects in the Utilities Division.

Permit #	Project	Date Issued	VOM Increase (Tons/yr)
97100014	S-35 Acetic Acid Loading Station	11/10/1997	0.044
97120007	Acetic Acid Storage Tank	12/31/1997	0.044
97120045	R-7A Chromatography Feed Tank	1/5/1998	0.1
97120079	Fermentor & Seed Tank Replacements	1/23/1998	-1.76
98030035	Building C-11 East Reactor	3/26/1998	0.22
98030059	Bldg. C10 Equip. Replacement for PC 860	5/5/1998	0.22
97090028*	Utilities Division	10/8/1998	1.51
		Total	24.4681

10.8 Attachment 8 Example Certification by a Responsible Official

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature _____

Name _____

Official Title _____

Telephone No. _____

Date Signed _____

RWB:psj