

217/782-2113

"REVISED"  
CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT

PERMITTEE:

Abbott Laboratories  
Attn: Robert C. Wells, Air Manager  
100 Abbott Park Road  
Abbott Park, Illinois 60064-3500

I.D. No.: 097809AAD  
Application No.: 96010010

Date Received: December 8, 2003  
Date Issued: September 26, 2007  
Expiration Date<sup>1</sup>: September 26, 2012

Operation of: Pharmaceutical Preparations Manufacturing  
Source Location: 100 Abbott Park Road, Abbott Park, Lake County, 60064  
Responsible Official: Robert D. Morrison, Div. Vice President, Global

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: May 25, 2010  
Revision Date Issued:  
Purpose of Revision: Significant Modification

This Permit has been revised to reflect operation of two boilers and two water heaters (addressed in Section 7.14); removal of boiler K8-1 from Section 7.9; and increase of allowable emissions for fees in Condition 5.6.1.

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

Edwin C. Bakowski, P.E.  
Manager, Permit Section  
Division of Air Pollution Control

ECB:AB:jws

cc: Illinois EPA, FOS, Region 1  
CES  
Lotus Notes

<sup>1</sup> Except as provided in Conditions 1.5 and 8.7 of this permit.

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1.0 INTRODUCTION

1.1 Source Identification

Abbott Laboratories  
100 Abbott Park Road  
Abbott Park, Illinois 60064-3500  
847/935-0440

I.D. No.: 097809AAD

County: Lake

Standard Industrial Classification: 2834, Pharmaceutical Preparations  
2835, In Vitro and In Vivo  
Diagnostic Substances  
3826, Analytical Instruments  
8731, Commercial Physical and  
Biological Research

1.2 Owner/Parent Company

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

1.3 Operator

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

Robert C. Wells, Air Manager  
847-935-0440

1.4 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. This permit addresses operations at the Abbott Park Facility and the K-Complex Facility. The K-Complex Facility is located at the corner of U. S. Highway 41 and Martin Luther King Drive in North Chicago and is contiguous to the Abbott Park Facility.

The source conducts manufacturing and packaging of solid dosage form pharmaceuticals (tablets, capsules, and granules), preparation and filling of bulk solutions for diagnostic kit reagents, final packaging and distribution of diagnostic kits, and research and development activities from bench-scale through small pilot plant processes. In addition, manufacturing support services are provided, including boilers, chillers, emergency generators, and other support operations.

Note: This narrative description is for informational purposes only and is not enforceable.

1.5 Title I Conditions

As generally identified below, this CAAPP permit contains certain conditions for emission units at this source that address the applicability of permitting programs for the construction and modification of sources, which programs were established pursuant to Title I of the Clean Air Act (CAA) and regulations thereunder. These programs include PSD MSSCAM, and are implemented by the Illinois EPA pursuant to Sections 9, 9.1, 39(a) and 39.5(7)(a) of the Illinois Environmental Protection Act (Act). These conditions continue in effect, notwithstanding the expiration date specified on the first page of this permit, as their authority derives from Titles I and V of the CAA, as well as Titles II and X of the Act. (See also Condition 8.7.)

- a. This permit contains Title I conditions that reflect Title I requirements established in permits previously issued for this source, which conditions are specifically designated as "T1."
- b. This permit contains Title I conditions that revise Title I requirements established in permits previously issued for this source, which conditions are specifically designated as "T1R."

2.0 LIST OF ABBREVIATIONS AND ACRONYMS COMMONLY USED

ACMA	Alternative Compliance Market Account
Act	Illinois 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 Pollutant 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 27711
APTI	Air Pollution Training Institute
ATU	Allotment Trading Unit
BACT	Best Available Control Technology
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
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
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	Emissions 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 Pollutant
HCl	Hydrogen Chloride or Hydrochloric Acid
hp	horsepower
hr	hour
I.D. No.	Identification Number of Source, assigned by Illinois EPA
IAC	Illinois Administrative Code
ILCS	Illinois Compiled Statutes
Illinois EPA	Illinois Environmental Protection Agency
J	Joule
°K	degrees Kelvin

kg	kilogram
kPa	kilopascal
kW	kilowatt
l	liter
LAER	Lowest Achievable Emission Rate
lb	pound
LDAR	Leak Detection and Repair
m <sup>3</sup>	cubic meter
MACT	Maximum Achievable Control Technology
Mft <sup>3</sup>	Million cubic feet
Mg	Metric Tonnes or Megagrams
mg	milligram
min	minute
mmBtu	Million Btus
mmHg	millimeters of mercury
mo	month
MSSCAM	Major Stationary Sources Construction and Modification (35 IAC 203, New Source Review for non-attainment areas)
MW	Megawatts
NESHAP	National Emission Standards for Hazardous Air Pollutants
ng	nanogram
NO <sub>x</sub>	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standards
P2	Pollution Prevention
PM	Particulate Matter
PM <sub>10</sub>	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 (40 CFR 52.21, New Source Review for attainment areas)
psi	pound per square inch
psia	pound per square inch absolute
psig	pound per square inch gauge
PVC	Polyvinylchloride
QA/QC	Quality Assurance/Quality Control
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 <sub>2</sub>	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
USEPA	United States Environmental Protection Agency
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 CONDITIONS FOR 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:

CED AP7 10,000 Gallon Gasoline Storage Tank  
ADD AP-8, 8A, 8B, 20, and 31 Focused Factory Component  
Manufacturing Fume Hoods  
ADD AP-8B Organics Manufacturing Bench Scale Chemical Fume Hoods  
ADD AP-8, 8A, 8B, 20, and 31 Focused Factory Component  
Manufacturing Bio-Safety Cabinets  
AP1A Iodination Assay Operations  
AP16 Clinical Area Blister Packaging Upgrade with Dust  
Collector(s)  
AP16 Filling/Finishing Lines #1, #2, #5, #14, and #20 and Rooms  
132 and 134  
AP16 Multi-purpose Product Handling Line #33  
AP16, Room 128A, Encapsulator  
AP16 Final Product Finishing and Packaging Lines with and  
without Dust Collectors  
AP32 Room 402 Flammable Storage Room Hood  
AP32 Rooms 257, 258, and 259 Dry Chemical Dispensing Weigh Booth  
Hoods  
AP32 Mixing Tanks

- 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 Solvent Cleaner Degreasers  
AP16A Tablet Plant Tablet Printing  
AP16A Semi-Solid Manufacturing Tanks  
AP16A Blending/Milling Equipment  
AP24 E. coli Fermentors  
AP24 Yeast Fermentors  
AP32 Coater/Dryers  
AP1 Assay Operations  
AP2 Assay Operations  
AP24 Assay Operations  
AP8 Assay Operations  
AP32 Mixing Tanks

- 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:

- a. 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)].
- b. 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)].
- c. Equipment used for filling drums, pails, or other packaging containers, excluding aerosol cans, with soaps, detergents, surfactants, lubricating oils, waxes, vegetable oils, greases, animal fats, glycerin, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions [35 IAC 201.210(a)(8)].
- d. 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)].
- e. Coating operations (excluding powder, architectural and industrial maintenance coating) with aggregate VOM usage that never exceeds 15 lbs/day from all coating lines at the source, including VOM from coating, dilutents, and cleaning materials [35 IAC 201.210(a)(13)].
- f. 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)].
- g. 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)].
- h. Storage tanks of any size containing exclusively soaps, detergents, surfactants, glycerin, waxes, vegetable oils,

greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

- 3.1.4 Activities that are considered insignificant activities pursuant to 35 IAC 201.210(b). Note: These activities are not required to be individually listed.

