

217/782-2113

"REVISED"
TITLE V - CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT
and
TITLE I PERMIT¹

PERMITTEE

Abbott Laboratories
Attn.: Daniel J. Wozniak
Air Manager, Lake County Environmental, Health & Safety
D72N/P14
1401 Sheridan Road
North Chicago, Illinois 60064-4000

<u>Application No.:</u> 96010010	<u>I.D. No.:</u> 097809AAD
<u>Applicant's Designation:</u>	<u>Date Received:</u> January 5, 1996
<u>Operation of:</u> Pharmaceutical Preparations Manufacturing	
<u>Date Issued:</u> September 9, 1999	<u>Expiration Date²:</u> September 9, 2004
<u>Source Location:</u> 100 Abbott Park Road, Abbott Park, Lake County	
<u>Responsible Official:</u> Joseph E. Simon, Manager, Lake County Environmental, Health & Safety Compliance	

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

Revision Date Received: June 7, 2000
Revision Date Issued: July 12, 2000
Purpose of Revision: Administrative Amendment

This administrative amendment updates the ERMS baseline to increase the seasonal allocation from 263 allotment trading units (ATUs) to 266 ATUs based on the January 25, 2000 Revised Notice of Preliminary Baseline Determination. Because the changes in the permit were only administrative, no formal public notice will be issued.

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 9, 1999 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.

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

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

DES:RWB:jar

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
100 Abbott Park Road
Abbott Park, Illinois 60064-3500
847/937-0849

I.D. No.: 097809AAD
Standard Industrial Classification: 2834, Pharmaceutical
Preparations
2835, In Vitro and In Vivo
Diagnostic Substances
3826, Analytical Instruments

1.2 Owner/Parent Company

Abbott Laboratories
100 Abbott Park Road
Abbott Park, Illinois 60064-3500

1.3 Operator

Abbott Laboratories
1401 Sheridan Road
North Chicago, Illinois 60064-4000

Daniel J. Wozniak, Air Manager, Lake County Environmental, Health
& Safety D72N/P14
847/937-0849

1.4 General Source Description

Abbott Laboratories (Abbott) is located at 100 Abbott Park Road in unincorporated Lake County. Abbott is a worldwide health care corporation with its headquarters located at this site, also known as Abbott Park. The source conducts manufacturing and packaging of solid dosage form pharmaceuticals (tablets, capsules, and granules) in Abbott's Pharmaceutical Products Division. Research and Development activities are conducted by the Pharmaceutical Products Division, Abbott's Hospital Products Division, and the Abbott Diagnostic Division. Research and Development in the Pharmaceutical Products Division includes a thermal waste incineration unit. Research and development in the Hospital Products Division includes two small ethylene oxide sterilizers for gas sterilization of intravenous devices. Abbott Diagnostic Division manufacturing operations include the preparation and filling of bulk solutions for diagnostic kit reagents. In addition, manufacturing support services, which include boilers, chillers, and an emergency generator, are provided by Abbott'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.]
AIRS	Aerometric Information Retrieval System Facility Subsystem Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants (EPA-450/4-90-003), USEPA, Technical Support Division Office of Air Quality Planning and Standards, Research Triangle Park, NC 27717
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
APTI	Air Pollution Training Institute
ATU	Allotment Trading Unit
BAT	Best Available Technology
Btu	British thermal unit
°C	degrees Celsius
CAA	Clean Air Act [42 U.S.C. Section 7401 et seq.]
CAAPP	Clean Air Act Permit Program
CEMS	Continuous Emission Monitoring System
CGMP	Current Good Manufacturing Practice
CFR	Code of Federal Regulations
CGMP	Current Good Manufacturing Practice
Cl	Chlorine
CO	Carbon Monoxide
dscf	dry standard cubic feet
dscm	dry standard cubic meter
EPA or USEPA	United States Environmental Protection Agency
ERMS	Emission Reduction Market System
°F	degrees Fahrenheit
FIRE	Factor Information Retrieval System, Versions 5.0 and 6.21, Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants (EPA-454/R-95-012 and EPA-454/F-99-003), USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27717
g	gram
gal	gallon
gr	grains
HAP	Hazardous Air Pollutants
HCl	Hydrogen Chloride or Hydrochloric Acid
HMIWI	Hospital/Medical/Infectious Waste Incinerator
hp	horsepower
hr	hour
IAC	Illinois Administrative Code
I.D. No.	Identification Number of Source, assigned by Illinois EPA
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
mg	milligram
min	minute
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
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standards
QA/QC	Quality Assurance/Quality Control
P2	Pollution Prevention
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
PMPU	Pharmaceutical Manufacturing Process Unit
POD	Point of Determination
ppm	parts per million
ppmv	parts per million by volume
ppmw	parts per million by weight
PSD	Prevention of Significant Deterioration
psi	pound per square inch
psia	pound per square inch absolute
psig	pound per square inch gauge
PVC	Polyvinylchloride
RMP	Risk Management Plan
SCC	Source Classification Code
scf	standard cubic feet
scfm	standard cubic feet per minute
scm	standard cubic meter
SIC	Standard Industrial Classification
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
TNMOC	Total Non-Methane Organic Compound
TOC	Total Organic Compounds
VHAP	Volatile Hazardous Air Pollutant
VOC	Volatile Organic Compound
VOL	Volatile Organic Liquid
VOM	Volatile Organic Material
VPL	Volatile Petroleum Liquid
wk	Week
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:

HPD AP4 Fluidized Bed Combustor
HPD AP5 Die Cleaning Area with Hood and Smog Hog
CED AP7 10,000 Gallon Gasoline Storage Tank
ADD AP-8, 8A, 8B, 20, and 31 Business Team Component
Manufacturing Fume Hoods
ADD AP-8, 8A, 8B, 20, and 31 Business Team Component
Manufacturing Bio-Safety Cabinets

- 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:

AP16 Weighing and Dispensing Areas with Dust Collector
AP16 Final Product Finishing and Packaging Lines
AP16 Final Product Finishing and Packaging Lines with
Dust Collectors
AP16 Solvent Cleaner Degreasers
AP16A Tablet Plant Tablet Printing
AP16A Final Product Finishing and Packaging Lines with
Dust Collectors
AP16A Solvent Cleaner Degreasers
AP16A Semi-Solid Manufacturing Tanks
AP4 Pneumatic Loaders
AP5 Pneumatic Loaders
AP24 E. Coil Fermentors
AP24 Yeast Fermentors
AP32 Coater/Dryers
AP1A Assay Operations
AP1 Assay Operations
AP2 Assay Operations
AP24 Assay Operations
AP8 Assay Operations

- 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)].

Extruders used for the extrusion of metals, minerals, plastics, rubber, or wood, excluding extruders used in the manufacture of polymers, provided that volatile organic materials or class I or II substances subject to the requirements of Title VI of the CAA are not used as foaming agents or release agents or were not used as foaming agents in the case of extruders processing scrap material [35 IAC 201.210(a)(5)].

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)].

Coating operations (excluding powder, architectural and industrial maintenance coating) with aggregate VOM usage that never exceeds 15 lb/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 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)].

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

3.2 Addition of Insignificant Activities

3.2.1 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).

3.2.2 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.

3.2.3 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
G-0502	Day Mixing Co. Model No. 5201 Masser (SPM Day Masser)	1981	Dust Collector 17 (U-1815)
D-0964	Warm Air Dryer 1	1982	None
D-0965	Warm Air Dryer 2	1982	None
D-0966	Warm Air Dryer 3	1982	None
D-0967	Warm Air Dryer 4	1982	None
G-0298	Glen Model No. ER 64 340 Masser (Glen Masser)	1958	Dust Collector 17 (U-1815)
G-0271	Fitzpatrick Co. Series 1606 Mill (SPM Milling)	1965	Dust Collector 17 (U-1815) and Dust Filter AS17
G-0522	Sweco Co. Model No. U5485 Mill (SPM Sweco)	1998	Dust Collector 21 (LC932987)
G-0393	Collette Model No. 1200 Gral (Gral #1)	1982	Dust Collector 14 (U-1811) and Dust Filter AS14
G-0583	Collette Model No. 1200 Gral (Gral #2)	1995	Dust Collector 14 (U-1811) and Dust Filter AS14
LC936001	Collette Model No. 1200 Gral (Gral #3)	1998	Dust Collector 23 (U-1814)
G-0917	Aeromatic Model No. T-8 2400 Fluid Bed Dryer (FBD #1)	1982	Internal Filters
G-0955	Aeromatic Model No. T-8 2400 Fluid Bed Dryer (FBD #2)	1982	Internal Filters
LC933770	Aeromatic Model No. MP-8 Fluid Bed Dryer (FBD #3)	1998	Internal Filters
G-0324	Sweco Model No. LS48S Mill (HVM Sweco)	1968	Dust Collector 13 (U-1810) and Dust Filter AS13
LC929589	Model No. 54856886 Mill (HVM Sweco #2)	1998	Dust Collector 13 (U-1810) and Dust Filter AS13
G-0392	Sweco Model No. 5560588 Mill (HVM Sweco #3)	1998	Dust Collector 22 (U-1813)
G-0391	Patterson-Kelly Co. Model No. 263993 Blender (Blender #1 150 cu ft)	1982	Dust Collector 12 (U-1809) and Dust Filter AS12
G-0349	Patterson-Kelly Co. Model No. 263993 Blender (Blender #2 150 cu ft)	1972	Dust Collector 10 (U-1807) and Dust Filter AS10

Emission Unit	Description	Date Constructed	Emission Control Equipment
G-0284	Patterson-Kelly Co. Blender (Blender #3 75 cu ft)	1963	Dust Collector 12 (U-1809) and Dust Filter AS12
G-0267	Patterson-Kelly Co. Blender (Blender #4 35 cu ft)	1957	Dust Collector 10 (U-1807) and Dust Filter AS10
W-0252	Kinetic Dispersion Model No. 20 T Mill (Kady Mill)	1982	None
Q-2157	500 Gallon Coating Mix Tank (Tablet Coating Mix Tank #1)	1982	None
Q-2158	500 Gallon Coating Mix Tank (Tablet Coating Mix Tank #2)	1982	None
Q-2156	500 Gallon Coating Mix Tank (Tablet Coating Mix Tank #3)	1982	None
Q-2155	500 Gallon Coating Mix Tank (Tablet Coating Mix Tank #4)	1975	None
Q-2722	500 Gallon Coating Mix Tank (Tablet Coating Mix Tank #5)	1975	None
Q-2725	300 Gallon Coating Mix Tank (Tablet Coating Mix Tank #6)	1975	None
Q-2723	300 Gallon Coating Mix Tank (Tablet Coating Mix Tank #7)	1982	None
Q-2724	300 Gallon Coating Mix Tank (Tablet Coating Mix Tank #8)	1982	None
Q-2151	300 Gallon Jacketed Coating Mix Tank (Tablet Coating Mix Tank #9)	1982	None
Q-2576	300 Gallon Jacketed Coating Mix Tank (Tablet Coating Mix Tank #10)	1975	None
Q-2149	300 Gallon Jacketed Coating Mix Tank (Tablet Coating Mix Tank #11)	1975	None
Q-2150	300 Gallon Jacketed Coating Mix Tank (Tablet Coating Mix Tank #12)	1982	None
Q-2726	Four Corp. 300 Gallon Jacketed Coating Mix Tank (Mix Tank T-25)	1985	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q-2577	Four Corp. 300 Gallon Jacketed Coating Mix Tank (Mix Tank T-26)	1985	None
Q-2598	Northland Stainless Inc. 150 Gallon Jacketed Coating Mix Tank (Mix Tank T-28)	1989	None
S-1474 S-1475	Stokes Model No. 110 Tablet Coater (Pan Pour)	1970	None
D-1351	Spinning Disc Granule Manufacturing and Coater (Spinning Disc)	1994	Dust Collector 19
169A	Weigh/Staging Room 169A	1998	Dust Collector 24 (LC935378)
SSMSM	Semi-Solid Mfg. Static Mixer (Semi-Solid Capsule Fill)	1995	None
SSME	Semi-Solid Mfg. Encapsulator (Semi-Solid Capsule Fill)	1995	None
LC936004	Collette Model No. Gral 300 Liter (300 L Gral 4 (Clinical))	1998	Dust Collector 24 (LC940515)
LC935370	GLB Glatt Air Tech. Model No. GPGG-60 Fluid Bed Dryer (Fluid Bed Dryer 3 (Clinical))	1998	Internal Filters
LC940173	Sweco Mill (Sweco (Clinical))	1998	Dust Collector 24 (LC940515)
LC928144	Particle Coater (Particle Coater (Clinical))	1998	None
P-0204, P-0085, P-0259, P-0301, P-0138, P-0143, P-0316, P-0315	Stokes Models B2, BB2, RD3, & Tri-Pact, and Manesty Models BB3B and Rotapress Tablet Compressors (Tablet Compressing Booth 1)	1983	Dust Collector 7A
P-0204, P-0085, P-0259, P-0301, P-0138, P-0143, P-0316, P-0315	Stokes Models B2, BB2, RD3, & Tri-Pact, and Manesty Models BB3B and Rotapress Tablet Compressors (Tablet Compressing Booth 2)	1983	Dust Collectors 7B and 7C or Dust Collector 7A

Emission Unit	Description	Date Constructed	Emission Control Equipment
P-0357	Fette Model #2000 Tablet Compressor (Tablet Compressing Booth 3)	1985	Dust Collectors 7B and 7C or Dust Collector 7A
P-0359	Fette Model #3100 Tablet Compressor (Tablet Compressing Booth 4)	1987	Dust Collectors 7B and 7C or Dust Collector 7A
P-0550	Fette Model #2090 Tablet Compressor (Tablet Compressing Booth 5)	1985	Dust Collectors 7B and 7C or Dust Collector 7A
P-0374	Fette Model #2000 Tablet Compressor (Tablet Compressing Booth 6)	1991	Dust Collectors 7B and 7C or Dust Collector 7A
LC949481	Fette Model #1200 Tablet Compressor (Tablet Compressing Booth 7)	1998	Dust Collectors 7B and 7C or Dust Collector 7A
S-4146	Bosch Tablet Compressor (Tablet Compressing Booth 8)	1994	Dust Collectors 7B and 7C or Dust Collector 7A
P-0204, P-0085, P-0259, P-0301, P-0138, P-0143, P-0316, P-0315	Stokes Models B2, BB2, RD3, & Tri-Pact, and Manesty Models BB3B and Rotapress Tablet Compressors (Tablet Compressing Booth 9)	1983	Dust Collector 7A
S-1872	Thomas Engineering Model No. 48 Tablet Coater (Accela Cota #1)	1973	Dust Collector #1, Thermal Oxidizer #1, and Thermal Oxidizer #2
S-2523	Thomas Engineering Model No. 48-M111 Tablet Coater (Accela Cota #2)	1980	Dust Collector #1, Thermal Oxidizer #1, and Thermal Oxidizer #2
S-2661	Thomas Engineering Model No. 60-111 Tablet Coater (Accela Cota #3)	1982	Dust Collector #1, Thermal Oxidizer #1, and Thermal Oxidizer #2
S-2660	Thomas Engineering Model No. 60-111 Tablet Coater (Accela Cota #4)	1982	Dust Collector #1, Thermal Oxidizer #1, and Thermal Oxidizer #2
S-3142	GLB Glatt Air Tech. Model No. GPCG-300 Particle Coater (Particle Coater)	1985	Thermal Oxidizer #1

Emission Unit	Description	Date Constructed	Emission Control Equipment
G-0564	Collette Model No. 300PRO Microwave Vacuum Processor (Microwave Vacuum Processor)	1992	Condensers
TA-5	7,000 Gallon Ethanol Storage Tank (Tank TA-5)	1985	None
TA-6	7,000 Gallon Ethanol Storage Tank (Tank TA-6)	1985	None
PPDTWDU	Econo-Therm Model P8DP Pathological Waste Incinerator (Thermal Waste Disposal Unit)	1978	None
F-1415	Vacudyne Ethylene Oxide Gas Sterilizer (Ethylene Oxide Sterilizer F-1415)	September, 1984	Donaldson Abator Catalytic Converter
F-1623	Scientific Industries/Castile Ethylene Oxide Gas Sterilizer (Ethylene Oxide Sterilizer F-1623)	September, 1984	Donaldson Abator Catalytic Converter
HPD AP-5	Procedyne Corporation Model No. 10-10-15 Fluidized Bed Combustor (HPD AP-5 Procedyne Fluidized Bed Combustor)	1993	Cyclone HPD AP-5
4AP	Lasker Boiler and Engineering Corporation Class J-28.75 Coal/Natural Gas Fired Boiler (Boiler 4AP, 83 mmBtu/hr, coal; 60 mmBtu/hr, natural gas)	1964	Fly Ash Collector U-720
5AP	Lasker Boiler and Engineering Corporation Class J-28.75 Coal/Natural Gas Fired Boiler (Boiler 5AP, 83 mmBtu/hr, coal; 60 mmBtu/hr, natural gas)	1964	Fly Ash Collector U-722
6AP	Nebraska Boiler Co., Inc. Model NS-E-69 Fuel Oil/Natural Gas Fired Boiler (Boiler 6AP, 89 mmBtu/hr, fuel oil; 98.4 mmBtu/hr, natural gas)	1981	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
7AP	Nebraska Boiler Co., Inc. Model NS-F-65 Fuel Oil/Natural Gas Fired Boiler (Boiler 7AP, 92.9 mmBtu/hr, fuel oil; 97.1 mmBtu/hr, natural gas)	October, 1993	Low NO _x Burners
AP-7	Nebraska Boiler Model No. NOS.2A.67 Natural Gas Fired Boiler (AP-7 Rental Boiler, 88 mmBtu/hr)	September, 1998	Low NO _x Burners
C13A	York International Model YPC-FN-20G-46-C-s Natural Gas-Fired Chiller (Chiller 13A, 13.738 mmBtu/hr)	April, 1996	Low NO _x Burner
C14	Caterpillar, Inc. Model 3608SI Natural Gas-Fired Chiller (Chiller 14, 19 mmBtu/hr)	September, 1992	Chiller 14 Engine Catalytic Converter
AP50-2	Weil McLain Model PG-988-WF-PF-LO-UL Natural Gas Fired Boiler (Boiler AP50-2, 2.71 mmBtu/hr)	August, 1995	None
AP52-1	Burnham Model 3P-350-50LB Natural Gas Fired Boiler (Boiler AP52-1, 14.6 mmBtu/hr)	July, 1981	None
AP52-2	Burnham Model 3P-350-50LB Natural Gas Fired Boiler (Boiler AP52-2, 14.6 mmBtu/hr)	June, 1987	None
AP52-3	Burnham Model 3P-350-50LB Natural Gas Fired Boiler (Boiler AP52-3, 14.6 mmBtu/hr)	June, 1987	None
AP52-6	Hurst Boiler Model No. S4-X-350-150 Natural Gas Fired Boiler (Boiler AP52-6, 14.7 mmBtu/hr)	May, 1997	None
AP14C	Caterpillar Model #3516/E275 Diesel-Fired Generator (Emergency Diesel Generator AP14C)	June, 1985	None
AP-8B	9 Bench Scale Chemical Fume Hoods (ADD Organics Manufacturing Fume Hoods)	1982	None
Q3258	255 Liter Mixing Tank (AP32 Solutions Tank Q3258)	Unknown	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
Q3259	1,050 Liter Mixing Tank (AP32 Solutions Tank Q3259)	Unknown	None
Q3260	1,050 Liter Mixing Tank (AP32 Solutions Tank Q3260)	Unknown	None
Q2790	450 Liter Mixing Tank (AP32 Solutions Tank Q2790)	Unknown	None
Q2739	500 Liter Mixing Tank (AP32 Solutions Tank Q2739)	Unknown	None
Q3252	1,000 Liter Mixing Tank (AP32 Solutions Tank Q3252)	Unknown	None
Q3253	1,000 Liter Mixing Tank (AP32 Solutions Tank Q3253)	Unknown	None
Q3254	1,000 Liter Mixing Tank (AP32 Solutions Tank Q3254)	Unknown	None
Q3255	1,000 Liter Mixing Tank (AP32 Solutions Tank Q3255)	Unknown	None
Q3256	2,000 Liter Mixing Tank (AP32 Solutions Tank Q3256)	Unknown	None
Q3257	2,000 Liter Mixing Tank (AP32 Solutions Tank Q3257)	Unknown	None
Q3135	5,000 Liter Mixing Tank (AP32 Solutions Tank Q3135)	Unknown	None
Q3169	10,000 Liter Mixing Tank (AP32 Solutions Tank Q3169)	Unknown	None
Q3177	10,000 Liter Mixing Tank (AP32 Solutions Tank Q3177)	Unknown	None
Q3830	14,000 Liter Mixing Tank (AP32 Solutions Tank Q3830)	Unknown	None
Q3839	1,000 Liter Mixing Tank (AP32 Solutions Tank Q3839)	Unknown	None
LC914345	5,000 Liter Mixing Tank (AP32 Solutions Tank LC914345)	Unknown	None
Fugitive PM Emissions	Traffic Areas, Parking Lots, and Coal Piles	-	None
Fugitive VOM 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, PM₁₀, SO₂, 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.
- 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 Should this stationary source, as defined in 40 CFR Section 68.3, become subject to the Accidental Release Prevention regulations in Part 68, then the owner or operator shall submit a Risk Management Plan (RMP) by the date specified in Section 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 CFR Part 70 or 71.