### 3.2 Compliance with Applicable Requirements

Insignificant activities are subject to applicable requirements notwithstanding status as insignificant activities. In particular, in addition to regulations of general applicability, such as 35 IAC 212.301 and 212.123 (Condition 5.3.2), the Permittee shall comply with the following requirements, as applicable:

- 3.2.1 For each particulate matter process emission unit, the Permittee shall comply with the applicable particulate matter emission limit of 35 IAC 212.321 or 212.322 (see Attachment 2) and 35 IAC Part 266. For example, the particulate matter emissions from a process emission unit shall not exceed 0.55 pounds per hour if the emission unit's process weight rate is 100 pounds per hour or less, pursuant to 35 IAC 266.110.
- 3.2.2 For each organic material emission unit that uses organic material, e.g., a mixer or printing line, the Permittee shall comply with the applicable VOM emission limit of 35 IAC 218.301, which requires that organic material emissions not exceed 8.0 pounds per hour or, if no odor nuisance exists, do not qualify as photochemically reactive material as defined in 35 IAC 211.4690.
- 3.2.3 For each open burning activity, the Permittee shall comply with 35 IAC Part 237, including the requirement to obtain a permit for open burning in accordance with 35 IAC 237.201, if necessary.
- 3.2.4 For each cold cleaning degreaser, the Permittee shall comply with the applicable equipment and operating requirements of 35 IAC 218.182.
- 3.2.5 For each storage tank that has a storage capacity greater than 946 liters (250 gallons) and, if no odor nuisance exists, that stores an organic material with a vapor pressure exceeding 2.5 psia at 70°F, the Permittee shall comply with the applicable requirements of 35 IAC 218.122, which requires use of a permanent submerged loading pipe, submerged fill, or a vapor recovery system.

### 3.3 Addition of Insignificant Activities

- 3.3.1 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a

type that is identified in Condition 3.1, until the renewal application for this permit is submitted, pursuant to 35 IAC 201.212(a).

- 3.3.2 The Permittee must notify the Illinois EPA of any proposed addition of a new insignificant activity of a type addressed by 35 IAC 201.210(a) and 201.211 other than those identified in Condition 3.1, pursuant to Section 39.5(12)(b) of the Act.
- 3.3.3 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type identified in 35 IAC 201.210(b).

4.0 SIGNIFICANT EMISSION UNITS AT THIS SOURCE

Emission Unit	Description	Date Constructed	Emission Control Equipment
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-0716	Glen Model No. ER 64 340 Masser (Glen Masser)	1958	Dust Collector 17 (U-1815)
G-0336	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)
D-0917	Aeromatic Model No. T-8 2400 Fluid Bed Dryer (FBD #1)	1982	Internal Filters
D-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

Emission Unit	Description	Date Constructed	Emission Control Equipment
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
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 30 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

Emission Unit	Description	Date Constructed	Emission Control Equipment
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-2726	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-2576	Four Corp. 300 Gallon Jacketed Coating Mix Tank (Mix Tank T-25)	1985	None
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
D-1351	Spinning Disc Granule Manufacturing and Coater (Spinning Disc)	1994	Dust Collector 19
169C	Weigh/Staging Room 169C	1998	Dust Collector 24 (LC940515)
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. GPCG-60 Fluid Bed Dryer 4 (Clinical)	1998	Internal Filters
LC940173	Sweco Mill (Sweco (Clinical))	1998	Dust Collector 24 (LC940515)
LC928144	Particle Coater (Particle Coater (Clinical))	1998	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
P-0204, P-0259, P-0301, P-0316, P-0315	Stokes Tri-Pac, Manesty Models BB3B and Rotapress Tablet Compressors (Tablet Compressing Booth 1)	1983	Dust Collectors 7B and 7C
S-4176	Bosch Encapsulator (Tablet Compressing Booth 2)	Unknown	Dust Collectors 7B and 7C
LC982816	Elisabeth Hata Press (Tablet Compressing Booth 3)	2001	Dust Collector 7-3
LC980670	Fette Model #2090 Tablet Compressor (Tablet Compressing Booth 4)	2001	Dust Collector 7-4
P-0550	Fette Model #2090 Tablet Compressor (Tablet Compressing Booth 5)	1985	Dust Collector 7-5
P-0374	Fette Model #2000 Tablet Compressor (Tablet Compressing Booth 6)	1991	Dust Collector 7-6
LC949481	Fette Model #1200 Tablet Compressor (Tablet Compressing Booth 7)	1998	Dust Collectors 7B and 7C
LC803695	IMA Encapsulator (Tablet Compressing Booth 8)	Unknown	Dust Collectors 7B and 7C
S-4128	Capsule Encapsulator (Tablet Compressing Booth 9)	Unknown	Dust Collectors 7B and 7C
Line 8	AP16A Filling Line 8	2002	Torit Dust Collector LC-907329
Portable Equipment	Portable Tanks, Mills, Sifter, Granulators, and Oscillators	-	None
LC907238	Thomas Engineering Model No. 48 Tablet Coater (Accela Cota #1)	1973	Dust Collector #1, Thermal Oxidizer #1, and Thermal Oxidizer #2
LC907239	Thomas Engineering Model No. 48-M111 Tablet Coater (Accela Cota #2)	1980	Dust Collector #1, Thermal Oxidizer #1, and Thermal Oxidizer #2

Emission Unit	Description	Date Constructed	Emission Control Equipment
S-2661	Thomas Engineering Model No. 60-111 Tablet Coater (Accela Cota #3)	1982	Dust Collector #3 and Thermal Oxidizer #2
S-2660	Thomas Engineering Model No. 60-111 Tablet Coater (Accela Cota #4)	1982	Dust Collector #4 and Thermal Oxidizer #2
S-3142	GLB Glatt Air Tech. Model No. GPCG-300 Particle Coater (Particle Coater)	1985	Dust Collector #U-2230 and Thermal Oxidizer #1
TA-5	7,000 Gallon Ethanol Storage Tank (Tank TA-5)	1985	bottom fill lines, conservation vent
TA-6	7,000 Gallon Ethanol Storage Tank (Tank TA-6)	1985	bottom fill lines, conservation vent
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
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 <sub>x</sub> Burners
R-2	Nebraska Boiler Model No. NOS.2A.67 Natural Gas Fired Boiler (R-2 Rental Boiler, 88 mmBtu/hr)	September 1998	Low NO <sub>x</sub> Burners

Emission Unit	Description	Date Constructed	Emission Control Equipment
C13A	York International Model YPC-FN-20G-46-C-s Natural Gas-Fired Chiller (Chiller 13A, 13.738 mmBtu/hr)	April 1996	Low NO <sub>x</sub> 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 BG-988-WF-WB-MO-CSDI-UL Natural Gas Fired Boiler (Boiler AP50-2, 3 mmBtu/hr)	October 2001	None
AP50-1	Weil McLain Model PG-988-WF-PF-LO-UL Natural Gas Fired Boiler (Boiler AP50-1, 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
AP-5	Cummins Model DQKC Diesel-Fired Generator (Emergency Diesel Generator AP-5, 2000 kW)	May 2003	None
AP-7	Cummins Model DQKC Diesel-Fired Generator (Emergency Diesel Generator AP-7, 2000 kW)	May 2003	None
K-14	Cummins Model DQKC Diesel-Fired Generator (Emergency Diesel Generator K-14, 2000 kW)	April 2003	None
AP14C	Caterpillar Model #3516/E275 Diesel-Fired Generator (Emergency Diesel Generator AP14C, 1500 kW)	June 1985	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
K2-1	Cleaver Brooks Model LR-614-35 Natural Gas Fired Boiler (Boiler K2-1, 15 mmBtu/hr)	Oct. 1982	None
K2-2	Cleaver Brooks Model LR-614-35 Natural Gas Fired Boiler (Boiler K2-2, 15 mmBtu/hr)	Oct. 1982	None
Building K8	Miura Steam Boilers K8-1 and K8-2 (6.0 mmBtu/hr each)	October 2008	None
Building K8	Two AERCO Hot Water Heaters HW-1 and HW-2 (firing rate 3.0 mmBtu/hr each)	September 2008	None
Mobile Generator 1	Cummins Model DQKC Diesel-Fired Generator (2000 kW)	Nov. 2004	None
Mobile Generator 2	Cummins Model DQKC Diesel-Fired Generator (2000 kW)	Nov. 2004	None
Fugitive PM Emissions	Traffic Areas, Parking Lots, Coal Piles (addressed in Section 5)	-	None
Fugitive VOM Emissions	Equipment Leaks and Cleanup Operations (addressed in Section 5)	-	None

## 5.0 OVERALL SOURCE CONDITIONS

### 5.1 Applicability of Clean Air Act Permit Program (CAAPP)

- 5.1.1 This permit is issued based on the source requiring a CAAPP permit as a major source of CO, NO<sub>x</sub>, PM<sub>10</sub>, SO<sub>2</sub>, VOM and HAP emissions.
- 5.1.2 This permit is issued based on the source requiring a CAAPP permit because the source is subject to a standard, limitation, or other requirement under Section 111 (NSPS) of the CAA for which USEPA requires a CAAPP permit, pursuant to 40 CFR 70.3(a)(2) [Section 39.5(2)(a)(ii) of the Act]. Specifically, this source is subject to 40 CFR 60, Subpart Dc.
- 5.1.3 This permit is issued based on the source requiring a CAAPP permit because the source is subject to a standard, limitation, or other requirement under Section 112 (HAPs) of the CAA for which USEPA requires a CAAPP permit, pursuant to 40 CFR 70.3(a)(3) [Section 39.5(2)(a)(iii) of the Act]. Specifically, this source is subject to 40 CFR 63, Subpart GGG.

### 5.2 Area Designation

This permit is issued based on the source being located in an area that, as of the date of permit issuance, is designated nonattainment for the National Ambient Air Quality Standards for ozone (moderate nonattainment) and PM<sub>2.5</sub> and attainment or unclassifiable for all other criteria pollutants (CO, lead, NO<sub>2</sub>, PM<sub>10</sub>, SO<sub>2</sub>).

### 5.3 Source-Wide Applicable Provisions and Regulations

- 5.3.1 Specific emission units at this source are subject to particular regulations as set forth in Section 7 (Unit-Specific Conditions for Specific Emission Units) of this permit.
- 5.3.2 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. Pursuant to 35 IAC 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 IAC 212.122, except as allowed by 35 IAC 212.123(b) and 212.124.

### 5.3.3 Ozone Depleting Substances

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.

5.3.4 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. Applicability of 40 CFR 63 Subpart GGG except during periods of startup, shutdown, and malfunction. 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, according to the criteria and operating requirements at 40 CFR 63.1250(g).

### 5.3.5 Risk Management Plan (RMP)

Should this stationary source, as defined in 40 CFR 68.3, become subject to the federal regulations for Chemical Accident Prevention in 40 CFR Part 68, then the owner or operator shall submit the items below. This condition is imposed in this permit pursuant to 40 CFR 68.215(a)(2)(i) and (ii).

- a. A compliance schedule for meeting the requirements of 40 CFR Part 68 by the date provided in 40 CFR 68.10(a); or
- b. A certification statement that the source is in compliance with all requirements of 40 CFR Part 68, including the registration and submission of the RMP, as part of the annual compliance certification required by Condition 9.8.

### 5.3.6 Future Emission Standards

- a. Should this stationary source become subject to a new or revised regulation under 40 CFR Parts 60, 61, 62, or 63, or

35 IAC Subtitle B after the date issued of this permit, then the owner or operator shall, in accordance with the applicable regulation(s), comply with the applicable requirements by the date(s) specified and shall certify compliance with the applicable requirements of such regulation(s) as part of the annual compliance certification, as required by Condition 9.8. This permit may also have to be revised or reopened to address such new or revised regulations (see Condition 9.12.2).