5.2.4 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 5.2.4(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 5.2.4(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(a)(iii) and 5.7.3(g) (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 5.2.4(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 5.2.4 (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(d) (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 5.2.4 (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(e) (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(d) (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)].

5.2.5 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.

5.3 Non-Applicability of Regulations of Concern

5.3.1 Notwithstanding Condition 5.4.2(b) (see also 40 CFR 63.1255(b)(1)), this source is not subject to the NESHAP for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks and the NESHAP for Equipment Leaks, 40 CFR 63 Subparts H and I, because, pursuant to 40 CFR 63.190(b)(5), the provisions of 40 CFR 63 Subparts H and I do not apply to pharmaceutical production processes not using carbon tetrachloride or methylene chloride.

5.3.2 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 40 CFR 63 Subpart G of this part 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 per 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)].

1. 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 63.177(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 m³ (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)	487.81
Particulate Matter (PM)	203.86
Sulfur Dioxide (SO ₂)	983.31
Volatile Organic Material (VOM)	144.17
HAP, not included in VOM or PM	75.63
TOTAL	1,894.78

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. Annual Tablet Production shall not exceed 3700 tons/year. If future production requirements will exceed the above limit, the Permittee shall obtain a construction permit for such a modification.
 - i. Maximum emissions of particulate matter and volatile organic material to the atmosphere from the tablet forming and coating equipment shall not exceed 4 tons/year and 74.29 tons/year, respectively. It is the Permittee's responsibility to utilize formulations and equipment so as to maintain the necessary emission reductions.
 - ii. The limits on PM and VOM are limitations established in Permit 81100039, 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.
- b.
 - i. G. P. Tunnel Dryers #5, #6, #7, and #8 shall permanently cease operation and the

manufacture of Biaxin tablets shall no longer utilize solvents containing VOM within 180 days of initial startup of 1,200 liter Gral #3 and Fluid Bed Dryer #3.

- ii. The above limitations were established in Permit 97100076, pursuant to 35 IAC Part 203 and 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 35 IAC Part 203 and the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21. See Condition 7.1.6(f). [T1]
 - iii. The VOM emission units with contemporaneous VOM emissions are described in Table 1 of Attachment 3. The emission units or activities used to decrease emissions are described in Table 2 of Attachment 3. The net change in VOM emissions is described in Table 3 of Attachment 3.
- 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).

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 duration 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 post-repair 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)].

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

- III. Dates and duration 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 Pharmaceutical Manufacturing

- a. Pursuant to 35 IAC 218.489(c), the following records shall be kept for emission units subject to Condition 5.4.2 (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) or 218.480(b), 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) or 218.480(b), as appropriate, 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) or 218.480(b), as appropriate, 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)].

5.6.6 Records of Fugitive Emissions from Road Dust

- a. The Permittee shall maintain a record of the maximum aggregate annual emissions of fugitive PM from the traffic areas at the source (i.e., road dust) estimated based on the applicable emission factors and formulas specified by Condition 5.9.5, with supporting calculations, so as to demonstrate compliance with the limits in Condition 5.5.
- b. This record shall be updated upon construction of additional roadways or parking areas or other

permanent change to the source, that alters the maximum aggregate emissions of PM.

5.6.7 Records of Fugitive Emissions from Coal Piles

- a. The Permittee shall maintain a record of the maximum aggregate annual emissions of fugitive PM from coal piles at the source estimated based on the applicable emission factors and formulas specified by Condition 5.9.6, with supporting calculations, so as to demonstrate compliance with the limits in Condition 5.5.
- b. This record shall be updated upon addition of new coal storage piles or other permanent change to the source, that alters the maximum aggregate emissions of PM.

5.6.8 Tablet Plant Records

The Permittee shall maintain records of the following items for the Tablet Plant to demonstrate compliance with Conditions 5.5.1, and 5.5.3(a), pursuant to Section 39.5(7)(b) of the Act:

- a. Total number of tablets produced in the Tablet Plant, tablets/mo and tablets/yr; and
- b. The aggregate monthly and annual PM and VOM emissions from the Tablet Plant based on the material and solvent usage and air pollution control equipment efficiencies, with supporting calculations.

5.6.9 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) or 218.480(b), 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) or 218.480(b), as appropriate [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:

$$\%P_L = [(P_L - P_S)/(P_T - P_S)] \times 100 \quad \text{Equation 3}$$

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:

$$\%V_{Lo} = \frac{\sum_{i=1}^n (\%V_{Li} \times V_i)}{\sum_{i=1}^n V_i}$$

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:

$$\%V_L = [V_L/V_T] \times 100$$

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:

$$[\text{kg reduced}]_a = [\text{kg/kg}]_b (0.75 - P_R) [\text{kg produced}]_a$$

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 P_R is ≥ 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:

$$\text{VOC}_{\text{reduced}} = (\text{VF}_{\text{base}} - \text{VF}_P - \text{VF}_{\text{annual}}) \times M_{\text{prod}}$$

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:

$$D \frac{P}{t} = \frac{(P_f - P_i)}{(t_f - t_i)}$$

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 Paved Parking Areas

For the purpose of estimating fugitive PM emissions from the roadways at the source, the emission factors and formulas in Sections 13.2.1 and 13.2.2 of the AP-42, Volume I, Supplement F, January, 1995 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, Supplement F, 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 266 ATUs per seasonal allotment period.
 - ii. This allotment of ATUs reflects the Illinois EPA's determination that the source's baseline emissions were 29.6676 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 following 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 following 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.

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 Federal Enforceability

Section 6 becomes federally enforceable upon approval of the ERMS by USEPA as part of Illinois' State Implementation Plan.

6.11 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 4AP and 5AP
Boiler 6AP
Boiler 7AP
Emergency Generator AP14C
Chiller 12 (AP-33)
Chiller 14 (AP-33)
Boilers AP52-1, AP52-2, and AP53-3
Boiler AP50-2

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)]:

None

7.0 UNIT SPECIFIC CONDITIONS

7.1 Units PPD Pharmaceutical Products Division
Controls PPD Dust Collectors, and Filters

7.1.1 Description

The source's Pharmaceutical Products Division manufactures and packages solid dosage form pharmaceuticals (tablets, capsules, and granules) and other types of pharmaceutical products for distribution to pharmacies, drug wholesalers, hospitals, and for other Abbott divisions. The major products currently being manufactured are antibiotics, anti-epileptic agents, antihypertensives, and multivitamins. In general, the Pharmaceutical Products Division operations consists of two major stages. These are 1) the actual manufacture of the dosage form product (tablet, capsule, and granule manufacturing) and 2) packaging of the product into saleable units (finishing).

The manufacturing process starts in the granulating (mixing) section. The granulation process begins with loading the various ingredients into a mixer where a massing fluid such as alcohol or water is added. The granulated mixture must then be dried, using either fluid bed dryers or tunnel dryers, to remove excess moisture. After drying, the granulation is sifted and ground to a predetermined size to prepare for compressing or filling. Before filling or compressing, the granulation is loaded into a blender where other ingredients may be added, such as flavors or lubricants for tablets. After blending, the granulated material to be formed into tablets is placed in bins and sent to compressing. The other granulated material is either sent to coating (where the particles are coated), to filling, or sent out as an intermediate. Granulation can also be accomplished using new technology which does mixing and drying in one step. In some cases, mixing, drying and sizing can be done in one step.

Some of the tablets are coated after compressing. Coatings are applied to preserve the tablet, make it resistant to chipping and dusting, aid in identification (many products are color-coded), and to mask the taste of the ingredients. Coating is applied through the use of the tablet coating machines. The spray nozzles automatically apply the proper amount of coating to achieve a smooth, uniform finish. The tablets are dried in the coaters during the coating process by large volumes of heated air. When solvent-based coating solutions are used, the emissions are diverted to a thermal oxidizer.

The units included in this section are exempt from the control requirements of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing.

7.1.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
G-0502	Day Mixing Co. Model No. 5201 Masser (SPM Day Masser)	Dust Collector 17 (U-1815)
D-0964	Warm Air Dryer 1	None
D-0965	Warm Air Dryer 2	None
D-0966	Warm Air Dryer 3	None
D-0967	Warm Air Dryer 4	None
G-0298	Glen Model No. ER 64 340 Masser (Glen Masser)	Dust Collector 17 (U-1815)
G-0271	Fitzpatrick Co. Series 1606 Mill (SPM Milling)	Dust Collector 17 (U-1815) and Dust Filter AS17
G-0522	Sweco Co. Model No. U5485 Mill (SPM Sweco)	Dust Collector 21 (LC932987)
G-0393	Collette Model No. 1200 Gral (Gral #1)	Dust Collector 14 (U-1811) and Dust Filter AS14
G-0583	Collette Model No. 1200 Gral (Gral #2)	Dust Collector 14 (U-1811) and Dust Filter AS14
LC936001	Collette Model No. 1200 Gral (Gral #3)	Dust Collector 23 (U-1814)
G-0917	Aeromatic Model No. T-8 2400 Fluid Bed Dryer (FBD #1)	Internal Filters
G-0955	Aeromatic Model No. T-8 2400 Fluid Bed Dryer (FBD #2)	Internal Filters
LC933770	Aeromatic Model No. MP-8 Fluid Bed Dryer (FBD #3)	Internal Filters
G-0324	Sweco Model No. LS48S Mill (HVM Sweco #1)	Dust Collector 13 (U-1810) and Dust Filter AS13
LC929589	Model No. 54856886 Mill (HVM Sweco #2)	Dust Collector 13 (U-1810) and Dust Filter AS13
G-0392	Sweco Model No. 5560588 Mill (HVM Sweco #3)	Dust Collector 22 (U-1813)
G-0391	Patterson-Kelly Co. Model No. 263993 Blender (Blender #1 150 cu ft)	Dust Collector 12 (U-1809) and Dust Filter AS12

Emission Unit	Description	Emission Control Equipment
G-0349	Patterson-Kelly Co. Model No. 263993 Blender (Blender #2 150 cu ft)	Dust Collector 10 (U-1807) and Dust Filter AS10
G-0284	Patterson-Kelly Co. Blender (Blender #3 75 cu ft)	Dust Collector 12 (U-1809) and Dust Filter AS12
G-0267	Patterson-Kelly Co. Blender (Blender #4 35 cu ft)	Dust Collector 10 (U-1807) and Dust Filter AS10
W-0252	Kinetic Dispersion Model No. 20 T Mill (Kady Mill)	None
Q-2157	500 Gallon Coating Mix Tank (Tablet Coating Mix Tank #1)	None
Q-2158	500 Gallon Coating Mix Tank (Tablet Coating Mix Tank #2)	None
Q-2156	500 Gallon Coating Mix Tank (Tablet Coating Mix Tank #3)	None
Q-2155	500 Gallon Coating Mix Tank (Tablet Coating Mix Tank #4)	None
Q-2722	500 Gallon Coating Mix Tank (Tablet Coating Mix Tank #5)	None
Q-2725	300 Gallon Coating Mix Tank (Tablet Coating Mix Tank #6)	None
Q-2723	300 Gallon Coating Mix Tank (Tablet Coating Mix Tank #7)	None
Q-2724	300 Gallon Coating Mix Tank (Tablet Coating Mix Tank #8)	None
Q-2151	300 Gallon Jacketed Coating Mix Tank (Tablet Coating Mix Tank #9)	None
Q-2576	300 Gallon Jacketed Coating Mix Tank (Tablet Coating Mix Tank #10)	None
Q-2149	300 Gallon Jacketed Coating Mix Tank (Tablet Coating Mix Tank #11)	None
Q-2150	300 Gallon Jacketed Coating Mix Tank (Tablet Coating Mix Tank #12)	None

Emission Unit	Description	Emission Control Equipment
Q-2726	Four Corp. 300 Gallon Jacketed Coating Mix Tank (Mix Tank T-25)	None
Q-2577	Four Corp. 300 Gallon Jacketed Coating Mix Tank (Mix Tank T-26)	None
Q-2598	Northland Stainless Inc. 150 Gallon Jacketed Coating Mix Tank (Mix Tank T-28)	None
S-1474 S-1475	Stokes Model No. 110 Tablet Coater (Pan Pour)	None
D-1351	Spinning Disc Granule Manufacturing and Coater (Spinning Disc)	Dust Collector 19
169A	Weigh/Staging Room 169A	Dust Collector 24 (LC935378)
SSMSM	Semi-Solid Mfg. Static Mixer (Semi-Solid Capsule Fill)	None
SSME	Semi-Solid Mfg. Encapsulator (Semi-Solid Capsule Fill)	None
LC936004	Collette Model No. Gral 300 Liter (300 L Gral 4 (Clinical))	Dust Collector 24 (LC940515)
LC935370	GLB Glatt Air Tech. Model No. GPGG-60 Fluid Bed Dryer (Fluid Bed Dryer 3 (Clinical))	Internal Filters
LC940173	Sweco Mill (Sweco (Clinical))	Dust Collector 24 (LC940515)
LC928144	Particle Coater (Particle Coater (Clinical))	None
P-0204, P-0085, P-0259, P-0301, P-0138, P-0143, P-0316, P-0315	Stokes Models B2, BB2, RD3, & Tri-Pact, and Manesty Models BB3B and Rotapress Tablet Compressors (Tablet Compressing Booth 1)	Dust Collector 7A

Emission Unit	Description	Emission Control Equipment
P-0204, P-0085, P-0259, P-0301, P-0138, P-0143, P-0316, P-0315	Stokes Models B2, BB2, RD3, & Tri-Pact, and Manesty Models BB3B and Rotapress Tablet Compressors (Tablet Compressing Booth 2)	Dust Collectors 7B and 7C or Dust Collector 7A
P-0357	Fette Model #2000 Tablet Compressor (Tablet Compressing Booth 3)	Dust Collectors 7B and 7C or Dust Collector 7A
P-0359	Fette Model #3100 Tablet Compressor (Tablet Compressing Booth 4)	Dust Collectors 7B and 7C or Dust Collector 7A
P-0550	Fette Model #2090 Tablet Compressor (Tablet Compressing Booth 5)	Dust Collectors 7B and 7C or Dust Collector 7A
P-0374	Fette Model #2000 Tablet Compressor (Tablet Compressing Booth 6)	Dust Collectors 7B and 7C or Dust Collector 7A
LC949481	Fette Model #1200 Tablet Compressor (Tablet Compressing Booth 7)	Dust Collectors 7B and 7C or Dust Collector 7A
S-4146	Bosch Tablet Compressor (Tablet Compressing Booth 8)	Dust Collectors 7B and 7C or Dust Collector 7A
P-0204, P-0085, P-0259, P-0301, P-0138, P-0143, P-0316, P-0315	Stokes Models B2, BB2, RD3, & Tri-Pact, and Manesty Models BB3B and Rotapress Tablet Compressors (Tablet Compressing Booth 9)	Dust Collector 7A

7.1.3 Applicability Provisions and Applicable Regulations

- a. The Massers, Warm Air Dryers, Mills, Swecos, Grals, Fluid Bed Dryers, Blenders, Coating Mix Tanks, the Particle Coaters, the Pan Pour, the Spinning Disc, the weigh/staging room, Static Mixer, the Encapsulator, and the Tablet Compressors are "affected pharmaceutical product manufacturing units" for the purpose of these unit-specific conditions.