- b. This permit and the terms and conditions herein do not affect the Permittee's past and/or continuing obligation with respect to statutory or regulatory requirements governing major source construction or modification under Title I of the CAA. Further, neither the issuance of this permit nor any of the terms or conditions of the permit shall alter or affect the liability of the Permittee for any violation of applicable requirements prior to or at the time of permit issuance.
- c. This stationary source could be subject to 40 CFR Part 63, Subpart FFFF for Miscellaneous Organic Chemical Manufacturing, Subpart ZZZZ for Reciprocating Internal Combustion Engines and Subpart DDDDD for Industrial, Commercial and Institutional Boilers and Process Heaters, when such rules becomes final and effective. The Permittee shall comply with the applicable requirements of such regulations by the date(s) specified in such regulations and shall certify compliance with the applicable requirements of such regulations as part of the annual compliance certification required by Condition 9.8 beginning in the year that compliance is required under a final and effective rule. This permit may also have to be revised or reopened to address such new regulations (see Condition 9.12.2).

#### 5.3.7 Episode Action Plan

- a. Pursuant to 35 IAC 244.141, 244.142, and 244.143, the Permittee shall maintain at the source and have on file with the Illinois EPA a written episode action plan (plan) for reducing the levels of emissions during yellow alerts, red alerts, and emergencies, consistent with safe operating procedures. The plan shall contain the information specified in 35 IAC 244.144 and is incorporated by reference into this permit.
- b. The Permittee shall immediately implement the appropriate steps described in this plan should an air pollution alert or emergency be declared by the Director of the Illinois EPA or his or her designated representative.
- c. If an operational change occurs at the source which invalidates the plan, a revised plan shall be submitted to

the Illinois EPA for review within 30 days of the change, pursuant to 35 IAC 244.143(d). Such plans shall be further revised if disapproved by the Illinois EPA.

#### 5.4 Source-Wide Non-Applicability of Regulations of Concern

- 5.4.1 Notwithstanding Condition 5.5.2 (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.
- 5.4.2 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.
- 5.4.3 This permit is issued based on the source's research and development activities not being subject to the requirements of 40 CFR 63, Subpart GGG, National Emission Standards for Pharmaceuticals Production [40 CFR 63.1250(d)], or 40 CFR 63, Subpart FFFF, National Emission Standards for Miscellaneous Organic Chemical Manufacturing [40 CFR 63.2435(c)(1)].

#### 5.5 Source-Wide Control Requirements 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:

- 5.5.1 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 5.5.1 (see also 40 CFR 63.1252) on and after compliance date for existing sources specified in 40 CFR 63.1250(f). Initial compliance with the emission limits is demonstrated in accordance with the provisions of 40 CFR 63.1257, and continuous compliance is demonstrated in accordance with the provisions of 40 CFR 63.1258.
- 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 40 CFR 63.1252(b).

- c. Heat exchange systems. Pursuant to 40 CFR 63.1252(c), except as provided in 40 CFR 63.1252(c)(2), owners and operators of affected sources shall comply with the provisions of 40 CFR 63.104, except that the monitoring frequency shall be no less than quarterly.
- d. Emissions averaging provisions. Pursuant to 40 CFR 63.1252(d), except as specified in 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) and 63.1252(d)(6) through (8) for any storage tank or process.
- e. Pollution prevention alternative. Pursuant to 40 CFR 63.1252(e), an owner or operator may choose to meet the pollution prevention alternative requirement specified in 40 CFR 63.1252(e) for any PMPU or for any situation described in 40 CFR 63.1252(e)(4), in lieu of the requirements specified in 40 CFR 63.1253, 63.1254, 63.1255, and 63.1256. Compliance with 40 CFR 63.1252(e) shall be demonstrated through the procedures in 40 CFR 63.1257(f).
- f. Control requirements for certain liquid streams in open systems within a PMPU. 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 40 CFR 63.1252(f).

#### 5.5.2 Equipment Leaks

Pharmaceutical Production NESHAP General Equipment Leak Requirements. The Permittee shall comply with the general equipment leak requirements of 40 CFR 63 Subpart GGG in 40 CFR 63.1255 for pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, instrumentation systems, and control devices. The Permittee shall also comply with the general equipment leak requirements of 40 CFR 63 Subpart GGG in 40 CFR 63.1255 for those closed-vent systems subject to 40 CFR 63.1255. The Permittee shall also comply with the provisions of 40 CFR 63 Subpart H, as specified in 40 CFR 63.1255.

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

- a. Provide a vapor balance system that is at least 90 percent effective in reducing VOM emissions from truck or railcar deliveries to storage tanks with capacities equal to or greater than 7.57 m<sup>3</sup> (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)].

5.5.4 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].

5.5.5 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].

## 5.6 Source-Wide Production and Emission Limitations

### 5.6.1 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 5.6.1) are set for the purpose of establishing fees and are not federally enforceable (see Section 39.5(18) of the Act).

#### Permitted Emissions of Regulated Pollutants

Pollutant	Tons/Year
Volatile Organic Material (VOM)	154.58
Sulfur Dioxide (SO <sub>2</sub> )	1,022.56
Particulate Matter (PM)	217.6
Nitrogen Oxides (NO <sub>x</sub> )	632.65
HAP, not included in VOM or PM	75.78
Total	2,103.17

### 5.6.2 Emissions of Hazardous Air Pollutants

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

### 5.6.3 Other Source-Wide Production and Emission Limitations

The source shall not exceed the following limitations:

- a. Annual Tablet Production from the tablet forming and coating area 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 PSD and 35 IAC Part 203.
- b.
  - i. G. P. Tunnel Dryers #5, #6, #7, and #8 shall permanently cease operation and the manufacture of 500 mg 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 do not constitute a new major source or major modification pursuant to 35 IAC Part 203 and the federal rules for PSD. See Condition 7.1.6(f) [T1].
  - iii. The VOM emission units with contemporaneous VOM emissions are described in Table 1 of Attachment 5. The emission units or activities used to decrease emissions are described in Table 2 of Attachment 5. The net change in VOM emissions is described in Table 3 of Attachment 5.
- c.
  - i. The steam usage for the Building AP39 Development Center shall not exceed 120 tons/day, annual average.

ii. The cooling usage for the Building AP39 Development Center shall not exceed 800 tons of cooling on an annual average basis.

iii. These limits were established in Permit 05070043.

Note: Building AP39 Development Center is an insignificant activity (pilot plant used for research or training) pursuant to Condition 3.1.4.

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

## 5.7 Source-Wide Testing Requirements

5.7.1 Pursuant to 35 IAC 201.282 and Section 4(b) of the Act, every emission source or air pollution control equipment shall be subject to the following testing requirements for the purpose of determining the nature and quantities of specified air contaminant emissions and for the purpose of determining ground level and ambient air concentrations of such air contaminants:

- a. Testing by Owner or Operator: The Illinois EPA may require the owner or operator of the emission source or air pollution control equipment to conduct such tests in accordance with procedures adopted by the Illinois EPA, at such reasonable times as may be specified by the Illinois EPA and at the expense of the owner or operator of the emission source or air pollution control equipment. All such tests shall be made by or under the direction of a person qualified by training and/or experience in the field of air pollution testing. The Illinois EPA shall have the right to observe all aspects of such tests [35 IAC 201.282(a)].
- b. Testing by the Illinois EPA: The Illinois EPA shall have the right to conduct such tests at any time at its own expense. Upon request of the Illinois EPA, the owner or operator of the emission source or air pollution control equipment shall provide, without charge to the Illinois EPA, necessary holes in stacks or ducts and other safe and proper testing facilities, including scaffolding, but excluding instruments and sensing devices, as may be necessary [35 IAC 201.282(b)].
- c. Any such tests are also subject to the Testing Procedures of Condition 8.5 set forth in the General Permit Conditions of Section 8.

#### 5.7.2 Test Methods and Procedures (Equipment Leaks)

Pharmaceutical Production NESHAP General Equipment Leak Requirements. Each owner or operator subject to the provisions of 40 CFR 63 Subpart GGG shall comply with the applicable equipment leak test methods and procedures requirements in 40 CFR 63.1255.

#### 5.7.3 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].

### 5.8 Source-Wide Monitoring Requirements

5.8.1 Pharmaceutical Production NESHAP General Equipment Leak Requirements. Each owner or operator subject to the provisions of 40 CFR 63 Subpart GGG shall comply with the equipment leak monitoring requirements in 40 CFR 63.1255.

5.8.2 Monitoring for emission limits. The owner or operator of any affected source complying with the provisions of 40 CFR 63.1254(a)(2) shall demonstrate continuous compliance with the 900 and 1,800 kg/yr emission limits by calculating daily 365-day rolling summations of emissions. During periods of planned routine maintenance when emissions are controlled as specified in 40 CFR 63.1252(h), the owner or operator must calculate controlled emissions assuming the HAP emissions are reduced by 93 percent. For any owner or operator opting to switch compliance strategy from the 93 percent control requirement to the annual mass emission limit method, as described in 40 CFR

63.1254(a)(1)(i), the rolling summations, beginning with the first day after the switch, must include emissions from the past 365 days [40 CFR 63.1258(c)].

## 5.9 Source-Wide Recordkeeping Requirements

### 5.9.1 Annual Emission Records

The Permittee shall maintain records of total annual emissions on a calendar year basis for the emission units covered by Section 7 (Unit Specific Conditions for Specific Emission Units) of this permit to demonstrate compliance with Condition 5.6.1, pursuant to Section 39.5(7)(b) of the Act.

### 5.9.2 Pharmaceutical Production 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 sections (i) through (v) below:
  - i. Data retention as specified in 40 CFR 63.1259(a)(1) and 63.10(b)(1).
  - ii. Records of applicability determinations as specified in 40 CFR 63.1259(a)(2) and 63.10(b)(3).
  - iii. Startup, shutdown, and malfunction plan records as specified in 40 CFR 63.1259(a)(3) and 63.6(e)(3).
  - iv. Recordkeeping requirements for sources with continuous monitoring systems as specified in 40 CFR 63.1259(a)(4) and 63.10(c).
  - v. Application for approval of construction or reconstruction as specified in 40 CFR 63.1259(a)(5) and 63.5(d).
- b. Records of equipment operation. The owner or operator must keep records of equipment operation as specified in 40 CFR 63.1259(b) up-to-date and readily accessible.
- 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 5.5.2 (see also 40 CFR 63.1255), shall implement the recordkeeping requirements in 40 CFR 63.1255 [40 CFR 63.1259(d)].

- e. Records of emissions averaging. The owner or operator of any affected source that chooses to comply with the requirements of Condition 5.5.1(d) (see also 40 CFR 63.1252(d)) shall implement the recordkeeping requirements in 40 CFR 63.1259(e).
- f. Records of delay of repair. The owner or operator shall keep records as specified in 40 CFR 63.1259(f) to document a decision to use a delay of repair due to unavailability of parts, as specified in 40 CFR 63.1256(i).
- 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 records as specified in 40 CFR 63.1259(g).
- h. Records of extensions. The owner or operator shall keep records as specified in 40 CFR 63.1259(h) to document a decision to use an extension, as specified in 40 CFR 63.1256(b)(6)(ii) or (b)(9).
- i. Records of inspections. The owner or operator shall keep records of inspections as specified in 40 CFR 63.1259(i).
- j. In addition to records required by Condition 5.9.2(k) (see also 40 CFR 63.1255(g)), the owner or operator shall maintain records specified in 40 CFR 63.1255(e)(5)(iv).
- k. Recordkeeping Requirements for Equipment Leaks. The owner or operator shall comply with the recordkeeping requirements for equipment leaks as required in 40 CFR 63.1255(g).

#### 5.9.3 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)]

#### 5.9.4 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)].

5.9.5 Records for Pharmaceutical Manufacturing

- a. The following records shall be kept for emission units subject to Condition 5.5.14 (see also 35 IAC 218.484) which contain VOL:
  - i. For maintenance and inspection [35 IAC 218.489(c)(1)]:
    - A. The date and time each cover is opened;
    - B. The length of time the cover remains open; and
    - C. The reason why the cover is opened.
  - 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. 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)].

5.9.6 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 5.12.4, with supporting calculations, so as to demonstrate compliance with the limits in Condition 5.6.

- 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.

5.9.7 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 5.12.5, with supporting calculations, so as to demonstrate compliance with the limits in Condition 5.6.
- 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.

5.9.8 Tablet Plant Records

The Permittee shall maintain records of the following items for the Tablet Plant to demonstrate compliance with Conditions 5.6.1, and 5.6.3(a), pursuant to Section 39.5(7)(b) of the Act:

- a. Total number of tablets produced from the tablet forming and coating area in 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.

5.9.9 Records for HAP Emissions

The Permittee shall maintain records of HAP emissions on a calendar year basis for the emission units covered by Section 7 (Unit Specific Conditions for Specific Emission Units) of this permit, pursuant to Section 39.5(7)(b) of the Act.

5.9.10 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.

## 5.10 Source-Wide Reporting Requirements

### 5.10.1 General Source-Wide Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the source with the permit requirements within 30 days of becoming aware of such a deviation, 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. There are also reporting requirements for unit specific emission units set forth in Section 7 of this permit.

### 5.10.2 Annual Emissions Report

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

### 5.10.3 Pharmaceutical Production NESHAP Reporting Requirements

- a. The owner or operator of an affected source shall comply with the reporting requirements of Conditions 5.10.3(b) through (h) (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. Periodic reports. An owner or operator shall prepare Periodic reports in accordance with 40 CFR 63.1260(g) and submit them to the Illinois EPA and/or USEPA.
- d. Notification of process change.
  - i. Except as specified in section (ii) below, 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 the information specified in 40 CFR 63.1260(h)(1) with the next Periodic report required under Condition 5.10.3(c) (see also 40 CFR 63.1260(g)).