- b. Each affected pharmaceutical product manufacturing unit is subject to the emission limits identified in Condition 5.2.2.
- c. The affected pharmaceutical product 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 pharmaceutical product manufacturing units 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 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)].
 - ii. The expected process weight rates for each affected pharmaceutical product manufacturing unit and the allowable PM emission rates for each affected pharmaceutical product manufacturing unit set by 35 IAC 212.321 are as follows:

<u>Emission Unit</u>	<u>Process Weight Rate (lb/hr)</u>	<u>Allowable PM Emissions (lb/hr)</u>
SPM Day Masser	1,250	1.98
Warm Air Dryers		
1 - 4 (Combined)	1,680	2.31
SPM Glen Masser	500	1.21
SPM Milling and		
SPM Sweco	1,600	2.25
Grals #1 - 3		
(Combined)	7,290	5.07
FBD's #1 - 3		
(Combined)	8,370	5.46

<u>Emission Unit</u>	<u>Process Weight Rate (lb/hr)</u>	<u>Allowable PM Emissions (lb/hr)</u>
HVM Sweco's #1 - 3 (Combined)	3,300	3.32
Blenders #1 & #2 (Combined)	4,080	3.72
Blender #3	1,020	1.77
Blender #4	475	1.18
Kady Mill	180	0.70
Tablet Coating Mix Tanks 1 - 5 (Combined)	23,250	9.41
Tablet Coating Mix Tanks 6 - 12 (Combined)	19,530	8.58
300 gal Granule Coating Mix Tanks (Combined)	5,580	4.39
150 gal Granule Coating Mix Tank	1,395	2.10
Pan Pour	100	0.55
Spinning Disc	700	1.45
Semi-Solid Mfg. Static Mixer	160	0.66
Semi-Solid Mfg. Encapsulator	160	0.66
300L Gral (Asset No. LC936004)	615	1.35
Fluid Bed Dryer No. 3 (Asset No. LC935370)	705	1.46
Sweco Mill (Asset No. LC940173)	705	1.46
300L Particle Coater	705	1.46
Tablet Compressing Booths 1 - 9 (Combined)	5,220	4.24

- e. The affected pharmaceutical product 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 7.1.3(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 7.1.3(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)].

7.1.4 Non-Applicability of Regulations of Concern

- a. The affected pharmaceutical product manufacturing units are not subject to the control requirements of 35 IAC 218 Subpart T, because the affected pharmaceutical product manufacturing units do not meet the following applicability criteria:
 - i. 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) [35 IAC 218.480(a)].

- ii. Pursuant to 35 IAC 218.480(b), notwithstanding Condition 7.1.4(a)(i) (see also 35 IAC 218.480(a)) the air suspension coater/dryer, fluid bed dryers, tunnel dryers, and Accelacotas located in Libertyville Township, Lake County, Illinois shall be exempt from the rules of 35 IAC 218 Subpart T, except for 35 IAC 218.483 through 218.485, if emissions of VOM not vented to air pollution control equipment do not exceed the following levels:
 - A. For the air suspension coater/dryer: 2,268 kg/year (2.5 tons/year) [35 IAC 218.480(b)(1)];
 - B. For each fluid bed dryer: 4,535 kg/year (5.0 tons/year) [35 IAC 218.480(b)(2)];
 - C. For each tunnel dryer: 6,803 kg/year (7.5 tons/year) [35 IAC 218.480(b)(3)]; and
 - D. For each Accelacota: 6,803 kg/year (7.5 tons/year) [35 IAC 218.480(b)(4)].
- b. The affected pharmaceutical product 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 pharmaceutical product 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 PM₁₀, 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 dust collectors, and filters, including periodic inspection, routine maintenance and prompt repair of defects.
- d. This permit is issued based on the aqueous coating solution used in the spinning disc containing no VOM.

7.1.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected pharmaceutical product manufacturing units are subject to the following:

- a. Emissions and operation of the Day Masser, Warm Air Dryers 1 through 8, and Fluid Bed Dryers #1 and 2 shall not exceed the following limits:
 - i. In addition to the limitation of 74.29 tons/year for volatile organic material emissions in Condition 5.5.3(a)(i), the following individual maximum annual emission limits are set for the specified equipment based upon normal operation for the maximum operating hours:

<u>Emission Unit</u>	<u>VOM (tons/yr)</u>
Day Masser	4.0
Warm Air Dryers #1 - #4	13.0 (each)
Fluid Bed Dryers #1 and #2	25.0

- ii. The above limitations were established in Permit 81100039, 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. Volatile organic material the following emission units shall not exceed the following:

<u>Emission Unit</u>	<u>Weekly Emissions (lb VOM/wk)</u>	<u>Annual Emissions (T VOM/yr)</u>	<u>Annual Operating Hours (hr/yr)</u>
T-25, 26, and 28	570	8.14	8,568

- i. These limits are based on the maximum emission rate (570 lb/week, combined from the mix tanks) and the maximum hours of operation.
- ii. The above limitations were established in Permit 81100039, 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 the 1200 Liter Gal Masser (Gral #2) shall not exceed the following limits:

- i. Emissions and operation of equipment shall not exceed the following limits:

<u>Item of Equipment</u>	<u>Operating Hours (hr/yr)</u>	<u>Process Rate (lb/hr)</u>
1200 Liter Gal Masser #2	8,760	2,430

E M I S S I O N S			
Particulate Matter		VOM	
<u>(lb/day)</u>	<u>(ton/yr)</u>	<u>(lb/day)</u>	<u>(ton/yr)</u>
25	1.0	100	2.5

- ii. This Condition is based on representations of maximum operation and maximum actual emission rates pursuant to an agreement with the Permittee.
- iii. The above limitations contain revisions to previously issued Permit 94050127. 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 permitted process weight rate for this unit has been increased from 450 lb/hr to 2,430 lb/hr without increasing the permitted emission rate for PM and VOM emissions. [T1R]

- d. i. This permit is issued based on negligible emissions of particulate matter from the Spinning Disc process. 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 94060094, 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. This permit is issued based on negligible emissions of volatile organic material from the Semi-Solid Manufacturing operation (Semi-Solid Manufacturing Drug Mix Tank, Semi-Solid Manufacturing Hot Melt Tank, Semi-Solid Manufacturing Feed Tanks, Semi-Solid Manufacturing Static Mixer, and the Semi-Solid Manufacturing Encapsulator). For this purpose, emissions from all such emission units shall not exceed nominal emission rates of 0.1 lb/hr and 0.44 ton/yr.

- ii. The above limitations contain revisions to previously issued Permit 95050226. 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 permitted process rate and operating hours limit have been eliminated because the VOM emissions limit is set at a level which the Illinois EPA considers to be negligible.[T1R]

- f. Emissions and operation of Gral #3, Fluid Bed Dryer #3, Sweco #3, Sweco mill (Asset #LC935380), 300 liter Gral (Asset #LC936004), fluid bed dryer (Asset #LC935370), the 300 Liter Particle Coater, Sweco #2, and Weigh/Staging Room 169A shall not exceed the following limits:
 - i. Emissions and operation of equipment shall not exceed the following limits:

<u>Item of Equipment</u>	<u>Process Rate (lb/hr)</u>
1200L Gral No. 3	2,430
Fluid Bed Dryer #3	2,790
300L Gral No. 4	615
Fluid Bed Dryer (Asset #LC935370)	705
300 L Particle Coater	145

E M I S S I O N S			
Particulate Matter		Volatile Organic Material	
(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
0.10	0.44	10.5	2.5
0.10	0.44	--	5.0
0.10	0.44	2.7	2.5
0.10	0.44	--	5.0
0.10	0.44	100 lb/day	2.5
		Total	17.5

These limits are based on representations of the maximum actual particulate matter emissions at the maximum process rates. Annual VOM emissions are based on the applicability levels of 35 IAC 218 Subpart T. Hourly VOM emissions from the 1200L Gral No. 3 and the 300L Gral No. 4 (Asset #LC936004) are based on 4% of the VOM which is used being emitted. Daily emissions from 300L Particle Coater are based on 100% of the VOM which is used being emitted.

- ii. This permit is issued based on negligible emissions of particulate matter from Sweco Mill #3, Sweco Mill #2, Weigh/Staging Room 169A, and Sweco Mill (Asset #LC940173). For this purpose emissions from each emission unit shall not exceed nominal emission rates of 0.1 lb/hr and 0.44 ton/yr.
- iii. G. P. Tunnel Dryers #5, #6, #7, and #8 shall permanently cease operation and the manufacture of Biaxin tablets shall no longer utilize solvents containing VOM within 180 days of initial startup of 1,200 liter Gral #3 and Fluid Bed Dryer #3.
- iv. The above limitations were established in Permit 97100076, pursuant to 35 IAC Part 203 and 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 35 IAC Part 203 and the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21.[T1]

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

7.1.7 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 7.1.7(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 7.1.7(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 7.1.7(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 this Part. 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

- 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 7.1.8(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 7.1.8 (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 7.1.8(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 7.1.8(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 7.1.8(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 7.1.8(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 7.1.8(b)(iii) (see also 40 CFR 63.1258(b)(5)) constitute violations of the emission limit according to the provisions of Conditions 7.1.8(b)(vi)(C) and (D) (see also 40 CFR 63.1258 (b)(8)(iii) and (iv)).

- A. Except as provided in Condition 7.1.8 (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 7.1.8 (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 7.1.8 (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 7.1.8(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)].

7.1.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected pharmaceutical product manufacturing unit to demonstrate compliance with Conditions 5.5.1, 7.1.3, 7.1.5, and 7.1.6, 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 7.1.8 (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. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].
 - vii. 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 7.1.7, 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.
- d. 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)].

- e. 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)].
- 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 35 IAC 218.480(a) or 218.480(b), 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) or 218.480(b), as appropriate, 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) or 218.480(b), as appropriate, 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 dust collectors, filters, and condenser:

- i. Records for periodic inspection of the dust collectors, filters, 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. Types and quantities of raw materials, excluding water, used for each affected pharmaceutical product manufacturing unit, lb/batch, lb/mo, and ton/yr;
 - j. The operating schedule of the affected pharmaceutical product manufacturing units or number of hours the affected pharmaceutical product manufacturing units have been operated; and
 - k. The aggregate monthly and annual PM and VOM emissions from the affected pharmaceutical product 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 pharmaceutical 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 7.1.10(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 7.1.10(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 7.1.10 (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 7.1.10 (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 7.1.10(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 7.1.8(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 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 7.1.10(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 7.1.10(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 7.1.10(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 7.1.10(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 35 IAC 218.480(a) or 218.480(b), 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) or 218.480(b), as appropriate [35 IAC 218.489(d)(3)].
- h. Emissions of VOM in excess of the limits in Conditions 7.1.3(e) and/or 7.1.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.
- i. 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 G. P. Tunnel Dryer (#5, #6, #7, or #8) ceases operation;
 - ii. The date in which the manufacture of Biaxin ceases the use of solvent containing VOM; and
 - iii. The date that the 1,200 liter Gral #3 and Fluid Bed Dryer #3 initially begin operation and emit 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 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 (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 (see also 35 IAC 218.487)) [35 IAC 218.480(h)].
- b. Compliance with Conditions 7.1.3(b) and (c) is assumed by proper operation of the dust collectors, and filters, as addressed by Condition 7.1.5(d).
- c. To determine compliance with Conditions 5.5.1, 7.1.3(d), and 7.1.6, PM emissions from the affected pharmaceutical product manufacturing units shall be calculated based on the following:
- i. Particulate matter emissions from Tablet Compressing, Spinning Disc and House Vacuum:
- $$\text{PM Emissions (lb)} = (\text{Raw Material Usage, lb}) \times (0.003 \text{ lb PM/lb Raw Materials}) \times [1 - (\text{Dust Collector Efficiency}^* (\%)/100)]$$
- ii. Particulate matter emissions from Massers, Mills, Kady Mill, Mixers (Grals), Blenders, and Particle Coating:
- $$\text{PM Emissions (lb)} = (\text{Amount of Material Recovered from Dust Collector, lb}) \times [(1 - (\text{Dust Collector Efficiency}^*, \%/100))/(\text{Dust Collector Efficiency}^*, \%/100)]$$
- *As specified by manufacturer or vendor of the dust collectors
- d. To determine compliance with Conditions 5.5.1, 7.1.3(e), and 7.1.6, VOM emissions from the affected pharmaceutical product manufacturing units shall be calculated based on the following:

VOM Emissions (lb) = (Total Amount of VOM in Raw Materials, lb) x (Loss Factor, %/100)

Where:

Loss Factor is the factor derived from weighing the amount of bulk material present before and after the various processes, determining reduction in weight across the process, and assuming all weight lost was attributable to VOM evaporation. The Loss Factors for the affected pharmaceutical manufacturing units are as follows:

<u>Emission Unit</u>	<u>Loss Factor</u>
Massers (SPM Day, SPM Glenn)	4.0%
Warm Air Dryers	75.0%
Mills (SPM, SPM Sweco, HVM Swecos)	4.0%
Kady Mill	0.5%
Mixers (Gral)	4.0%
Fluid Bed Dryers (FBDs)	95.0%
Blenders	4.0%
Pan Pour	100.0%
Semi-Solid Manufacturing (Static Mixer, Encapsulator)	0.5%

- 7.2 Units PPDC PPD Pharmaceutical Coaters
 Controls PPDC Dust Collectors & Thermal Oxidizers

7.2.1 Description

Some of the tablets produced in the Source's Pharmaceutical Products Division are coated after compressing. Coatings are applied to preserve the tablet, make it resistant to chipping and dusting, aid in identification (many products are color-coded), and to mask the taste of the ingredients. Coating is applied through the use of the tablet coating machines. The spray nozzles automatically apply the proper amount of coating to achieve a smooth, uniform finish. The tablets are dried in the coaters during the coating process by large volumes of heated air. When solvent-based coating solutions are used, the emissions are diverted to a thermal oxidizer.

The units included in this section are subject to the control requirements of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing.

7.2.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
S-1872	Thomas Engineering Model No. 48 Tablet Coater (Accela Cota #1)	Dust Collector #1, Thermal Oxidizer #1, and Thermal Oxidizer #2
S-2523	Thomas Engineering Model No. 48-M111 Tablet Coater (Accela Cota #2)	Dust Collector #2, Thermal Oxidizer #1, and Thermal Oxidizer #2
S-2661	Thomas Engineering Model No. 60-111 Tablet Coater (Accela Cota #3)	Dust Collector #3, Thermal Oxidizer #1, and Thermal Oxidizer #2
S-2660	Thomas Engineering Model No. 60-111 Tablet Coater (Accela Cota #4)	Dust Collector #4, Thermal Oxidizer #1, and Thermal Oxidizer #2
S-3142	GLB Glatt Air Tech. Model No. GPCG-300 Particle Coater (Particle Coater)	Thermal Oxidizer #1

7.2.3 Applicability Provisions and Applicable Regulations

- a. The Accelacotas and the Particle Coater are "affected coaters" for the purpose of these unit-specific conditions.
- b. Each affected coater is subject to the emission limits identified in Condition 5.2.2.
- c. The affected coaters 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 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)].
 - ii. The expected process weight rates for each coater and the allowable PM emission rates for each affected coater set by 35 IAC 212.321 are as follows:

<u>Emission Unit</u>	<u>Process Weight Rate (lb/hr)</u>	<u>Allowable PM Emissions (lb/hr)</u>
Accelacotas #1 - 4 (Combined)	2,000	2.54
Particle Coater	1,050	1.80

- d. The owner or operator of a washer, laboratory hood, tablet coating operation, mixing operation or any other process emission unit not subject to 35 IAC 218.481 through 218.485, and used to manufacture pharmaceuticals shall control the emissions of VOM from such emission units by 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)].
- e. The affected coaters 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 7.2.3(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. Emissions of organic material in excess of those permitted by Condition 7.2.3(e)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by flame, thermal or catalytic incineration so as either to reduce such emissions to 10 ppm equivalent methane (molecular weight 16) or less, or to convert 85 percent of the hydrocarbons to carbon dioxide and water [35 IAC 218.302(a)];

7.2.4 Non-Applicability of Regulations of Concern

- a. The process vents associated with the affected coaters 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 coaters do not meet the definition of process vent in 40 CFR 63.1251 because each affected coater does not meet the definition of unit operation in 40 CFR 63.1251.
- b. The affected coaters 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 coaters 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 PM₁₀, 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].
- c. Emissions subject to Condition 7.2.3(d) (see also 35 IAC 218 Subpart T) shall be controlled at all times consistent with the requirements set forth in Condition 7.2.3(d) (see also 35 IAC 218 Subpart T) [35 IAC 218.480(f)].
- d. Any control device required pursuant to Condition 7.2.3(d) (see also 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 thermal oxidizer combustion chambers shall be preheated to the manufacturer's recommended temperature but not lower than 1400°F, before the tablet coating (accelacotas) and particle coating processes begin using material containing VOM, and this temperature shall be maintained during operation of the accelacotas and particle coater.
- f. The Permittee shall follow good operating practices for the dust collectors and thermal oxidizers, including periodic inspection, routine maintenance and prompt repair of defects.

7.2.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected coaters are subject to the following:

- a. Emissions and operation of the shall not exceed the following limits:
 - i. In addition to the limitation of 74.29 tons/year for volatile organic material emissions in Condition 5.5.3(a)(i), the following individual maximum annual emission limits are set for the specified equipment

based upon normal operation for the maximum operating hours:

<u>Emission Unit</u>	<u>VOM (tons/yr)</u>
Accelacotas #1 and #2	6.0
Accelacotas #3 and #4	9.0

- ii. The above limitation was established in Construction Permit 81100039, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned Construction 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.

- ii. The above limitations contain revisions to previously issued Permit 81100039. 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 construction permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, the permitted emissions of VOM from Accelacotas #1 & #2 are being increased from 4.0 tons/year, combined to 6.0 tons/year, combined and the permitted emissions of VOM from Accelacotas #3 & #4 are being decreased from 53.0 tons/year, combined to 9.0 tons/year, combined. [T1R]

- b. Volatile organic material the following emission units shall not exceed the following:

<u>Emission Unit</u>	<u>Weekly Emissions (lb VOM/wk)</u>	<u>Annual Emissions (T VOM/yr)</u>	<u>Annual Operating Hours (hr/yr)</u>
Particle Coater	380	5.40	8,568

- i. These limits are based on the maximum emission rate (380 lb/week) and the maximum hours of operation.
- ii. The above limitations were established in Permit 81100039, 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).

7.2.7 Testing Requirements

- a. Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to Condition 7.2.3(d) (see also 35 IAC 218 Subpart T), at his own expense, demonstrate compliance to the Illinois EPA and the USEPA by the methods or procedures listed in Condition 7.2.7(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 7.2.7(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 7.2.7(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 this Part. 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)].