- ii. An owner or operator must submit a report 60 days before the scheduled implementation date of the changes as specified in 40 CFR 63.1260(h)(2).
- e. Reports of startup, shutdown, and malfunction. An owner or operator shall prepare startup, shutdown, and malfunction reports as specified in 40 CFR 63.1260(i).
- f. Reports of LDAR programs. Pursuant to 40 CFR 63.1260(j), the owner or operator of any affected source implementing the LDAR program specified in Condition 5.5.2 (see also 40 CFR 63.1255) shall implement the reporting requirements in 40 CFR 63.1255.
- g. Reports of emissions averaging. The owner or operator of any affected source that chooses to comply with the requirements of Condition 5.5.1(d) (see also 40 CFR 63.1252(d)) shall submit the information specified in 40 CFR 63.1260(k) in the periodic reports.
- h. 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)].
- i. 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)].
- j. Semiannual reports. In addition to the information required by Condition 5.10.3(k) (see also 40 CFR 63.1255(h)(3)), the owner or operator shall submit in the periodic reports the information specified in 40 CFR 63.1255(e)(5)(vi).
- k. Reporting Requirements for Equipment Leaks.  
  
Periodic reports. Pursuant to 40 CFR 63.1255(h)(1)(ii) and (h)(3), the owner or operator of a source subject to Condition 5.5.2 (see also 40 CFR 63.1255) shall submit Periodic Reports by the due dates and with the information specified in 40 CFR 63.1255(h)(3).

#### 5.10.4 NSPS Reporting Requirements

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)].

#### 5.10.5 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)].

#### 5.11 Source-Wide Operational Flexibility/Anticipated Operating Scenarios

Source-wide operational flexibility is not set for this source. However, there may be provisions for unit specific operational flexibility set forth in Section 7 of this permit.

#### 5.12 Source-Wide Compliance Procedures

##### 5.12.1 Pharmaceutical Production NESHAP Compliance Procedures for Equipment Leaks

Calculation of percent leaking pumps and valves shall be determined using the procedures and equations specified in 40 CFR 63.1255(c)(4) and 40 CFR 63.1255(e)(5) and (6).

##### 5.12.2 Pharmaceutical Production NESHAP Pollution prevention alternative standard. The owner or operator electing to comply with the pollution prevention alternative standards in Condition 5.5.1(e) (see also 40 CFR 63.1252(e)) shall demonstrate compliance using the procedures described in 40 CFR 63.1257(f).

##### 5.12.3 Pursuant to 40 CFR 63.174(i) and 63.1255(b)(4)(iii), for use in determining the monitoring frequency, as specified in 40 CFR 63.174(b) and 40 CFR 63.1255(b)(4)(iii)(B) through (F), the percent leaking connectors shall be calculated as specified in 40 CFR 63.174(i).

##### 5.12.4 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.

5.12.5 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.

## 6.0 CONDITIONS FOR EMISSIONS CONTROL PROGRAMS

### 6.1 Emissions Reduction Market System (ERMS)

#### 6.1.1 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).

#### 6.1.2 Applicability

This source is considered a "participating source" for purposes of the ERMS, 35 IAC Part 205.

6.1.3 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 6.1.8, 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 6.1.5.
  - 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 6.1.8(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.

6.1.4 Market Transactions

- 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.

#### 6.1.5 Emissions Excursion Compensation

Pursuant to 35 IAC 205.720, if the source fails to hold ATUs in accordance with Condition 6.1.3, 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.

#### 6.1.6 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.

#### 6.1.7 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.

6.1.8 Allotment of ATUs to the Source

- a.
  - i. The allotment of ATUs to this source is 265 ATUs per seasonal allotment period.
  - ii. This allotment of ATUs reflects the Illinois EPA's determination that the source's baseline emissions were 29.5429 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 6.1.10 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 6.1.3(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  
None
- 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.

6.1.9 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 6.1.6(a); and
- c. Any transfer agreements for the purchase or sale of ATUs and other documentation associated with the transfer of ATUs.

6.1.10 Exclusions from Further Reductions

- a. VOM emissions from the following emission units shall be excluded from the VOM emissions reductions requirements specified in 35 IAC 205.400(c) and (e) as long as such emission units continue to satisfy the following [35 IAC 205.405(a)]:
  - i. Emission units that comply with any NESHAP or MACT standard promulgated pursuant to the CAA;
  - ii. Direct combustion emission units designed and used for comfort heating purposes, fuel combustion emission units, and internal combustion engines; and
  - iii. An emission unit for which a LAER demonstration has been approved by the Illinois EPA on or after November 15, 1990.

The source has demonstrated in its ERMS application and the Illinois EPA has determined that the following emission units qualify for exclusion from further reductions because they meet the criteria as indicated above [35 IAC 205.405(a) and (c)]:

Boiler 4AP and 5AP  
Boiler 6AP  
Boiler 7AP  
Emergency Generator AP14C  
Chiller 12 (AP-33)  
Chiller 13A  
Chiller 14 (AP-33)  
Boilers AP52-1, AP52-2, and AP53-3  
Boiler AP52-6  
Boiler AP50-1

- 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 FOR SPECIFIC EMISSION UNITS

### 7.1 Pharmaceutical Products Division Controls: 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 consist 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.

Filling and finishing lines are used to containerize and prepare pharmaceutical products for distribution.

A variety of portable equipment is used in the Pharmaceutical Products Division for batch process manufacturing. Portable equipment means single pieces of equipment that are mounted on wheels or skids so as to enable them to be moved from one

process to another within a manufacturing building and from one manufacturing building to another. Portable equipment in this facility typically includes tanks, mills, sifters, granulators, and oscillators. Whenever a piece of portable equipment is used in a process, its emissions are calculated and included with the emissions for that process.

Note: This narrative description is for informational purposes only and is not enforceable.

7.1.2 List of Emission Units and Air Pollution Control Equipment

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-0716	Glen Model No. ER 64 340 Masser (Glen Masser)	1958	Dust Collector 17 (U-1815)
G-0336	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)
D-0917	Aeromatic Model No. T-8 2400 Fluid Bed Dryer (FBD #1)	1982	Internal Filters
D-0955	Aeromatic Model No. T-8 2400 Fluid Bed Dryer (FBD #2)	1982	Internal Filters

Emission Unit	Description	Date Constructed	Emission Control Equipment
LC933770	Aeromatic Model No. MP-8 Fluid Bed Dryer (FBD #3)	1998	Internal Filters
G-0324	Sweco Model No. LS48S Mill (HVM Sweco #1)	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
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 30 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

Emission Unit	Description	Date Constructed	Emission Control Equipment
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-2726	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-2576	Four Corp. 300 Gallon Jacketed Coating Mix Tank (Mix Tank T-25)	1985	None
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
D-1351	Spinning Disc Granule Manufacturing and Coater (Spinning Disc)	1994	Dust Collector 19
169C	Weigh/Staging Room 169C	1998	Dust Collector 24 (LC940515)
SSME	Semi-Solid Mfg. Encapsulator (Semi-Solid Capsule Fill)	1995	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
LC936004	Collette Model No. Gral 300 Liter (300 L Gral 4 (Clinical))	1998	Dust Collector 24 (LC940515)
LC935370	GLB Glatt Air Tech. Model No. GPCG-60 Fluid Bed Dryer 4 (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-0259, P-0301, P-0316, P-0315	Stokes Tri-Pac, Manesty Models BB3B and Rotapress Tablet Compressors (Tablet Compressing Booth 1)	1983	Dust Collectors 7B and 7C
S-4176	Bosch Encapsulator (Tablet Compressing Booth 2)	Unknown	Dust Collectors 7B and 7C
LC982816	Elisabeth Hata Press (Tablet Compressing Booth 3)	2001	Dust Collector 7-3
LC980670	Fette Model #2090 Tablet Compressor (Tablet Compressing Booth 4)	2001	Dust Collector 7-4
P-0550	Fette Model #2090 Tablet Compressor (Tablet Compressing Booth 5)	1985	Dust Collector 7-5
P-0374	Fette Model #2000 Tablet Compressor (Tablet Compressing Booth 6)	1991	Dust Collector 7-6
LC949481	Fette Model #1200 Tablet Compressor (Tablet Compressing Booth 7)	1998	Dust Collectors 7B and 7C
LC803695	IMA Encapsulator (Tablet Compressing Booth 8)	Unknown	Dust Collectors 7B and 7C
S-4128	Capsule Encapsulator (Tablet Compressing Booth 9)	Unknown	Dust Collectors 7B and 7C
Line 8	AP16A Filling Line 8	2002	Torit Dust Collector LC-907329

Emission Unit	Description	Date Constructed	Emission Control Equipment
Portable Equipment	Portable Tanks, Mills, Sifter, Granulators, and Oscillators	-	None

7.1.3 Applicable Provisions and Regulations

- a. The "affected pharmaceutical product manufacturing units" for the purpose of these unit-specific conditions, are the Massers, Warm Air Dryers, Mills, Swecos, Grals, Fluid Bed Dryers, Blenders, Coating Mix Tanks, Particle Coaters, Spinning Disc, weigh/staging room, Static Mixer, Encapsulator, Tablet Compressors, and Filling/Finishing Lines described in Conditions 7.1.1 and 7.1.2.
- b. 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.
- c. 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 2) [35 IAC 212.321(a)].
- d. 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 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].

7.1.4 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 (except for 35 IAC 218.484 and 218.485), because the affected pharmaceutical product manufacturing units do not meet the applicability criteria in 35 IAC 218.480(a) or (b), notwithstanding the emission limits in Condition 7.1.5(a)(i).

- 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 PM<sub>10</sub>, as identified in 35 IAC 212.324(a)(1).
- d. The affected pharmaceutical product manufacturing units are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected pharmaceutical product manufacturing unit are subject to a NESHAP proposed after November 15, 1990, pursuant to 40 CFR 64.2(b)(1)(i) and do not use an add-on control device to achieve compliance with a VOM emission limitation or VOM standard.

#### 7.1.5 Control Requirements 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. This limitation was established in Permit 96010010, as issued on September 9, 1999, and in Permits 01060045, 02020005, and 03080058.

- d. This permit is issued based on the aqueous coating solution used in the spinning disc containing no VOM. This limitation was established in Permit 94060094 [T1].
- e. The Permittee shall comply with the applicable standards in 40 CFR 63.1254(a) for process vents at existing sources.

7.1.6 Production and Emission Limitations

In addition to Condition 5.3.2 and the source-wide emission limitations in Condition 5.6, 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 VOM limitation of 74.29 tons/year in Condition 5.6.3(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 PSD. These limits ensure that the construction and/or modification addressed in the aforementioned Permit do not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for PSD [T1].

- iii. The above limits for warm air (tunnel) dryers and fluidbed dryers are less stringent than the applicability levels in 35 IAC 218.480(b). For purposes of 35 IAC 218, Subpart T, VOM emissions from these emission units shall not exceed 4,535 kg/year (5.0 tons/year) for each fluid bed dryer and 6,803 kg/year (7.5 tons/year) for each tunnel dryer.

- b. VOM emissions from Mix Tanks T-25, T-26, and T-28 the following emission units shall not exceed the following:

<u>Weekly Emissions (lb VOM/mo)</u>	<u>Annual Emissions (T VOM/yr)</u>	<u>Annual Operating Hours (hr/yr)</u>
2,280	8.14	8,568

- i. These limits are based on the maximum emission rate (2,280 lb/month, combined from the mix tanks) and the maximum hours of operation.
  - 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 MSSCAM. These limits continue to ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to these rules. Specifically, the short term emission limit of 570 lb/week was changed to monthly limit [T1R].
- c. i. Emissions and operation of the 1200 Liter Gral Masser (Gral #2) shall not exceed the following limits:

Operating Hours (hr/yr)	Process Rate (lb/hr)	E M I S S I O N S			
		PM Emissions		VOM Emissions	
		(lb/day)	(ton/yr)	(lb/day)	(ton/yr)
8,760	2,430	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 were established in Permit 96010010, pursuant to MSSCAM and PSD. These limits ensure that the construction and/or modification addressed in this permit do 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. In addition, the above limitations contain revisions to previously issued Permit 94050127, as reflected in this Title V permit issued on September 9, 1999. Specifically, the permitted process weight rate for this unit was increased from 450 lb/hr to 2,430 lb/hr without increasing the permitted emission rate for PM and VOM emissions [T1].
- 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 PSD. These limits ensure that the construction and/or modification addressed in the aforementioned Permit do not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for PSD [T1].
- e. i. This permit is issued based on negligible emissions of VOM 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 were established in Permit 96010010, pursuant to MSSCAM. These limits ensure that the construction and/or modification addressed in this permit do 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. In addition, the above limitations contain revisions to previously issued Permit 95050226, as reflected in this Title V permit issued on September 9, 1999. Specifically, the permitted process rate and operating hours limit were eliminated because the VOM emissions limit is set at a level which the Illinois EPA considers to be negligible [T1].
- f. Emissions and operation of Gral #3, Fluid Bed Dryer #3, Sweco #3, Sweco mill (Asset #LC940173), 300 liter Gral (Asset #LC936004), fluid bed dryer (Asset #LC935370), the 300 Liter Particle Coater, Sweco #2, and Weigh/Staging Room 169C 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</u>			<u>VOM Emissions</u>	
	<u>Rate</u> <u>(lb/hr)</u>	<u>PM Emissions</u>		<u>(lb/day)</u>	<u>(ton/yr)</u>
		<u>(lb/hr)</u>	<u>(ton/yr)</u>		
1200L Gral No. 3	2,430	2.82	0.44	100	2.5
Fluid Bed Dryer #3	3,620	3.49	0.44	--	5.0
300L Gral No. 4	1,830	2.42	0.44	100	2.5