7.2.8 Monitoring Requirements

- a. At a minimum, continuous monitors for the Destruction device combustion temperature shall be installed on air pollution control equipment used to control sources subject to 35 IAC 218 Subpart T [35 IAC 218.488(a)(1)].
- b. Each monitor shall be equipped with a recording device [35 IAC 218.488(b)].
- c. Each monitor shall be calibrated quarterly [35 IAC 218.488(c)].
- d. Each monitor shall operate at all times while the associated control equipment is operating [35 IAC 218.488(d)].
- e. 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)].

7.2.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected coaters to demonstrate compliance with

Conditions 5.5.1, 7.2.3, 7.2.5, and 7.2.6, 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 7.2.7, 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.
- b. The owner or operator of a pharmaceutical manufacturing source shall maintain records of parameters listed in Condition 7.2.8(a) (see also 35 IAC 218.488(a)) [35 IAC 218.489(a)(1)].
- c. 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)].
- d. 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)].
- 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 dust collectors and thermal oxidizers:
 - i. Records for periodic inspection of the dust collectors, and thermal oxidizers 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 coater, lb/batch, lb/mo, and ton/yr;
 - h. The operating schedule of the affected coaters or number of hours the affected coaters have been operated; and
 - i. The aggregate monthly and annual PM and VOM emissions from the affected coaters based on the raw 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 coater 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. Emissions of VOM in excess of the limits in Conditions 7.2.3 and/or 7.2.6 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

N/A

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 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 (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 (see also 35 IAC 218.487)) [35 IAC 218.480(h)].
- b. Compliance with Conditions 7.2.3(b) and (c) is assumed by proper operation of the dust collectors, as addressed by Conditions 7.2.5(c) through (e).
- c. Compliance with Conditions 7.2.3(d) and (e) is assumed by proper operation of the thermal oxidizers, as addressed by Conditions 7.2.5(c) through (e) and 7.2.8(a) through (d).

- d. To determine compliance with Conditions 5.5.1 and 7.2.3(c), PM emissions from the affected coaters shall be calculated based on the following:

Particulate Matter Emissions:

PM Emissions (lb) = (Amount of Material Recovered from Dust Collector, lb) x [(1 - (Dust Collector Efficiency*, %/100))/(Dust Collector Efficiency*,%/100)]

- e. To determine compliance with Conditions 5.5.1 and 7.2.6, VOM emissions from the affected coaters shall be calculated based on the following:

VOM Emissions (lb) = (Total Amount of VOM in Raw Materials, lb) x (Loss Factor, %/100)

Where:

Loss Factor is the factor derived from weighing the amount of bulk material present before and after the various processes, determining reduction in weight across the process, and assuming all weight lost was attributable to VOM evaporation. For Accela Coating and Particle Coating operations, a loss factor of 1% is utilized under the assumption that 100% of the VOM used in these operations goes to the oxidizers which destroy at least 99% of the VOM.

- 7.3 Unit G-0564 Microwave Vacuum Processor
- Control G-0564 Condensers

7.3.1 Description

The Microwave Vacuum Processor is use to draw out organics and water from the source's products. The product is subjected to a vacuum in a bowl chamber. The chamber is heated and microwaves are introduced to the product. The effluent stream then travels through two condensers to remove organics from the effluent. Condenser No. 1 draws out mostly water while Condenser No. 2 draws out the organics, primarily ethyl alcohol. The stream then travels through a vacuum pump, a coalescent filter and is then discharged to the atmosphere.

7.3.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
G-0564	Collette Model No. 300PRO Microwave Vacuum Processor (Microwave Vacuum Processor)	Condensers

7.3.3 Applicability Provisions and Applicable Regulations

- a. The Microwave Vacuum Processor is an "affected dryer" for the purpose of these unit-specific conditions.
- b. The affected dryer is subject to the emission limits identified in Condition 5.2.2.
- c. The affected dryer 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.
- d. The affected dryer is 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 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)].

- ii. Because the expected process weight rate for the affected dryer is 208 pounds per hour, the allowable PM emission rate for the affected dryer set by 35 IAC 212.321 is 0.76 pounds per hour.

- e. i. The affected dryer is subject to 35 IAC 218.486, Pharmaceutical Manufacturing, Other Emission Units, which provides that the owner or operator of a washer, laboratory hood, tablet coating operation, mixing operation or any other process emission unit not subject to 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 7.3.3(e)(ii) (see also 35 IAC 218.481(a)) [35 IAC 218.486(b)].

- ii. Pursuant to 35 IAC 218.481(a), if a surface condenser is used, it shall be operated such that the condenser outlet gas temperature does not exceed:
 - A. 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
 - B. 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

- C. 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
 - D. 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
 - E. 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)].
- f. The affected dryer 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 7.3.3(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. Emissions of organic material in excess of those permitted by Condition 7.3.3(f)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by 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)];

7.3.4 Non-Applicability of Regulations of Concern

- a. The affected dryer 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.
- b. The affected dryer 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 PM₁₀, 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. Emissions subject to Condition 7.3.3(e) (see also 35 IAC 218 Subpart T) shall be controlled at all times consistent with the requirements set forth in Condition 7.3.3(e) (see also 35 IAC 218 Subpart T) [35 IAC 218.480(f)].
- d. Any control device required pursuant to Condition 7.3.3(e) (see also 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, including periodic inspection, routine maintenance and prompt repair of defects.

7.3.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected dryer is subject to the following:

- a. Emissions and operation of equipment shall not exceed the following limits:

<u>Item of Equipment</u>	<u>Production Rate (Batches/yr)</u>	<u>Volatile Organic Material Emissions (lb/hr)</u>	<u>(ton/yr)</u>
Microwave Vacuum Processor	260	99.2	13.6

- b. These limits are based on representations of the maximum actual emission rates based on the maximum operation of this emission unit.
- 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).
- d. The above limitations were established in Permit 92080038, 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]

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 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 this Part. 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)].

- d. Monitoring for emission limits. The owner or operator of any affected source complying with the provisions of Condition 7.3.3(c)(i)(A) (see also 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 Condition 7.3.3(c)(i) (see also 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)].
- e. At a minimum, continuous monitors for the temperature of a non-refrigerated condenser coolant supply system shall be installed on air pollution control equipment used to control sources subject to 35 IAC 218 Subpart T [35 IAC 218.488(a)(5)].
- f. Each monitor shall be equipped with a recording device [35 IAC 218.488(b)].
- g. Each monitor shall be calibrated quarterly [35 IAC 218.488(c)].
- h. Each monitor shall operate at all times while the associated control equipment is operating [35 IAC 218.488(d)].

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 the affected dryer 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. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].
 - vii. 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 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 7.3.8(a) through (c) (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 Condition 7.3.3(c)(i)(A) (see also 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(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)].
 - v. Uncontrolled and controlled emissions per batch for each process [40 CFR 63.1259(b)(6)].
 - vi. Daily schedule or log of each operating scenario prior to its operation [40 CFR 63.1259(b)(9)].
 - vii. Description of worst-case operating conditions as determined using the procedures described in Condition 7.3.7(b)(vii) (see also 40 CFR 63.1257 (b)(8)) for control devices [40 CFR 63.1259 (b)(10)].
 - viii. Periods of planned routine maintenance as described in Condition 5.6.2(b)(xi) (see also 40 CFR 63.1257(c)(5)) [40 CFR 63.1259(b)(11)].
- d. 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)].
 - e. 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.
- f. The owner or operator of a pharmaceutical manufacturing source shall maintain records of parameters listed in Condition 7.3.8(a) (see also 35 IAC 218.488(a)) [35 IAC 218.489(a)(1)].
- g. 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)].
- h. 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)].
- i. 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)].
- j. Records addressing use of good operating practices for the condensers:
 - i. Records for periodic inspection of the 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.
- k. Types and quantities of raw materials, excluding water, used for the affected dryer, lb/batch, lb/mo, and ton/yr;
- l. The operating schedule of the affected dryer or number of hours the affected dryer has been operated; and
- m. The aggregate monthly and annual VOM emissions from the affected dryer 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 dryer 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 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. Emissions of 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

N/A

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 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 (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 (see also 35 IAC 218.487)) [35 IAC 218.480(h)].

- b. Compliance with Conditions 7.3.3(e) and (f) is assumed by proper operation of condensers, as addressed by Conditions 7.3.5(c) through (e) and 7.3.8(a) through (d).
- c. To determine compliance with Conditions 5.5.1 and 7.3.6, VOM emissions from the affected dryer shall be calculated based on the following:

Volatile Organic Material Emissions:

$$\text{VOM (lb)} = (\text{Amount of Alcohol Used, lb/batch}) \times (0.95 \text{ lb Emitted/lb Alcohol Used}) \times [1 - (\text{Condenser Efficiency}^* (\%)/100)] \times (\text{Number of Batches})$$

*As specified by manufacturer or vendor of the condensers or by testing pursuant to Condition 7.3.7

7.4 Units TA-5 and TA-6 7,000 Gallon Ethanol Storage Tanks

7.4.1 Description

These two tanks (TA-5 and TA-6) have capacities of less than 40 cubic meters (10,566.8 gal) and are used to store ethanol.

7.4.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
TA-5	7,000 Gallon Ethanol Storage Tank (Tank TA-5)	None
TA-6	7,000 Gallon Ethanol Storage Tank (Tank TA-6)	None

7.4.3 Applicability Provisions and Applicable Regulations

- a. Tanks TA-5 and TA-6 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].

7.4.4 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 because, pursuant to 40 CFR 63.1253(a), because each affected tank is not:
 - i. A storage tank with a design capacity greater than or equal to 38 m³ (10,000 gallons [gal]) but less than 75 m³ (20,000 gal), and storing a liquid for which the maximum true vapor pressure of total HAP is greater than or equal to 13.1 kPa (1.9 psia) [40 CFR 63.1253(a)(1); or
 - ii. A storage tank with a design capacity greater than or equal to 75 m³ (20,000 gal) storing a liquid for which the maximum true vapor pressure of total HAP is greater than or equal to 13.1 kPa (1.9 psia) [40 CFR 63.1253(a)(2)].

- 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 m³ (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 m³ (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 the affected tanks do not meet the following applicability criteria:
 - i. 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) [35 IAC 218.480(a)].

- ii. Pursuant to 35 IAC 218.480(b), notwithstanding Condition 7.4.4(f)(i) (see also 35 IAC 218.480(a)) the air suspension coater/dryer, fluid bed dryers, tunnel dryers, and Accelacotas located in Libertyville Township, Lake County, Illinois shall be exempt from the rules of 35 IAC 218 Subpart T, except for 35 IAC 218.483 through 218.485, if emissions of VOM not vented to air pollution control equipment do not exceed the following levels:
 - A. For the air suspension coater/dryer: 2,268 kg/year (2.5 tons/year) [35 IAC 218.480(b)(1)];
 - B. For each fluid bed dryer: 4,535 kg/year (5.0 tons/year) [35 IAC 218.480(b)(2)];
 - C. For each tunnel dryer: 6,803 kg/year (7.5 tons/year) [35 IAC 218.480(b)(3)]; and
 - D. For each Accelacota: 6,803 kg/year (7.5 tons/year) [35 IAC 218.480(b)(4)].
- h. The affected tanks 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.

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. Tanks TA-5 and TA-6 shall only be used for the storage of Ethanol or any organic material with a vapor pressure no higher than that of ethanol.

7.4.6 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.

7.4.7 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 7.4.4(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].

7.4.8 Monitoring Requirements

None

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 the affected tanks to demonstrate compliance with Conditions 5.5.1, 7.4.3, and 7.4.5, pursuant to Section 39.5(7)(b) of the Act:

- a. Records of the testing 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.
- b. 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)].
- c. 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)].
- 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 35 IAC 218.480(a) or 218.480(b), 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) or 218.480(b), as appropriate, 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) or 218.480(b), as appropriate, 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. 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)];
 - 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 annual VOM emissions from the affected tanks based on the material stored, the tank throughput, and the applicable emission factors and formulas with supporting calculations.

7.4.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of the affected tanks 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 35 IAC 218.480(a) or 218.480(b), 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) or 218.480(b), as appropriate [35 IAC 218.489(d)(3)].
- c. The storage of any VOL or VPL other than the material specified in Condition 7.4.5(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.

7.4.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

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 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 (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 (see also 35 IAC 218.487)) [35 IAC 218.480(h)].

- b. To determine compliance with Conditions 5.5.1, and 7.4.3(b), VOM emissions from the affected tanks shall be calculated based on the following emission factors:

For the purpose of estimating VOM emissions from each affected tank, Version 3.1 of the TANKS program is acceptable.

7.5 Unit PPDTWDU PPD Thermal Waste Disposal Unit

7.5.1 Description

The Pharmaceutical Products Division thermal waste disposal unit is located within a research and development facility where pathological waste is destroyed. The thermal waste disposal unit is a multiple-chamber device equipped with natural gas burners in both the primary and secondary combustion chambers. The waste is generated in conjunction with the production of diagnostic substances and the efficacy, toxicological, and clinical testing of pharmaceuticals. The waste is stored in refrigerated rooms prior to disposal. The waste is placed in non polyvinyl chloride plastic bags for ease of handling and disposal.

7.5.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
PPDTWDU	Econo-Therm Model P8DP Pathological Waste Incinerator (Thermal Waste Disposal Unit)	None

7.5.3 Applicability Provisions and Applicable Regulations

- a. The Thermal Waste Disposal Unit is an "affected incinerator" for the purpose of these unit-specific conditions.
- b. The affected incinerator 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 from all other incinerators for which construction or modification commenced on or after April 14, 1972, to exceed 229 mg/scm (0.1 gr/scf) of effluent gases [35 IAC 212.181(d)].
- d. No person shall cause or allow the emission of carbon monoxide into the atmosphere from any incinerator to exceed 500 ppm, corrected to 50 percent excess air [35 IAC 216.141].
- e. The affected incinerator 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 7.5.3(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. Emissions of organic material in excess of those permitted by Condition 7.5.3(e)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by flame, thermal or catalytic incineration so as either to reduce such emissions to 10 ppm equivalent methane (molecular weight 16) or less, or to convert 85 percent of the hydrocarbons to carbon dioxide and water [35 IAC 218.302(a)].
- f. The affected incinerator is subject to 35 IAC Part 229, Hospital/Medical/Infectious Waste Incinerators, because construction of the affected incinerator was commenced before June 20, 1996 and the affected incinerator combusts medical/infectious waste. Pursuant to 35 IAC 229.110(c), an HMIWI that combusts only pathological waste, low-level radioactive waste, or chemotherapeutic waste is subject to only the recordkeeping requirements set forth in 35 IAC 229.182(c), (f) and (g) of 35 IAC Part 229 (see also Conditions 7.5.9(b), (c), and (d)), provided that the owner or operator of an HMIWI provides, by December 15, 1999, both the Illinois EPA and the USEPA with a written certification of its status as an HMIWI burning only the wastes listed in this Condition (see also 35 IAC 229.110(c)).

7.5.4 Non-Applicability of Regulations of Concern

None

7.5.5 Operational and Production Limits and Work Practices

- a. i. Only Type 4 Pathological Waste, as defined by the Incinerator Institute of America waste classification system (November, 1968) as human and animal remains consisting of organs and solid organic wastes consisting of up to 85% moisture and 5% incombustible solids, and non-PVC plastic shall be charged to the

affected incinerator at a rate not to exceed 300 pounds per hour.

- ii. The affected incinerator shall only be used to combust pathological waste, as defined in 35 IAC 229.102 as waste material consisting of only human or animal remains, anatomical parts, tissue, and the bags or containers used to collect and transport the waste material and associated animal bedding, if applicable.
- b. The secondary combustion chamber shall be preheated to the manufacturer's recommended temperature but not lower than 1400°F before charging, and this temperature shall be maintained during operation.
- c. The Permittee shall follow good operating practices for the affected incinerator, including periodic inspection, routine maintenance and prompt repair of defects.

7.5.6 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.

7.5.7 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. Pursuant to 35 IAC 216.101 and upon written request by the Illinois EPA pursuant to Section 39.5(7)(b) of the Act, Carbon Monoxide concentrations in an effluent stream shall be measured by the non-dispersive infrared method or by other methods approved by the Illinois EPA according to the provisions of 35 IAC 201.
- c. Pursuant to 35 IAC 218.105(d)(1) and upon written request by the Illinois EPA pursuant to Section 39.5(7)(b) of the Act, the control device (secondary combustion chamber) 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 7.5.7(c)(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 7.5.7(c)(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 this Part. 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)].

7.5.8 Monitoring Requirements

An owner or operator that uses an afterburner (or secondary combustion chamber) 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 (or secondary combustion chamber) is in use. The continuous monitoring equipment must monitor for each afterburner (or secondary combustion chamber) which does not have a catalyst bed, the combustion chamber temperature of each afterburner (or secondary combustion chamber) [35 IAC 218.105(d)(2)(A)(i)].

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 the affected incinerator to demonstrate compliance with Conditions 5.5.1, 7.5.3, and 7.5.5 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. The owner or operator of an HMIWI claiming an exemption pursuant to Condition 7.5.3(f) (see also 35 IAC 229.110(c)) shall keep records on a calendar quarter basis demonstrating that only pathological waste, low-level radioactive waste, or chemotherapeutic waste is burned [35 IAC 229.182(c)].
- c. All records required under Condition 7.5.9(b) (see also 35 IAC 229.182) shall be maintained onsite for a period of 5 years, in either paper copy or electronic format, unless an alternative format has been approved

by the Agency in a permit condition [35 IAC 229.182(f)].

- d. All records required to be maintained pursuant to Condition 7.5.9(b) (see also 35 IAC 229.182) shall be made available to the Illinois EPA upon request [35 IAC 229.182(g)].
- e. Records of equipment operation including the secondary combustion chamber temperature during the time of combustion;
- f. Records addressing use of good operating practices for the affected incinerator:
 - i. Records for periodic inspection of the affected incinerator 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. The amount and type of material charged to the affected incinerator, tons/mo and tons/yr; and
- h. Monthly and annual aggregate NO_x, PM, SO₂, and VOM emissions from the affected incinerator shall be maintained, based on the amount and type of waste charged and the applicable emission factors, with supporting calculations.

7.5.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of the affected incinerator 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 7.5.7(a) (see also 35 IAC 212.110) that will be used [35 IAC 212.110(d)].

- b. Continued operation of the affected incinerator with defects in the secondary combustion chamber that may result in emissions of CO, PM, or VOM in excess of the allowable limits specified in Condition 7.5.3 within 30 days of such an occurrence;
- c. Any occurrence when the affected incinerator was not operated in compliance with the requirements of Condition 7.5.5, with date, description, and explanation; and
- d. Any occurrence when the monitoring system required by Condition 7.5.8 was not in service prior to initially charging waste to the affected incinerator.

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:

- a. Compliance with Condition 7.5.3 is assumed to be achieved by proper operation of the secondary combustion chamber, as assured by Condition 7.5.5.
- b. To determine compliance with Condition 5.5.1, emissions from the affected incinerator shall be calculated based on the following emission factors:

<u>Pollutant</u>	<u>Emission Factor</u> <u>(lb/ton)</u>
NO _x	3.56
PM	4.67
SO ₂	2.17
VOM	0.299

These are the emission factors for uncontrolled controlled air medical waste incinerators, Tables 2.3-1 and 2.3-2, AP-42, Volume I, Fifth Edition, January, 1995. The VOM emission factor is based on the TOC emission factor.

Incinerator Emissions (lb) = (Weight of Refuse
Combusted, ton) x (The Appropriate Emission Factor,
lb/ton)

7.6 Units F-1415 & F-1623 Ethylene Oxide Sterilizers
 Control HPD/AP4-ETO-1 Catalytic Converter

7.6.1 Description

The source utilizes two ethylene oxide sterilizers to clean and disinfect small individual items, such as medical instruments and pharmaceuticals in sealed pouches. The ethylene oxide sterilizers are used solely for research and development and not for pharmaceutical production. In the sterilization process, the products to be sterilized are placed in the sterilization chamber and are exposed to a sterilant gas (ethylene oxide) at a predetermined pressure, temperature, and humidity level. After the products have been loaded into the chamber, a partial vacuum is drawn inside the chamber. This initial vacuum or drawn down prevents dilution of the sterilant gas. Chamber pressure is reduced to a vacuum pressure of half an atmosphere or less. The Chamber temperature is then adjusted in conjunction with humidification. The sterilant gas, which is supplied as a liquid, is vaporized and introduced into the chamber. The pressure is held for a period of time depending on the temperature, pressure, humidity level, type of sterilant gas, and the products being sterilized. Following sufficient exposure time the sterilant gas is evacuated from the chamber using a vacuum pump. The pressure in the chamber is raised to atmospheric pressure by introducing air or nitrogen. The combination of evacuation and air wash phases can be repeated to remove as much of the ethylene oxide from the product as possible. At the conclusion of the sterilization cycle, the sterilizing chamber is returned to ambient temperature and back up to atmospheric pressure. The chamber door is then opened. The chamber is equipped with an air exhaust or "backvent" exhaust system that forcefully ventilates the chamber with fresh air. Indoor air is then ventilated into the open door through the chamber and to the back exhaust.

7.6.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
F-1415	Vacudyne Ethylene Oxide Gas Sterilizer (Ethylene Oxide Sterilizer F-1415)	Donaldson Abator Catalytic Converter
F-1623	Scientific Industries/Castile Ethylene Oxide Gas Sterilizer (Ethylene Oxide Sterilizer F-1623)	Donaldson Abator Catalytic Converter

7.6.3 Applicability Provisions and Applicable Regulations

- a. Ethylene Oxide Sterilizers F-1415 and F-1623 are "affected sterilizers" for the purpose of these unit-specific conditions.
- b. The affected sterilizers 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 7.6.3(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. Emissions of organic material in excess of those permitted by Condition 7.6.3(b)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by any other air pollution control equipment approved by the Agency 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 sterilizers are not subject to the NESHAP for Ethylene Oxide Emissions Standards for Sterilization Facilities, 40 CFR 63 Subparts A and O because, pursuant to 40 CFR 63.360(d), 40 CFR 63 Subpart O does not apply to research or laboratory facilities as defined in section 112(c)(7) of title III of the Clean Air Act Amendment of 1990.
- b. The affected sterilizers are not subject to the control requirements of 35 IAC 218 Subpart T, because the affected sterilizers are not used for pharmaceutical manufacture and do not meet the following applicability criteria:
 - i. 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) [35 IAC 218.480(a)].

- ii. Pursuant to 35 IAC 218.480(b), notwithstanding Condition 7.6.4(b)(i) (see also 35 IAC 218.480(a)) the air suspension coater/dryer, fluid bed dryers, tunnel dryers, and Accelacotas located in Libertyville Township, Lake County, Illinois shall be exempt from the rules of 35 IAC 218 Subpart T, except for 35 IAC 218.483 through 218.485, if emissions of VOM not vented to air pollution control equipment do not exceed the following levels:
 - A. For the air suspension coater/dryer: 2,268 kg/year (2.5 tons/year) [35 IAC 218.480(b)(1)];
 - B. For each fluid bed dryer: 4,535 kg/year (5.0 tons/year) [35 IAC 218.480(b)(2)];
 - C. For each tunnel dryer: 6,803 kg/year (7.5 tons/year) [35 IAC 218.480(b)(3)]; and
 - D. For each Accelacota: 6,803 kg/year (7.5 tons/year) [35 IAC 218.480(b)(4)].
- c. The affected sterilizers 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.

7.6.5 Operational and Production Limits and Work Practices

The Permittee shall follow good operating practices for the catalytic converters, including periodic inspection, routine maintenance and prompt repair of defects.

7.6.6 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.

7.6.7 Testing Requirements

None

7.6.8 Monitoring Requirements

None

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 each affected pharmaceutical product manufacturing unit 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 addressing use of good operating practices for the catalytic converter:
 - i. Records for periodic inspection of the catalytic converter 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.
- b. The type and amount of sterilant gas used for each affected sterilizer, lb/batch;
- c. The number of batches run in each affected sterilizer, batches/mo and batches/yr; and
- d. The aggregate monthly and annual VOM emissions from the affected sterilizers based on the sterilant gas

usage 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 an affected sterilizer 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:

None

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. Compliance with Condition 7.6.3 is assumed by proper operation of the catalytic converter as addressed by Condition 7.6.5(b) and by the work-practices inherent in operation of the affected sterilizers using ethylene oxide as the sterilant gas.
- b. To determine compliance with Conditions 5.5.1, and 7.6.3, VOM emissions from the affected sterilizers shall be calculated based on the following:

Volatile Organic Material Emissions:

VOM Emissions (lb) = (Sterilant Gas Usage, lb) x [1 - (Catalytic Converter Efficiency* (%) / 100)]

*As specified by manufacturer or vendor of the catalytic converter.

- 7.7 Unit HPD AP-5 Procedyne Fluidized Bed Combustor
 Control HPD AP-5 Cyclone

7.7.1 Description

The Building AP-5 Procedyne fluidized bed combustor is a small unit which is used to clean small metal dies used in the plastic extrusion process to remove waste plastic. The dies are placed into a small basket that is hand lowered into the fluidized bed. The dies may remain in the bed for several hours to assure thorough cleaning. This unit utilizes bed materials comprised of aluminum oxide particles, or other inert heat transfer materials particles of a size a little finer than beach sand. The bed is electrically heated and the exhaust from the fluidized bed passes through a cyclone prior to discharge to the atmosphere. A draft is provided by a blower downstream of the cyclone, and is controlled by two fixed position dampers.

7.7.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
HPD AP-5	Procedyne Corporation Model No. 10-10-15 Fluidized Bed Combustor (HPD AP-5 Procedyne Fluidized Bed Combustor)	Cyclone HPD AP-5

7.7.3 Applicability Provisions and Applicable Regulations

- a. The HPD AP-5 Procedyne Fluidized Bed Combustor is an "affected combustor" for the purpose of these unit-specific conditions.
- b. The affected combustor is subject to the emission limits identified in Condition 5.2.2.
- c. The affected combustor is 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. Because the expected process weight rate for the affected combustor is less than 100 pounds per hour, the allowable PM emission rate for the affected combustor set by 35 IAC 212.321 is 0.55 pounds per hour.
- 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].

7.7.4 Non-Applicability of Regulations of Concern

- a. The affected combustor is not subject to 35 IAC 216.141, Emissions of Carbon Monoxide from Incinerators, because the affected combustor is not by definition an incinerator.
- b. The affected combustor is not subject to 35 IAC 212.181(d), Particulate Matter Emissions from Incinerators, because the affected combustor is not by definition an incinerator.
- c. The affected combustor 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 PM₁₀, as identified in 35 IAC 212.324(a)(1).

7.7.5 Operational and Production Limits and Work Practices

- a. Material insulated with asbestos, or scrap containing the fuming metals tin, zinc, or lead shall not be charged to the affected combustor.
- b. The Permittee shall follow good operating practices for the cyclone, including periodic inspection, routine maintenance and prompt repair of defects.

7.7.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected combustor is subject to the following:

- a. Emissions and operation of the fluid bed combustor shall not exceed the following limits:

Hours of Operation (Hours/yr)	E M I S S I O N S			
	Particulate Matter (lb/hr)	Matter (T/yr)	Carbon Monoxide (lb/hr)	Monoxide (T/yr)
1800	0.28	0.25	0.10	0.44

These limits are being applied to define the potential emissions of the unit and are based on the allowable emissions, determined from the type of waste and hourly unit capacity.

- b. The above limitations were established in Permit 93010035, 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).

7.7.7 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)].

7.7.8 Monitoring Requirements

None

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 the affected combustor to demonstrate compliance with Conditions 5.5.1, 7.7.3, 7.7.5, and 7.7.6 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 cyclone:

- i. Records for periodic inspection of the cyclone 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. The amount and type of material introduced to the affected combustor, lb/mo and lb/yr;
 - d. The operating schedule of the affected combustor; and
 - e. Monthly and aggregate annual HCl, PM, and CO emissions from the affected combustor based on the operating schedule and the typical hourly emission rate, with supporting calculations.

7.7.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance with the control and operating 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 7.7.7(a) (see also 35 IAC 212.110) that will be used [35 IAC 212.110(d)].
- b. Continued operation of the affected combustor with defects in the cyclone that may result in emissions of PM in excess of the allowable limits specified in Conditions 7.7.3(b), 7.7.3(c), and/or 7.7.6 within 30 days of such an occurrence;
- c. Any occurrence when the affected combustor was not operated in compliance with the requirements of Condition 7.7.5, with date, description, and explanation; and

7.7.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

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. Compliance with Conditions 7.7.3(b) and (c) is assumed to be achieved by proper operation of the cyclone, as addressed by Condition 7.7.5.
- b. Compliance with Condition 7.7.3(d) and (e) is assumed by the work-practices inherent in operation of an affected combustor.
- c. To determine compliance with Conditions 5.5.1 and 7.7.6, emissions of PM and CO from the affected combustor shall be determined based on hourly emission rates of 0.07 lb/hr and 0.052 lb/hr, respectively, which are the emission rates determined from the most recent stack testing.
- d. To determine compliance with Condition 5.5.1, emissions of HCl from the affected combustor shall be calculated based on the following formula:

$$\text{HCl (lb)} = (\text{Weight of PVC Introduced to Combustor, lb}) \times (0.40 \text{ lb Cl/lb PVC}) \times (36 \text{ lb HCl/35 lb Cl})$$

7.8 Units 4AP and 5AP Coal/Natural Gas Fired Boilers
Controls U-720, U-722 Fly Ash Collectors

7.8.1 Description

Boilers 4AP and 5AP use coal and natural gas as the fuels and have fly-ash or collectors to capture particulate matter before emitting to the air. The coal/gas boilers are the primary source of steam for the plant and are used throughout the year. These boilers can burn 100% coal, 100% natural gas, or any combination thereof.

7.8.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
4AP	Lasker Boiler and Engineering Corporation Class J-28.75 Coal/Natural Gas Fired Boiler (Boiler 4AP, 83 mmBtu/hr, coal; 60 mmBtu/hr, Natural Gas)	Fly Ash Collector U-720
5AP	Lasker Boiler and Engineering Corporation Class J-28.75 Coal/Natural Gas Fired Boiler (Boiler 5AP, 83 mmBtu/hr, Coal; 60 mmBtu/hr, Natural Gas)	Fly Ash Collector U-722

7.8.3 Applicability Provisions and Applicable Regulations

- a. Boilers 4AP and 5AP 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 7.8.3(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].

7.8.4 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.

7.8.5 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 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 7.8.3(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 1.75 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 7.8.9(a).

e. 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 7.8.9(b) and 7.8.10(a).

7.8.6 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.

7.8.7 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 7.8.3(b).

- c. Pursuant to 35 IAC 214.101(d) and 214.104(c), plants with total solid fuel-fired heat input capacity exceeding 146.5 MW (500 million Btu/hr) but not exceeding 439.5 MW (1500 million Btu/hr) shall demonstrate compliance or non-compliance with Condition 7.8.3(e) (see also 35 IAC 214.141) by either an analysis of calendar weekly composites of daily fuel samples or by compliance with 35 IAC 214.101(c), at the option of the plant. The specific ASTM in Conditions 7.8.7(c)(i) through (c)(iii) (see also 35 IAC 214.104(c)), shall be used for sulfur and heating value determinations as follows:
 - i. For solid fuel sampling:
 - ASTM D-2234 (1989)
 - ASTM D-2013 (1986)

 - ii. For sulfur determinations:
 - ASTM D-3177 (1984)
 - ASTM D-2622 (1987)
 - ASTM D-3180 (1984)
 - ASTM D-4239 (1985)

iii. For heating value determinations:

ASTM D-2015 (1985)

ASTM D-3286 (1985)

7.8.8 Monitoring Requirements

None

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 the affected boilers to demonstrate compliance with Conditions 5.5.1, 7.8.3, and 7.8.5 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 1.75 hours, an explanation why startup could not be achieved in 1.75 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, Mft³/mo and Mft³/yr; and
- h. Monthly and annual aggregate NO_x, PM, SO₂, and VOM emissions from the affected boilers shall be maintained, based on fuel consumption and the applicable emission factors, with supporting calculations.

7.8.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of the affected boilers 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 7.8.3(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 7.8.7(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 7.8.5(c) within 30 days of such an occurrence.

7.8.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

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. Compliance with Condition 7.8.3(c) is assumed by the work-practices inherent in operation of coal/natural gas-fired boilers.
- b. Compliance with Condition 7.8.3(d) is assumed to be achieved by proper operation of the fly ash collectors, as addressed by Condition 7.8.5(b).
- c. Compliance with Condition 7.8.3(e) is assumed to be achieved by operation of the boiler with coal with a sulfur content meeting the specification of Condition 7.8.5(c) and testing pursuant to Condition 7.8.7(c).
- d. Compliance with the emission limits of Condition 5.5.1, 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:

<u>Pollutant</u>	Natural Gas Emission Factor (lb/Mft ³)
NO _x	100
PM	7.6
SO ₂	0.6
VOM	5.5

These are the emission factors for uncontrolled natural gas combustion in small boilers (< 100 mmBtu/hr), Tables 1.4-1 and 1.4-2, AP-42, Volume I, Fifth Edition, Supplement D, March, 1998.

Boiler Emissions (lb) = (Natural Gas Consumed, Mft³) x (The Appropriate Emission Factor, lb/Mft³)

- ii. To determine compliance with Condition 5.5.1, emissions from the affected boilers burning coal shall be calculated based on the following emission factors:

<u>Pollutant</u>	Emission Factor (lb/Ton)
NO _x	13.7
PM	66 x (1 - (Fly Ash Collector Efficiency*/100))
SO ₂	38 S
VOM	0.05

These are the uncontrolled emission factors for bituminous coal combustion for spreader stoker firing configuration, Tables 1.1-3, 1.1-4, and 1.1-18 AP-42, Volume I, Fifth Edition, October, 1996. S indicates that the weight % of sulfur in the coal should be multiplied by the value given. VOM emission factor is based on the TNMOC emission factor.

Boiler Emissions (lb) = (Coal Consumed, ton)x (The Appropriate Emission Factor, lb/ton)

* As specified by manufacturer or vendor of the fly ash collectors or demonstrated in the most recent compliance test

7.9 Unit 6AP Distillate Fuel Oil/Natural Gas-Fired Boiler 6AP

7.9.1 Description

Boiler 6AP is utilized to provide process steam and heat to the source. This boiler uses distillate fuel oil and natural gas as the fuels. Emissions from the boiler are the byproducts of fuel combustion from either natural gas or distillate fuel oil.

7.9.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
6AP	Nebraska Boiler Co., Inc. Model NS-E-69 Fuel Oil/Natural Gas Fired Boiler (Boiler 6AP, 89 mmBtu/hr, Fuel Oil; 98.4 mmBtu/hr, Natural Gas)	None

7.9.3 Applicability Provisions and Applicable Regulations

- a. Boiler 6AP is an "affected boiler" for the purpose of these unit-specific conditions.
- b. The 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 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].
- d. 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].
- e. 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)].

7.9.4 Non-Applicability of Regulations of Concern

- a. The affected boiler is not subject to the New Source Performance Standard for Small-Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc, because construction, modification, or reconstruction of the affected boiler commenced prior to June 9, 1989
- b. The affected boiler is not subject to 35 IAC 217.121, emissions of nitrogen oxides from new fuel combustion emission sources, 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.

7.9.5 Operational and Production Limits and Work Practices

- a. The affected boiler shall only be fired with natural gas and distillate fuel oil as the fuels.
- b. 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 = $(0.000015) \times$
(Gross heating value of oil, Btu/lb).

7.9.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected boiler is subject to the following:

- a. Emissions and operation of Boiler 6AP shall not exceed the following limits:
 - i. Operation of this boiler burning natural gas shall be limited so atmospheric emissions do not exceed the amounts listed below:

Maximum Annual Emissions from Burning Natural Gas

Particulate Matter (PM)	2.51 ton/yr
Sulfur Dioxide (SO ₂)	0.20 ton/yr
Nitrogen Oxides (NO _x)	33.00 ton/yr
Volatile Organic Material (VOM)	1.82 ton/yr
Carbon Monoxide (CO)	27.72 ton/yr

- ii. Operation of this boiler burning fuel oil shall be limited so atmospheric emissions do not exceed the amounts listed below:

Maximum Annual Emissions from Burning Fuel Oil

Particulate Matter (PM)	0.56 ton/yr
Sulfur Dioxide (SO ₂)	11.10 ton/yr
Nitrogen Oxides (NO _x)	5.60 ton/yr
Volatile Organic Material (VOM)	0.06 ton/yr
Carbon Monoxide (CO)	1.40 ton/yr

- iii. Use of fuel oil shall not exceed 558,000 gallons per year.
- iv. Use of natural gas shall not exceed 660 million cubic feet per year.
- v. The above limitations contain revisions to previously issued Permit 81060075. 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 construction permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, the affected boiler has been

converted from burning residual fuel oil to distillate fuel oil and the limits on emissions from the burning natural gas have been adjusted based on revised AP-42 emission factors and an increase in allowable fuel usage from 123 million cubic feet per year to 660 million cubic feet per year. As a result the total permitted emissions of CO will increase by 26.76 tons/year, NO_x will increase by 14.60 tons/year, PM will be decreased by 1.33 tons/year, SO₂ will be decreased by 28.10 tons/year, and VOM will be increased by 1.38 tons/year. [T1R]

- 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).

7.9.7 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 7.9.3(b).

7.9.8 Monitoring Requirements

None

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 the affected boiler to demonstrate compliance with Conditions 5.5.1, 7.9.3, and 7.9.6 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 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.
- b. Natural gas fuel usage for the affected boiler, Mft³/mo and Mft³/yr;
- c. Distillate fuel oil usage for the affected boiler, gal/mo and gal/yr; and
- d. Monthly and annual aggregate CO, NO_x, PM, SO₂, and VOM emissions from the affected boiler shall be maintained, based on fuel consumption and the applicable emission factors, with supporting calculations.

7.9.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of the 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. Emissions of CO, NO_x, PM, SO₂, and/or VOM in excess of the limits specified in Condition 7.9.6.
- b. The use of distillate fuel oil with a sulfur content in excess of the limit specified in Condition 7.9.5(b) with the length of time this fuel was used and the effect on emissions of SO₂ within 30 days of this violation being detected.

7.9.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

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. Compliance with Conditions 7.9.3(c) and (d) is assumed by the work-practices inherent in operation of natural gas-fired and distillate oil-fired boiler.
- b. Compliance with Condition 7.9.3(e) is demonstrated by operation of the boiler with distillate fuel oil with a sulfur content meeting the specification of Condition 7.9.5(b).
- c. Compliance with the emission limits of Conditions 5.5.1 and 7.9.6 shall be based on the emission factors listed below:
 - i. To determine compliance with Conditions 5.5.1 and 7.9.6, emissions from the affected boiler burning natural gas shall be calculated based on the following emission factors:

<u>Pollutant</u>	Natural Gas Emission Factor (lb/Mft ³)
CO	84
NO _x	100
PM	7.6
SO ₂	0.6
VOM	5.5

These are the emission factors for uncontrolled natural gas combustion in small boilers (< 100 mmBtu/hr), Tables 1.4-1 and 1.4-2, AP-42, Volume I, Fifth Edition, Supplement D, March, 1998.

Boiler Emissions (lb) = (Natural Gas Consumed, Mft³) x (The Appropriate Emission Factor, lb/Mft³)

- ii. To determine compliance with Condition 5.5.1 and 7.9.6, emissions from the affected boiler burning distillate fuel oil shall be calculated based on the following emission factors:

<u>Pollutant</u>	Distillate Fuel Oil Emission Factor (lb/1,000 gal)
CO	5
NO _x	20
PM	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, October, 1996. S indicates that the weight % of 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/1,000 gal)

7.10 Unit 7AP Distillate Fuel Oil/Natural Gas-Fired Boiler 7AP

7.10.1 Description

Boiler 7AP is utilized to provide process steam and heat to the source. This boiler uses distillate fuel oil and natural gas as the fuels. Emissions from the boiler are the byproducts of fuel combustion from either natural gas or distillate fuel oil.

7.10.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
7AP	Nebraska Boiler Co., Inc. Model NS-F-65 Fuel Oil/Natural Gas Fired Boiler (Boiler 7AP, 92.9 mmBtu/hr, Fuel Oil; 97.1 mmBtu/hr, Natural Gas)	Low NO _x Burners

7.10.3 Applicability Provisions and Applicable Regulations

- a. Boiler 7AP is an "affected boiler" for the purpose of these unit-specific conditions.
- b. The 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 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 SO₂ 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)].

7.10.4 Non-Applicability of Regulations of Concern

- a. The affected boiler is not subject to 35 IAC 217.121, emissions of nitrogen oxides from new fuel combustion emission sources, because the actual heat input of 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.

7.10.5 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 boiler shall only be fired with natural gas and 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 = $(0.000015) \times$
 (Gross heating value of oil, Btu/lb).

7.10.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected boiler is subject to the following:

- a. Emissions and operation of Boiler 7AP shall not exceed the following limits:

<u>Fuel</u>				<u>Total Annual Usage</u> (³ mmBtu)			
Natural Gas				720,000			
#2 Fuel Oil				14,000			
				<u>Annual Emissions</u> (ton/yr)			
	<u>Emission Factor</u> (lb/mmBtu)						
	<u>PM</u>	<u>NO_x</u>	<u>SO₂</u>	<u>CO</u>	<u>PM</u>	<u>NO_x</u>	<u>SO₂</u>
	0.0076	0.1	0.0006	0.084	2.7	36	0.22
	0.014	0.165	0.28	0.036	0.1	1.15	1.99

Natural Gas = 1,000 Btu/scf
 #2 Fuel Oil = 140,000 Btu/gallon

- b. The above limitations contain revisions to previously issued permit 92010009. 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 construction permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, the permitted emissions of NO_x from the combustion of fuel oil has been increased from 1.0 to 1.15 tons/year, the permitted emissions of PM from the combustion of natural gas has been increased from 1.8 to 2.7 tons/year, and the permitted emissions of SO₂ from the combustion of fuel oil has been increased from 0.36 to 1.99 tons/year based on revisions to the emission factors for NO_x, PM, and SO₂. [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).

7.10.7 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 7.10.3(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 7.10.12(a) (see also 40 CFR 60.42c(h)(1)) where the owner or operator seeks to demonstrate compliance with the SO₂ standards based on fuel supplier certification, the performance test shall consist of the certification, the certification from the fuel

supplier, as described under Condition 7.10.9(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 7.10.3(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, or 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 7.10.7(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 7.10.3(b).

7.10.8 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 SO₂ emission limits under Condition 7.10.3(c)(i) (see also 40 CFR 60.42c) shall install, calibrate, maintain, and operate a CEMS for measuring SO₂ concentrations and either oxygen or carbon dioxide concentrations at the outlet of the SO₂ control device (or the outlet of the steam generating unit if no SO₂ 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 SO₂ control device (or outlet of the steam generating unit if no SO₂ control device is used) as required under Condition 7.10.8(a) (see also 40 CFR 60.46c(a)), an owner or operator may elect to determine the average SO₂ emission rate by sampling the fuel prior to combustion. As an alternative to operating a CEM at the outlet from the SO₂ control device (or outlet of the steam generating unit if no SO₂ control device is used) as required under Condition 7.10.8(a) (see also 40 CFR 60.46c(a)), an owner or operator may elect to determine the average SO₂ emission rate by using Method 6B. Fuel sampling shall be conducted pursuant to either Condition 7.10.8(b)(i) or (ii) (see also 40 CFR 60.46c(d)(1) or (d)(2)). Method 6B shall be conducted pursuant to Condition 7.10.8(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 to Method 19. Method 19 provides procedures for converting these measurements into the format to be used in calculating the average SO₂ 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 SO₂ at the inlet or outlet of the SO₂ 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 SO₂ 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 7.10.8(a) and (b) (see also 40 CFR 60.46c(a) and (d)) shall not apply to affected facilities subject to Condition 7.10.12(a) (see also 40 CFR 60.42c(h)(1)) where the owner or operator of the affected facility seeks to demonstrate compliance with the SO₂ standards based on fuel supplier certification, as described under Condition 7.10.9(b) (see also 40 CFR 60.48c(f)(1)) [40 CFR 60.46c(e)].

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 the affected boiler to demonstrate compliance with Conditions 5.5.1, 7.10.3, and 7.10.6 pursuant to Section 39.5(7)(b) of the Act:

- a. The owner or operator of each affected facility subject to the SO₂ emission limits or fuel oil sulfur limits under Condition 7.10.3(c)(i) (see also 40 CFR 60.42c) shall keep records of quarterly reports as required under Condition 7.10.10(b) (see also 40 CFR 60.48c(d)), including the following information, as applicable [40 CFR 60.48c(e)].
 - i. Calendar dates covered in the reporting period [40 CFR 60.48c(e)(1)].
 - ii. Each 30-day average SO₂ emission rate (ng/J or lb/mmBtu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period in the quarter; 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 SO₂ emission rate calculated during the reporting period, ending with the last 30-day period in the quarter; reasons for any noncompliance with the emission standards; and a description of corrective actions taken [40 CFR 60.48c(e)(3)].

- iv. Identification of any steam generating unit operating days for which SO₂ 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 as described under Condition 7.10.9(b) (see also 40 CFR 60.48c(f)(1)), as applicable. In addition to records of fuel supplier certifications, the quarterly 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 quarter [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 7.10.3(c) (see also 40 CFR 60.42c 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 Boiler 7AP, mmBtu/mo and mmBtu/yr;
- g. Distillate fuel oil usage for Boiler 7AP, mmBtu/mo and mmBtu/yr; and
- h. Monthly and annual aggregate CO, NO_x, PM, SO₂, and VOM emissions from the affected boiler shall be maintained, based on fuel consumption and the applicable emission factors, with supporting calculations.

7.10.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of the 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 SO₂ emission limits of Condition 7.10.3(c)(i) (see also 40 CFR 60.42c), or the PM or opacity limits of Condition 7.10.3(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 SO₂ emission limits, fuel oil sulfur limits, or percent reduction requirements under Condition 7.10.3(c)(i) (see also 40 CFR 60.42c) shall submit quarterly reports to the Illinois EPA and/or USEPA. The initial quarterly report shall be postmarked by the 30th day of the third month following the completion of the initial performance test. Each subsequently quarterly report shall be postmarked by the 30th day following the end of the reporting period [40 CFR 60.48c(d)].
- c. The owner or operator of each affected facility subject to the SO₂ emission limits or fuel oil sulfur limits under Condition 7.10.3(c)(i) (see also 40 CFR 60.42c) shall submit quarterly reports as required under Condition 7.10.10(b) (see also 60 CFR 60.48c(d)), including the following information, as applicable [40 CFR 60.48c(e)].
 - i. Calendar dates covered in the reporting period [40 CFR 60.48c(e)(1)].
 - ii. Each 30-day average SO₂ emission rate (ng/J or lb/mmBtu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period in the quarter; 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 SO₂ emission rate calculated during the reporting period, ending with the last 30-day period in the quarter; reasons for any noncompliance

with the emission standards; and a description of corrective actions taken [40 CFR 60.48c(e)(3)].

- iv. Identification of any steam generating unit operating days for which SO₂ or dilutant (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 as described under Condition 7.10.9(b) (see also 40 CFR 60.48c(f)(1)), as applicable. In addition to records of fuel supplier certifications, the quarterly 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 quarter [40 CFR 60.48c(e)(11)].
- d. 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 7.10.7(c) (see also 35 IAC 212.110) that will be used [35 IAC 212.110(d)].
- e. Emissions of CO, NO_x, PM, SO₂, and/or VOM in excess of the limits specified in Condition 7.10.6.

- f. The use of distillate fuel oil with a sulfur content in excess of the limit specified in Condition 7.10.5(c) with the length of time this fuel was used and the effect on emissions of SO₂ within 30 days of this violation being detected.

7.10.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

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. 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 7.10.3(c)(i) (see also 40 CFR 60.42c) may be determined based on a certification from the fuel supplier, as described under Condition 7.10.9(b) (see also 40 CFR 60.48c(f)(1)) [40 CFR 60.42c(h)(1)].
- b. Compliance with Conditions 7.10.3(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 7.10.3(f) is demonstrated by operation of the boiler with distillate fuel oil with a sulfur content meeting the specification of Condition 7.10.5(c).
- d. Compliance with the emission limits of Conditions 5.5.1 and 7.10.6 shall be based on the emission factors listed below:
 - i. To determine compliance with Conditions 5.5.1 and 7.10.6, emissions from the affected boiler burning natural gas shall be calculated based on the following emission factors:

A. Standard Emission Factors:

<u>Pollutant</u>	Natural Gas Emission Factor (lb/Mft ³)
CO	84
PM	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.

B. Vendor Supplied Emission Factor:

<u>Pollutant</u>	Natural Gas Emission Factor (lb/Mft ³)
NO _x	50

This is the emission factor for NO_x as supplied by the vendor of the affected boiler.

Boiler Emissions (lb) = (Natural Gas Consumed, Mft³) x (The Appropriate Emission Factor, lb/Mft³)

- ii. To determine compliance with Condition 5.5.1 and 7.10.6, emissions from the affected boilers burning distillate fuel oil shall be calculated based on the following emission factors:

A. Standard Emission Factors:

<u>Pollutant</u>	Distillate Fuel Oil Emission Factor (lb/1,000 gal)
CO	5
PM	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, October, 1996. S indicates that the weight % of sulfur in the oil should be multiplied by the value given.

B. Vendor Supplied Emission Factor:

<u>Pollutant</u>	<u>Distillate Fuel Oil Emission Factor (lb/1,000 gal)</u>
NO _x	23

This is the emission factor for NO_x as supplied by the vendor of the affected boiler.

Boiler Emissions (lb) = (Distillate Fuel Oil Consumed, gal)x (The Appropriate Emission Factor, lb/1000 gal)

7.11 Unit AP-7 Natural Gas Fired Rental Boiler

7.11.1 Description

This unit is a natural gas-fired boiler with a maximum heat input rate of 88 mmBtu/hr and is equipped with low NO_x burners. This boiler is intended to be a temporary boiler and is usually operated only if one of the four main boilers at the source becomes non-operational during the winter months. This boiler is rented on a short-term basis during the months of December through March.

7.11.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
AP-7	Nebraska Boiler Model No. NOS.2A.67 Natural Gas Fired Boiler (AP-7 Rental Boiler, 88 mmBtu/hr)	Low NO _x Burners

7.11.3 Applicability Provisions and Applicable Regulations

- a. The AP-7 Rental Boiler is an "affected boiler" for purposes of these unit-specific conditions.
- b. The 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].

7.11.4 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.

7.11.5 Operational and Production Limits and Work Practices

The affected boiler shall only be operated with natural gas as the fuel.

7.11.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected boiler is subject to the following:

- a. Emissions and operation of the AP-7 Rental Boiler shall not exceed the following limits:

<u>Firing Rate</u> (mmBtu/hr)	<u>Fuel Usage</u> (Mft ³ /yr)			
88	252			
<u>Pollutant</u>	<u>E M I S S I O N S</u> (lb/Mft ³)	<u>(lb/hr)</u>	<u>(T/yr)</u>	
CO	163.4	14.42	20.59	
NO _x	37.8	3.34	4.76	
PM	7.6	0.67	0.96	
SO ₂	0.6	0.06	0.08	
VOM	5.5	0.49	0.69	

These limits are based on vendor supplied emission factors for CO and NO_x, standard emission factors, the type of fuel(s), the maximum firing rate(s), and the maximum hours of operation.

- b. The above limitations contain revisions to previously issued Permit 97120046. 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 construction permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, the permitted emissions of CO has been increased from 7.69 to 20.69 tons/year and the permitted emissions of NO_x has been decrease from 10.46 to 4.76 tons/year based on utilizing the vendor supplied emission factor instead of the standard AP-42 emission factors. The permitted emissions of PM have been decreased from 1.77 to 0.96 tons/year and the permitted emissions of VOM have been increased from 0.36 tons/year to 0.69 tons/year based on revisions to the standard AP-42 emission factors. [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

None

7.11.8 Monitoring Requirements

None

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 the affected boiler to demonstrate compliance with Condition 5.5.1 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, Mft³/mo and Mft³/yr; and
- c. Records of the monthly and annual aggregate CO, NO_x, PM, SO₂, and VOM emissions from the affected boiler shall be maintained, based on fuel consumption and the applicable emission factors, with supporting calculations.

7.11.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of the 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:

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:

- a. 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)].
- b. 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)].

7.11.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

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. Compliance with Conditions 7.11.3(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 Condition 5.5.1, emissions from the affected boiler shall be calculated based on the following emission factors:

i. Standard Emission Factors:

<u>Pollutant</u>	<u>Emission Factor (lb/Mft³)</u>
PM	7.6
SO ₂	0.6
VOM	5.5

These are the emission factors for natural gas combustion, Table 1.4-2, AP-42, Volume I, Fifth Edition, Supplement D, March, 1998.

ii. Vendor Supplied Factors:

<u>Pollutant</u>	<u>Emission Factor (lb/Mft³)</u>
CO	163.4
NO _x	37.8

These are the emission factors for CO and NO_x as supplied by the vendor of the affected boiler.

Boiler Emissions (lb) = (Natural Gas Consumed, Mft³) x (The Appropriate Emission Factor, lb/Mft³)

- 7.12 Units C13A and C14 Natural Gas-Fired Chillers
 Controls 13A and C14 Chiller 13A Low NO_x Burner and Chiller 14
 Engine Catalytic Converter

7.12.1 Description

The source utilizes a natural gas-fired, engine driven centrifugal chiller and a natural gas direct fired chiller to produce chilled water for plant air conditioning and manufacturing.

7.12.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
C13A	York International Model YPC-FN-20G-46-C-s Natural Gas-Fired Chiller (Chiller 13A, 13.738 mmBtu/hr)	Low NO _x Burner
C14	Caterpillar, Inc. Model 3608SI Natural Gas-Fired Chiller (Chiller 14, 19 mmBtu/hr)	Chiller 14 Engine Catalytic Converter

7.12.3 Applicability Provisions and Applicable Regulations

- a. Chillers 13A and 14 are "affected chillers" for the purpose of these unit-specific conditions.
- b. Each affected chiller is subject to the emission limits identified in Condition 5.2.2.
- c. No person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission unit to exceed 2,000 ppm, [35 IAC 214.301].
- 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, 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].

7.12.4 Non-Applicability of Regulations of Concern

- a. The affected chillers are not subject to 35 IAC 216.121, emissions of carbon monoxide from fuel combustion emission units, because the affected chillers are not by definition fuel combustion emission units.

- b. The affected chillers 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 unit is less than 73.2 MW (250 mmBtu/hr) and the affected chillers are not by definition fuel combustion emission units.
- c. This permit is issued based on the affected chillers not being subject to 35 IAC 212.321 because due to the unique nature of this process, such rules cannot reasonably be applied.
- d. The affected chillers 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 PM₁₀, as identified in 35 IAC 212.324(a)(1).

7.12.5 Operational and Production Limits and Work Practices

- a. The affected chillers shall only be operated with natural gas as the fuel.
- b. The Permittee shall follow good operating practices for the Chiller 14 engine catalytic converter, including periodic inspection, routine maintenance and prompt repair of defects.

7.12.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected chillers are subject to the following:

- a. Chiller #13A:
 - i. Emissions and operation of Chiller No. 13A shall not exceed the following limits:

<u>Item of Equipment</u>	<u>Firing Rate (mmBtu/hr)</u>	<u>Operating Hours (Hours/yr)</u>
Chiller No. 13A	13.74	3,600

<u>Item of Equipment</u>	<u>E M I S S I O N S</u>		<u>Carbon Monoxide</u>	
	<u>Nitrogen Oxides (lb/hr)</u>	<u>(T/yr)</u>	<u>(lb/hr)</u>	<u>(T/yr)</u>
Chiller No. 13A	0.43	0.78	0.51	0.92

- ii. These limits are based on emission factors supplied by the vendor, the type of fuel(s), the maximum firing rate(s), and the maximum hours of operation.
- iii. The above limitations were established in Permit 96030236, 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. Chiller #14:

- i. Emissions and operation of equipment shall not exceed the following limits:

<u>Item of Equipment</u>	<u>Operating Hours</u> <u>(Hours/yr)</u>					
Chiller No. 14	5,208					
	E M I S S I O N S					
	NO _x		CO		VOM	
	<u>(lb/hr)</u>	<u>(T/yr)</u>	<u>(lb/hr)</u>	<u>(T/yr)</u>	<u>(lb/hr)</u>	<u>(T/yr)</u>
	4.68	12.19	1.72	4.48	3.74	9.75

- ii. These limits are based on the maximum hours of operation, the rated load, and emission rates determined by stack testing.
- iii. The above limitations were established in Permit 94120092, 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).

7.12.7 Testing Requirements

- a. Pursuant to 35 IAC 218.105(d)(1) and upon request by the Illinois EPA pursuant to 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 in Condition 7.12.7(b) (see also 35 IAC 218.105(f)).
- b. 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)].
 - i. 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)].
 - ii. 40 CFR Part 60, Appendix A, Method 1 or 1A shall be used for sample and velocity traverses [35 IAC 218.105(f)(2)].
 - iii. 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)].
 - iv. 40 CFR Part 60, Appendix A, Method 3 shall be used for gas analysis [35 IAC 218.105(f)(4)].
 - v. 40 CFR Part 60, Appendix A, Method 4 shall be used for stack gas moisture [35 IAC 218.105(f)(5)].
 - vi. 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)].

- vii. Use of an adaptation to any of the test methods specified in 7.12.7(b)(i), (ii), (iii), (iv), (v) and (vi) (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(b)(i), (ii), (iii), (iv), (v) and (vi) (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)].
- c. 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 this Part. 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

None

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 the affected chillers to demonstrate compliance with Conditions 5.5.1, 7.12.3, and 7.12.6 pursuant to Section 39.5(7)(b) of the Act:

- a. Records of the testing of the efficiency of the Chiller 14 engine catalytic converter 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.
- b. Records addressing use of good operating practices for the Chiller 14 engine catalytic converter:
- i. Records for periodic inspection of the Chiller 14 engine catalytic converter 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. Natural gas fuel consumption for each affected chiller, Mft³/mo, and Mft³/yr;
- d. The average heat content of natural gas on a monthly basis, Btu/scf; and
- e. Monthly and annual aggregate CO, NO_x, PM, SO₂, and VOM emissions from the affected chillers shall be maintained, based on the fuel usage of the affected chillers, the operating hours, and the applicable emission factors, with supporting calculations.

7.12.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of the affected chillers 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. Continued operation of Chiller #14 with a defect in the Chiller 14 engine catalytic converter that may result in emissions in excess of limits in Condition 7.12.3(d) and/or 7.12.6(c) within 30 days of such an occurrence.

- b. Emissions of NO_x, CO, and/or VOM in excess of the limits in Condition 7.12.6 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

N/A

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. Compliance with Conditions 7.12.3(b) and (c) is assumed by the work-practices inherent in operation of natural gas-fired units.
- b. Compliance with Condition 7.12.3(d) is assumed to be demonstrated by operation of the Chiller 14 engine catalytic converter as specified in Condition 7.12.5(a).
- c. Compliance with the emission limits of Conditions 5.5.1 and 7.12.6 shall be based on the emission factors and formulas listed below:
 - i. To determine compliance with Conditions 5.5.1 and 7.12.6, emissions from Chiller No 13A shall be calculated based on the following emission factors:

A. Standard Emission Factors:

<u>Pollutant</u>	<u>Emission Factor (lb/Mft³)</u>
PM	7.6
SO ₂	0.6

These are the emission factors for natural gas combustion, Table 1.4-2, AP-42, Volume I, Fifth Edition, Supplement D, March, 1998.

B. Vendor Supplied Factors:

<u>Pollutant</u>	<u>Emission Factor (lb/Mft³)</u>
CO	37
NO _x	31
VOM	25

These are the emission factors for CO, NO_x, and VOM as supplied by the vendor of the affected chiller.

Chiller Emissions (lb) = (Natural Gas Consumed, Mft³) x (The Appropriate Emission Factor, lb/Mft³)

ii. To determine compliance with Conditions 5.5.1 and 7.12.6, emissions from Chiller No. 14 shall be calculated based on the following emission factors and formulas listed below:

A. To determine compliance with Conditions 5.5.1 and 7.12.6(c), emissions of CO, NO_x, and VOM from Chiller No. 14 shall be calculated based on the following emission factors:

<u>Pollutant</u>	<u>Emission Factor (lb/mmBtu)</u>
CO	0.0917
NO _x	0.2496
VOM	0.1037

These are the controlled emission factors for CO, NO_x, and VOM (based on nonmethane emissions) which were determined from the most recent stack test.

Chiller Emissions (lb) = (Natural Gas Consumed, Mft³) x (Heat Content of Natural Gas, Btu/scf) x (1,000,000 scf/Mft³) x (1,000,000 Btu/1 mmBtu) x (The Appropriate Emission Factor, lb/mmBtu)

B. To determine compliance with Conditions 5.5.1 and 7.12.6(c), emissions of PM and SO₂ from Chiller No. 14 shall be calculated based on the following emission factors:

<u>Pollutant</u>	<u>Emission Factor</u> <u>(lb/Mft³)</u>
PM	10.0
SO ₂	0.6

These are the emission factors for uncontrolled natural gas reciprocating industrial engines (SCC #20200202), FIRE Version 5.0 Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants, August, 1995. PM emission factor is based on the PM₁₀ factor.

Chiller Emissions (lb) = (Natural Gas Consumed, Mft³) x (The Appropriate Emission Factor, lb/Mft³)

7.13 Unit AP50-2 Natural Gas-Fired Boiler (< 10 mmBtu/hr)

7.13.1 Description

Boiler AP50-2 is utilized to provide process steam and heat to the source. This unit has a maximum heat input rating of less than 10 mmBtu/hr. This boiler only uses natural gas as the fuel. Emissions from the boilers are the byproducts of fuel combustion from natural gas.

7.13.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
AP50-2	Weil McLain Model PG-988-WF-PF-LO-UL Natural Gas Fired Boiler (Boiler AP50-2, 2.71 mmBtu/hr)	None

7.13.3 Applicability Provisions and Applicable Regulations

- a. Boiler AP50-2 is an "affected boiler" for purposes of these unit-specific conditions.
- b. The affected boiler is subject to the emission limits identified in Condition 5.2.2.

7.13.4 Non-Applicability of Regulations of Concern

- a. The New Source Performance Standard 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 boiler has a maximum design heat input capacity of less than 2.9 MW (10 mmBtu/hr), therefore, this regulation does not apply.
- b. The affected boiler is not subject to 35 IAC 216.121, emissions of carbon monoxide from fuel combustion emission units, because the actual heat input of the affected boiler is less than 2.9 MW (10 mmBtu/hr).
- c. The affected boiler 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 boiler is less than 73.2 MW (250 mmBtu/hr).

- d. Pursuant to 35 IAC 218.303, fuel combustion emission units are not subject to 35 IAC 218.301, use of organic material.

7.13.5 Operational and Production Limits and Work Practices

The affected boiler shall only be operated with natural gas as the fuel.

7.13.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected boiler is subject to the following:

- a. Emissions and operation of Boiler AP50-2 shall not exceed the following limits:

<u>Item of Equipment</u>	<u>Firing Rate (mmBtu/hr)</u>	<u>Operating Hours (hours/yr)</u>
Boiler AP50-2	2.72	6,552

<u>Item of Equipment</u>	E M I S S I O N S			
	<u>NO_x (lb/hr)</u>	<u>(ton/yr)</u>	<u>CO (lb/hr)</u>	<u>(ton/yr)</u>
Boiler AP50-2	0.27	0.87	0.22	0.71

- b. These limits are based on standard emission factors, the type of fuel(s), the maximum firing rate(s), and the maximum hours of operation.
- c. The above limitations contain revisions to previously issued Permit 95100145. 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 construction permit and the

information in the CAAPP application contains the most current and accurate information for the source. Specifically, the permitted emissions of CO have been increased from 0.44 ton/yr to 0.71 ton/yr based on a revision to the standard AP-42 emission factor.[T1R]

7.13.7 Testing Requirements

None

7.13.8 Monitoring Requirements

None

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 the affected boiler to demonstrate compliance with Condition 5.5.1 pursuant to Section 39.5(7)(b) of the Act:

- a. Records of the fuel usage for the affected boiler, Mft³/mo and Mft³/yr; and
- b. Records of the monthly and annual aggregate CO, NO_x, PM, SO₂, and VOM emissions from the affected boilers shall be maintained, based on fuel consumption and the applicable emission factors, with supporting calculations.

7.13.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of the affected boilers 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:

Emissions of NO_x and/or CO in excess of the limit specified in Condition 7.13.6 within 30 days of such an occurrence.

7.13.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

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:

To determine compliance with Condition 5.5.1, emissions from the affected boilers shall be calculated based on the following emission factors:

<u>Pollutant</u>	<u>Emission Factor</u> <u>(lb/Mft³)</u>
CO	84
NO _x	100
PM	7.6
SO ₂	0.6
VOM	5.5

These are the emission factors for uncontrolled natural gas combustion in small boilers (< 100 mmBtu/hr), Tables 1.4-1 and 1.4-2, AP-42, Volume I, Fifth Edition, Supplement D, March, 1998.

Boiler Emissions (lb) = (Natural Gas Consumed, Mft³) x
(The Appropriate Emission Factor, lb/Mft³)

7.14 Units AP52-1, AP52-2 and AP52-3 Natural Gas-Fired Boilers
(> 10 mmBtu/hr)

7.14.1 Description

These boilers are utilized to provide process steam and heat to the source. These boilers only use natural gas as the fuel. Emissions from the boilers are the byproducts of fuel combustion from natural gas. These units have maximum heat input ratings of less than 100 mmBtu/hr.

7.14.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
AP52-1	Burnham Model 3P-350-50LB Natural Gas Fired Boiler (Boiler AP52-1, 14.6 mmBtu/hr)	None
AP52-2	Burnham Model 3P-350-50LB Natural Gas Fired Boiler (Boiler AP52-2, 14.6 mmBtu/hr)	None
AP52-3	Burnham Model 3P-350-50LB Natural Gas Fired Boiler (Boiler AP52-3, 14.6 mmBtu/hr)	None

7.14.3 Applicability Provisions and Applicable Regulations

- a. Boilers AP52-1, AP52-2, and AP52-3 are "affected boilers" for purposes 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 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].

7.14.4 Non-Applicability of Regulations of Concern

- a. The New Source Performance Standard for Small-Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc, applies to units constructed, modified, or reconstructed after June 9, 1989. The affected boilers were constructed in 1981 and 1987, 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 each of these affected boilers 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.

7.14.5 Operational and Production Limits and Work Practices

The affected boilers shall only be operated with natural gas as the fuel.

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

None

7.14.8 Monitoring Requirements

None

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 the affected boilers to demonstrate compliance with Condition 5.5.1 pursuant to Section 39.5(7)(b) of the Act:

- a. Records of the fuel usage for the affected boilers, Mft³/mo and Mft³/yr; and
- b. Records of the monthly and annual aggregate NO_x, PM, SO₂, and VOM emissions from the affected boilers shall be maintained, based on fuel consumption and the applicable emission factors, with supporting calculations.

7.14.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of the 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:

N/A

7.14.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

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. Compliance with Conditions 7.14.3(b) and (c) is assured by the work-practices inherent in operation of natural gas-fired boilers, so that no compliance procedures are set in this permit addressing this regulation.
- b. To determine compliance with Condition 5.5.1, emissions from the affected boiler shall be calculated based on the following emission factors:

<u>Pollutant</u>	<u>Emission Factor</u> <u>(lb/Mft³)</u>
NO _x	100
PM	7.6
SO ₂	0.6
VOM	5.5

These are the emission factors for uncontrolled natural gas combustion in small boilers (< 100 mmBtu/hr), Tables 1.4-1 and 1.4-2, AP-42, Volume I, Fifth Edition, Supplement D, March, 1998.

$$\text{Boiler Emissions (lb)} = (\text{Natural Gas Consumed, Mft}^3) \times (\text{The Appropriate Emission Factor, lb/Mft}^3)$$

7.15 Unit AP52-6 Natural Gas-Fired Boiler (> 10 mmBtu/hr)

7.15.1 Description

This boiler is utilized to provide process steam and heat to the source. This boiler only uses natural gas as the fuel. Emissions from the boilers are the byproducts of fuel combustion from natural gas. This unit has a maximum heat input rating of less than 100 mmBtu/hr.

7.15.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
AP52-6	Hurst Boiler Model No. S4-X-350-150 Natural Gas Fired Boiler (Boiler AP52-6, 14.7 mmBtu/hr)	None

7.15.3 Applicability Provisions and Applicable Regulations

- a. Boiler AP52-6 is an "affected boiler" for purposes of these unit-specific conditions.
- b. The 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].

7.15.4 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.

7.15.5 Operational and Production Limits and Work Practices

The affected boiler shall only be operated with natural gas as the fuel.

7.15.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected boiler is subject to the following:

- a. Emissions and operation of Boiler AP52-6 shall not exceed the following limits:

<u>Item of Equipment</u>	<u>Firing Rate (mmBtu/hr)</u>	<u>Operating Hours (hr/yr)</u>
Boiler AP52-6	14.645	8,400

<u>Item of Equipment</u>	E M I S S I O N S					
	<u>NO_x (lb/hr)</u>	<u>(T/yr)</u>	<u>CO (lb/hr)</u>	<u>(T/yr)</u>	<u>PM (lb/hr)</u>	<u>(T/yr)</u>
Boiler AP52-6	1.42	5.95	1.19	5.00	0.11	0.45

These limits are based on standard emission factors, the type of fuel(s), the maximum firing rate(s), and the maximum hours of operation.

- 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).
- c. The above limitations contain revisions to previously issued Permit 97030070. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this 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 construction permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, the limit for NO_x was decreased from 8.45 ton/yr to 5.95 ton/yr, the limit for CO was increased from 2.12 ton/yr to 5.00 ton/yr, and the limit for PM was decreased from 0.85 ton/yr to 0.45 ton/yr based on changes in the standard AP-42 emission factors.[T1R]

7.15.7 Testing Requirements

None

7.15.8 Monitoring Requirements

None

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 the affected boiler to demonstrate compliance with Condition 5.5.1 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, Mft³/mo and Mft³/yr; and
- c. Records of the monthly and annual aggregate CO, NO_x, PM, SO₂, and VOM emissions from the affected boiler shall be maintained, based on fuel consumption and the applicable emission factors, with supporting calculations.

7.15.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of the 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:

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:

- a. 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)].
- b. 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)].

7.15.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

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. Compliance with Conditions 7.15.3(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 Condition 5.5.1, emissions from the affected boiler shall be calculated based on the following emission factors:

<u>Pollutant</u>	<u>Emission Factor</u> <u>(lb/Mft³)</u>
CO	84
NO _x	100
PM	7.6
SO ₂	0.6
VOM	5.5

These are the emission factors for uncontrolled natural gas combustion in small boilers (< 100 mmBtu/hr), Tables 1.4-1 and 1.4-2, AP-42, Volume I, Fifth Edition, Supplement D, March, 1998.

Boiler Emissions (lb) = (Natural Gas Consumed, Mft³) x
(The Appropriate Emission Factor, lb/Mft³)

7.16 Unit AP14C Diesel-Fired Emergency Generator

7.16.1 Description

The source uses a diesel-fired emergency generator to supply electricity to the plant during emergency purposes when the facility experiences a loss of electrical service from the public utility company.

7.16.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
AP14C	Caterpillar Model #3516/E275 Diesel-Fired Generator (Emergency Diesel Generator AP14C)	None

7.16.3 Applicable Regulations

- a. The Emergency Diesel Generator is an "affected diesel generator" for the purpose of these unit-specific conditions.
- b. The affected diesel generator is subject to the emission limits identified in Condition 5.2.2.
- c. Pursuant to 35 IAC 214.122(b)(2) and 214.304, no person shall cause or allow the emission of sulfur dioxide into the atmosphere in any one hour period from the burning of fuel at process emission units located in the Chicago major metropolitan area 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 input when distillate fuel oil is burned (0.3 lb/mmBtu).
- 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].

7.16.4 Non-Applicability of Regulations of Concern

- a. The affected diesel generator is not subject to 35 IAC 216.121, emissions of carbon monoxide from fuel combustion emission units, because the affected diesel generator is not by definition a fuel combustion emission unit.
- b. The affected diesel generator is not subject to 35 IAC 217.121, emissions of nitrogen oxides from new fuel combustion emission sources in major metropolitan areas, because the actual heat input of this unit is less than 73.2 MW (250 mmBtu/hr) and the affected diesel generator is not by definition a fuel combustion emission unit.
- c. This permit is issued based on the affected diesel generator not being subject to 35 IAC 212.321 because due to the unique nature of this process, such rules cannot reasonably be applied.
- d. The affected diesel generator 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 PM₁₀, as identified in 35 IAC 212.324(a)(1).

7.16.5 Operational and Production Limits and Work Practices

- a. The affected diesel generator shall only be operated with distillate fuel oil as the fuel.
- b. Distillate fuel oil (Grades No. 1 and 2) with a sulfur content greater than the larger of the following two values shall not be used in the affected diesel generator:
 - i. 0.28 weight percent, or
 - ii. The weight percent given by the formula:
maximum weight percent sulfur = $(0.000015) \times$
(Gross heating value of oil, Btu/lb).

7.16.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected diesel generator is subject to the following:

- a. Emissions of air contaminants from the Diesel Generator shall not exceed the amounts specified in the Table below:

<u>Emission Unit</u>	<u>Annual Emissions (ton/yr)</u>		
	<u>SO₂</u>	<u>NO_x</u>	<u>CO</u>
Diesel Generator	0.4	1.6	0.3

- b. These limits are based on emission rates calculated using standard emission factors and firing 5,250 gallons of fuel oil.
- c. The above limitations contain revisions to previously issued Permit 85040037. 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 construction permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, the permitted emissions in NO_x have been increased from 1.3 tons/year to 1.6 tons/year based on the use of an updated emission factor.[T1R]

7.16.7 Testing Requirements

None

7.16.8 Monitoring Requirements

None

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 the affected diesel generator to demonstrate compliance with Conditions 5.5.1, 7.16.3, and 7.16.6, pursuant to Section 39.5(7)(b) of the Act:

- a. Distillate fuel oil usage for the affected diesel generator, gal/mo and gal/yr;

- b. The sulfur content of the distillate fuel oil used in the affected diesel generator (% by Wt), this shall be recorded for each shipment of oil delivered to the source; and
- c. Monthly and annual aggregate CO, NO_x, PM, SO₂, and VOM emissions from the affected diesel generator shall be maintained, based on type of fuel used, fuel consumption and the applicable emission factors, with supporting calculations.

7.16.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of the affected diesel generator 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 use of distillate fuel oil with a sulfur content in excess of the limit specified in Condition 7.16.5(b) with the length of time this fuel was used and the effect on emissions of SO₂ within 30 days of this violation being detected.
- b. Emissions of CO, NO_x, and/or SO₂ in excess of the limits specified in Condition 7.16.6 within 30 days of such an occurrence.

7.16.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

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. Compliance with Conditions 7.16.3(b), (d), and (e) is assured by the work-practices inherent in operation of the affected diesel generator.
- b. Compliance with Condition 7.16.3(c) is demonstrated by operation of the affected diesel generator with distillate fuel oil with a sulfur content meeting the specification of Condition 7.16.5(b).

- c. To determine compliance with Conditions 5.5.1 and 7.16.6, emissions from the affected diesel generator shall be calculated based on the following emission factors:

<u>Pollutant</u>	<u>Emission Factor (lb/1,000 Gal)</u>
CO	130.0
NO _x	604.0
PM	42.5
SO ₂	39.7
VOM	49.3

These are the emission factors for Distillate Oil (Diesel) Industrial Internal Combustion Engines (SCC #20200102), FIRE Version 6.21 Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants, April, 1999. VOM emission factor based on the TOC emission factor

Diesel Generator Emissions (lb) = (Distillate Fuel Oil Consumed, gal) x (The Appropriate Emission Factor, lb/1,000 gal)

7.17 Units AP-8B ADD Organics Manufacturing Fume Hoods

7.17.1 Description

The operations in Building AP-8B are bench scale manufacturing, a few liters or kilograms at a time, of diagnostic solutions or diagnostic test packages. Emissions from these operations are vented through laboratory hood exhaust systems. This bench-scale equipment consists glassware and a wide variety of analytical or purification devices typically used in a research and development or analytical laboratory setting. Equipment use is highly variable, depending upon the particular type of diagnostic material being manufactured.

7.17.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
AP-8B	9 Bench Scale Chemical Fume Hoods (ADD Organics Manufacturing Fume Hoods)	None

7.17.3 Applicability Provisions and Applicable Regulations

- a. The ADD Organics Manufacturing Fume Hoods are "affected fume hoods" for the purpose of these unit-specific conditions.
- b. Each affected fume hood is subject to the emission limits identified in Condition 5.2.2.
- c. The affected fume hoods 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 which, either alone or in combination with the emission of particulate matter from all other similar process emission unit 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. Because the expected process weight rate for each affected pharmaceutical product manufacturing unit is less than 100 pounds per hour, the allowable PM emission rate for each

affected pharmaceutical product manufacturing unit set by 35 IAC 212.321 is 0.55 pounds per hour.

- 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].

7.17.4 Non-Applicability of Regulations of Concern

- a. The affected fume hoods are 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 fume hoods are not subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subpart GGG because the products produced in the affected fume hoods are not described by the Standard Industrial Classification (SIC) codes 2833 or 2834.
- c. The affected fume hoods are not subject to the control requirements of 35 IAC 218 Subpart T, because the affected fume hoods do not meet the following applicability criteria:
 - i. The rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission unit of VOM, including but not limited to reactors, distillation unit, 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) [35 IAC 218.480(a)].

- ii. Pursuant to 35 IAC 218.480(b), notwithstanding Condition 7.17.4(c)(i) (see also 35 IAC 218.480(a)) the air suspension coater/dryer, fluid bed dryers, tunnel dryers, and Accelacotas located in Libertyville Township, Lake County, Illinois shall be exempt from the rules of 35 IAC 218 Subpart T, except for 35 IAC 218.483 through 218.485, if emissions of VOM not vented to air pollution control equipment do not exceed the following levels:
 - A. For the air suspension coater/dryer: 2,268 kg/year (2.5 tons/year) [35 IAC 218.480(b)(1)];
 - B. For each fluid bed dryer: 4,535 kg/year (5.0 tons/year) [35 IAC 218.480(b)(2)];
 - C. For each tunnel dryer: 6,803 kg/year (7.5 tons/year) [35 IAC 218.480(b)(3)]; and
 - D. For each Accelacota: 6,803 kg/year (7.5 tons/year) [35 IAC 218.480(b)(4)].
- d. The affected fume hoods 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.
- e. The affected fume hoods 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 PM₁₀, 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].

7.17.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected fume hoods are subject to the following:

- a. This permit is issued based upon the minimal hourly emission rate from the exhaust hood systems and negligible annual emissions (less than 0.1 ton/year) of particulate matter.
- b. The above limitations were established in Permit 83120046, 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]

7.17.7 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 7.17.4(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 o 35 IAC 218.105(f)(1) [35 IAC 218.487].

7.17.8 Monitoring Requirements

None

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 fume hoods to demonstrate compliance with Conditions 5.5.1, 7.17.3, and 7.17.5, pursuant to Section 39.5(7)(b) of the Act:

- a. Records of the testing 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.

- b. 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)].

- c. Pursuant to 35 IAC 218.489(c), the following records shall be kept for emission unit 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)].
- 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 35 IAC 218.480(a) or 218.480(b), 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) or 218.480(b), as appropriate, 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) or 218.480(b), as appropriate, 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. Types and quantities of raw materials used in equipment using the affected fume hoods, lb/batch, lb/mo, and ton/yr;
- g. Types and quantities of products produced in equipment using the affected fume hoods, lb/batch, lb/mo, and ton/yr;
- h. Types and quantities of material recovered in equipment using the affected fume hoods, lb/batch, lb/mo, and ton/yr;
- i. The number of batches begun in equipment using the affected fume hoods;
- j. The operating schedule of the affected fume hoods; and

- k. The aggregate monthly and annual VOM emissions from the affected fume hoods based on the material and solvent usage and air pollution control equipment efficiencies, with supporting calculations.

7.17.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected fume hood 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 35 IAC 218.480(a) or 218.480(b), 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) or 218.480(b), as appropriate [35 IAC 218.489(d)(3)].

7.17.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

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 (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 (see also 35 IAC 218.487)) [35 IAC 218.480(h)].

- b. Compliance with Conditions 7.17.3(b) and (c) is assumed by the work-practices inherent in operation of the affected fume hoods.
- c. To determine compliance with Conditions 5.5.1, and 7.17.3(d), VOM emissions from the affected fume hoods shall be calculated based on the following emission factor:

<u>Emission Unit/Activity</u>	<u>Emission Factor (lb/100 lb Product)</u>
Exhaust Systems	0.006

This is the emission factor for Pharmaceutical Preparation Exhaust Systems (SCC 30106008), AIRS Facility Subsystem Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants, March, 1990.

Fume Hood Emissions (lb) = (Product Produced, lb) x (1 lb/100 lb) x (The Appropriate Emission Factor, lb/100 lb of Product)

7.18 Unit AP32 AP32 Solutions Formulation Tanks

7.18.1 Description

Abbott's Diagnostics Division uses the source's building AP32 for diagnostic solutions manufacturing. Diagnostic reagents are formulated, batched, and filled during a three shift operation. The reagents are used in diagnostic assay kits for the detection of infectious diseases, cancer, therapeutic drug levels, and abused drugs. Liquid and solid chemical and biological materials are used to formulate buffers, conjugates, dilutents, and other biological media in batch sizes ranging from 1 to 10,000 liters. A general exhaust system for solutions in tanks. The formulated solutions are dispensed into bottles in eight filling lines. The bottles are labeled and packaged in another building.

Particulate matter emissions are typically generated during solids loading into the formulation tanks. Solids consist of crystals or powders and are loaded manually from fiber drums, bags, or other similar types of containers. Loading is typically performed through tank manways.

Volatile organic materials are used in small quantities in the Solutions Manufacturing Area. The diagnostic solutions manufactured in this area are typically aqueous. When desired in a particular diagnostic solution, solvents containing VOM may be added in pre-measured quantities to the solutions formulation. VOM solvent addition to a diagnostic solution is usually never more than 100 liters per batch. To maintain quality control standards, VOM solvents are typically measured into containers in the volumes required by the specific diagnostic solutions recipe. These containers remain sealed until it is time to manually add the solvent to the solutions tank. Solvent addition to the diagnostic solutions typically occurs after the solutions tank has been filled with the aqueous portion of the solution recipe. The volatilization of VOM solvents used in the Solutions Manufacturing Area operations are minimized by (1) small quantities of VOM used in each batch, (2) the VOM solvent transport and handling in closed containers, (3) the solvent addition to solutions in tanks typically occurring after the tank has been charged with the aqueous portion of the solution, such that dilution lowers the volatility of the VOM solvent, and (4) minimal air movement in the tank or room (no nitrogen sweeps are employed).

7.18.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Q3258	255 Liter Mixing Tank (AP32 Solutions Tank Q3258)	None
Q3259	1,050 Liter Mixing Tank (AP32 Solutions Tank Q3259)	None
Q3260	1,050 Liter Mixing Tank (AP32 Solutions Tank Q3260)	None
Q2790	450 Liter Mixing Tank (AP32 Solutions Tank Q2790)	None
Q2739	500 Liter Mixing Tank (AP32 Solutions Tank Q2739)	None
Q3252	1,000 Liter Mixing Tank (AP32 Solutions Tank Q3252)	None
Q3253	1,000 Liter Mixing Tank (AP32 Solutions Tank Q3253)	None
Q3254	1,000 Liter Mixing Tank (AP32 Solutions Tank Q3254)	None
Q3255	1,000 Liter Mixing Tank (AP32 Solutions Tank Q3255)	None
Q3256	2,000 Liter Mixing Tank (AP32 Solutions Tank Q3256)	None
Q3257	2,000 Liter Mixing Tank (AP32 Solutions Tank Q3257)	None
Q3135	5,000 Liter Mixing Tank (AP32 Solutions Tank Q3135)	None
Q3169	10,000 Liter Mixing Tank (AP32 Solutions Tank Q3169)	None
Q3177	10,000 Liter Mixing Tank (AP32 Solutions Tank Q3177)	None
Q3830	14,000 Liter Mixing Tank (AP32 Solutions Tank Q3830)	None
Q3839	1,000 Liter Mixing Tank (AP32 Solutions Tank Q3839)	None
LC914345	5,000 Liter Mixing Tank (AP32 Solutions Tank LC914345)	None

7.18.3 Applicability Provisions and Applicable Regulations

- a. The AP32 Solutions Formulation Tanks are "affected mixing tanks" for the purpose of these unit-specific conditions.
- b. The affected mixing tanks are subject to the emission limits identified in Condition 5.2.2.

- c. The affected mixing tanks 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 which, either alone or in combination with the emission of particulate matter from all other similar process emission unit 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. Because the expected process weight rate for the affected mixing tanks is 1,000 pounds per hour, combined, the allowable PM emission rate for the affected mixing tanks set by 35 IAC 212.321 is 1.75 pounds per hour, combined.
- 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].

7.18.4 Non-Applicability of Regulations of Concern

- a. The affected mixing tanks are not subject to the NESHAP for Pharmaceuticals Production, 40 CFR 63 Subpart GGG because the products produced in the affected mixing tanks are not described by the Standard Industrial Classification (SIC) codes 2833 or 2834.
- b. The affected mixing tanks are not subject to the control requirements of 35 IAC 218 Subpart T, because the affected mixing tanks do not meet the following applicability criteria:
 - i. The rules of 35 IAC 218 Subpart T, Pharmaceutical Manufacturing, except for 35 IAC 218.483 through 218.485, apply to all emission unit of VOM, including but not limited to reactors, distillation unit, 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) [35 IAC 218.480(a)].

- ii. Pursuant to 35 IAC 218.480(b), notwithstanding Condition 7.18.4(b)(i) (see also 35 IAC 218.480(a)) the air suspension coater/dryer, fluid bed dryers, tunnel dryers, and Accelacotas located in Libertyville Township, Lake County, Illinois shall be exempt from the rules of 35 IAC 218 Subpart T, except for 35 IAC 218.483 through 218.485, if emissions of VOM not vented to air pollution control equipment do not exceed the following levels:
 - A. For the air suspension coater/dryer: 2,268 kg/year (2.5 tons/year) [35 IAC 218.480(b)(1)];
 - B. For each fluid bed dryer: 4,535 kg/year (5.0 tons/year) [35 IAC 218.480(b)(2)];
 - C. For each tunnel dryer: 6,803 kg/year (7.5 tons/year) [35 IAC 218.480(b)(3)]; and
 - D. For each Accelacota: 6,803 kg/year (7.5 tons/year) [35 IAC 218.480(b)(4)].
- c. The affected mixing tanks 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 mixing 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 PM₁₀, 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].

7.18.6 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.

7.18.7 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 7.18.4(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].

7.18.8 Monitoring Requirements

None

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 mixing tank to demonstrate compliance with Conditions 5.5.1, 7.18.3, and 7.18.5, pursuant to Section 39.5(7)(b) of the Act:

- a. Records of the testing 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.
- b. 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)].
- c. Pursuant to 35 IAC 218.489(c), the following records shall be kept for emission unit 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)].

- 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 35 IAC 218.480(a) or 218.480(b), 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) or 218.480(b), as appropriate, 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) or 218.480(b), as appropriate, 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. Types and quantities of raw materials used in the affected mixing tanks, lb/batch, lb/mo, and ton/yr;
- g. Types and quantities of products produced in the affected mixing tanks, lb/batch, lb/mo, and ton/yr;
- h. Types and quantities of material recovered from the affected mixing tanks, lb/batch, lb/mo, and ton/yr;
- i. The number of batches begun in the affected mixing tanks;
- j. The operating schedule of the affected mixing tanks or number of hours the affected mixing tanks units have been operated; and
- k. The aggregate monthly and annual VOM emissions from the affected mixing tanks based on the material and solvent usage and air pollution control equipment efficiencies, with supporting calculations.

7.18.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected mixing 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 35 IAC 218.480(a) or 218.480(b), 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) or 218.480(b), as appropriate [35 IAC 218.489(d)(3)].

7.18.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

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 (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 (see also 35 IAC 218.487)) [35 IAC 218.480(h)].

b. To determine compliance with Conditions 5.5.1, 7.18.3(c), and 7.18.3(d), PM and VOM emissions from the affected mixing tanks shall be calculated based on the following:

i. Particulate Matter Emissions:

PM Emissions (lb) = (Raw Material Usage, lb) x
(1 Ton/2,000 lb) x (0.029 lb/Ton Raw
Materials)

ii. Volatile Organic Material Emissions:

VOM Emissions (lb) = (VOM Solvent Usage, lb) x
(1 Ton/2,000 lb) x (0.0025 Ton/Ton VOM
Solvent) x (2,000 lb/Ton)

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 June 4, 1999 (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 without applying for or obtaining an amendment to this permit, provided that the changes do not constitute a modification under Title I of the CAA,

emissions will not exceed the emissions allowed under this permit following implementation of the physical or operational change and 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 [Section 39.5(12)(a) of the Act]. This notice shall:

- a. Describe the physical or operational change;
- b. Identify the schedule for implementing the physical or operational change;
- c. 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;
- d. Provide emission calculations which demonstrate that the physical or operational change will not result in a modification; and
- e. 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

A report summarizing required monitoring 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]:

<u>Monitoring Period</u>	<u>Report Due Date</u>
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 (MC 40)
Bureau of Air
Compliance Section
P.O. Box 19276
Springfield, Illinois 62794-9276

- ii. Illinois EPA - Air Regional Field Office

Illinois Environmental Protection Agency
Division of Air Pollution Control
Eisenhower Tower
1701 First Avenue
Maywood, Illinois 60153

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)(p)(ii) of the Act]:

- 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; 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.

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 compliance certifications annually or more frequently as specified in the applicable requirement or by permit condition.

- 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):

	<u>Metric</u>	<u>English</u>
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):

	<u>Metric</u>	<u>English</u>
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 19, 1972 [35 IAC 212.321(c)]:

<u>Metric</u>		<u>English</u>	
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	7.1	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):

	<u>Metric</u>	<u>English</u>
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):

	<u>Metric</u>	<u>English</u>
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)]:

<u>Metric</u>		<u>English</u>	
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

Table 1Contemporaneous VOM Increases

<u>Emission Unit</u>	<u>Permit</u>	<u>VOM (ton/year)*</u>
PVC Sheet Extruder and Fluid Bed Combustor	93010035	0.88
Building AP-3 Safety Lab Cabinets with HEPA Filter	93050111	0.44
Building AP-24	93070041	0.04
1200 Liter Gral Masser #2	94050127	2.50
Chiller #14	94120092	6.29
Semi-Solid Capsule Manufacturing	95050226	0.44
Building AP-32 Solutions Formulation Tanks	96010117	0.32
Building AP-52 PPD R&D Labs	97050033	<u>2.90</u>
		13.81

Table 2Contemporaneous VOM Decreases

<u>Emission Unit</u>	<u>Permit</u>	<u>VOM (ton/year)**</u>
Granulation Step of the Manufacture of Biaxin Tablets with Solvent Containing VOM	81100039	23.21

Table 3Net VOM Emission Increase

	<u>VOM (ton/year)</u>
AP-16A Expansion Project (Special Condition No. 2 of Construction Permit 97100076)	+17.50
Contemporaneous Increases	+13.81
Contemporaneous Decreases	<u>-23.21</u>
	+ 8.10

* Maximum emissions allowed by permit.

** Based upon the actual VOM emissions from Biaxin Tablet manufacturing averaged over two years (December, 1995 - November, 1997).

10.4 Attachment 4 - 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:jar