<u>Item of Equipment</u>	Process		VOM Emissions		
	Rate (lb/hr)	PM Emissions (lb/hr)	(ton/yr)	(lb/day)	(ton/yr)
Fluid Bed Dryer (Asset #LC935370)	705	1.46	0.44	--	5.0
300 L Particle Coater	705	1.46	0.44		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. 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 169C, 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 500 mg 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 contain revisions to previously issued Permit 97100076. 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 MSSCAM and/or PSD. These limits continue to ensure that the construction and/or modification addressed in the aforementioned Permit does not constitute a new major source or major modification pursuant to these rules. Specifically, the short term process rates and short term PM and VOM emission limits for certain emission units were increased, without increasing the annual emission limits [T1R].
- v. The VOM emission units with contemporaneous VOM emissions are described in Table 1 of Attachment 5. The emission units or activities used to decrease emissions are described in Table 2 of Attachment 5.

The net change in VOM emissions is described in Table 3 of Attachment 5.

- g. i. Emissions and operation of Tablet Compressing Booths 3 and 4 (LC982816 and LC980670) shall not exceed the following limits:

Process Rate		E M I S S I O N S			
(lb/hr)	(ton/yr)	PM/PM <sub>10</sub> Emissions (lb/hr)	(ton/yr)	VOM Emissions (lb/mo)	(ton/yr)
1,198	5,248	0.1	0.44	56.7	0.17

- ii. This Condition is based on representations of maximum operation and maximum actual emission rates.
- iii. The above limitations were established in Permit 01060045, pursuant to MSSCAM and PSD. These limits ensure that the construction and/or modification addressed in the aforementioned permit do not constitute a new major source or major modification pursuant to these rules [T1].
- h. i. Emissions and operation of AP16A Filling/Finishing Line 8 shall not exceed the following limits:

Pollutant	Pollutant Emissions		
	(lb/hr)	(lb/mo)	(ton/yr)
PM	3.87	---	0.048
PM <sub>10</sub>	3.87	---	0.048
VOM	---	69.3	0.42
methanol	---	---	0.02

- ii. The above limitations were established in Permit 02020005, pursuant to MSSCAM, PSD, and 112(g) of the CAA. These limits ensure that the construction and/or modification addressed in the aforementioned permit do not constitute a new major source or major modification pursuant to these rules [T1].
- i. 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. Pharmaceutical Production NESHAP General testing requirements. 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. Pharmaceutical Production NESHAP 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 shall, 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(a)].
- d. Notwithstanding other requirements of 35 IAC Part 218, upon request of the Illinois EPA where it is necessary to demonstrate compliance, an owner or operator of an emission unit which is subject to 35 IAC Part 218 shall, at his own expense, conduct tests in accordance with the applicable test methods and procedures specific in 35 IAC Part 218. Nothing in this Condition (see also 35 IAC 218.105) shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing [35 IAC 218.105(i)].

#### 7.1.8 Monitoring Requirements

- a. Pharmaceutical Production NESHAP Monitoring requirements. The owner or operator of any affected source shall provide evidence of continued compliance with the standard as specified in Condition 5.8.2 and 40 CFR 63.1258.

#### 7.1.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for the affected pharmaceutical product manufacturing units to demonstrate compliance with Conditions 5.6.1 and 7.1.3 through 7.1.8, pursuant to Section 39.5(7)(b) of the Act:

- a. Pharmaceutical Production NESHAP Records of equipment operation. The owner or operator of an affected source shall keep records of equipment operation which demonstrate compliance with 40 CFR 63 Subpart GGG as specified in 40 CFR 63.1259(b).

- b. Pharmaceutical Production NESHAP 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. 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 [35 IAC 218.489(b)]:
  - i. The name of the leaking equipment;
  - ii. The date and time the leak is detected;
  - iii. The action taken to repair the leak; and
  - iv. The date and time the leak is repaired.
- e. 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 [35 IAC 218.489(c)(1)]:
    - A. The date and time each cover is opened;
    - B. The length of time the cover remains open; and
    - C. The reason why the cover is opened.
  - 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. 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. Records of the following items for operation and emissions of the affected pharmaceutical product manufacturing units:
  - i. Types and quantities of raw materials, excluding water, used for each affected pharmaceutical product manufacturing unit, lb/batch, lb/mo, and ton/yr;
  - ii. The operating schedule of the affected pharmaceutical product manufacturing units or number of hours the affected pharmaceutical product manufacturing units have been operated; and

- iii. 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

##### a. Reporting of Deviations

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations 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:

- i. Emissions of VOM in excess of the limits in Conditions 7.1.3(d) and/or 7.1.6 based on the current month's records plus the preceding 11 months within 30 days of becoming aware of such an occurrence.
- b. The Permittee shall submit Pharmaceutical Production NESHAP reports as specified in Condition 5.10.3 in accordance with 40 CFR 63 Subpart GGG, including periodic reports; notification of process changes; reports of startup, shutdown, and malfunction; and notification of performance test and test plans.
- c. 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)].
- 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 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)].
- e. Pursuant to Section 39.5(7)(f)(ii) of the Act, 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 500 mg 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

Operational flexibility is not set for the affected pharmaceutical product manufacturing units. However, there may be provisions for source-wide operational flexibility set forth in Condition 5.11 of this permit.

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)]. Calculations of daily emissions may be performed on a monthly basis.
- b. Compliance with Conditions 5.3.2 and 7.1.3(c) is addressed by proper operation of the dust collectors, and filters, as addressed by Condition 7.1.5(d).
- c. Compliance with Conditions 7.1.3(b) and 7.1.5(e) is addressed by the applicable provisions of 63.1257(d)(2) or by information or calculations which demonstrate that emission streams that are undiluted and uncontrolled contain less than 50 ppmv HAP, in accordance with the definition of "process vent" in 40 CFR 63.1251.
- d. To determine compliance with Conditions 5.6.1, 7.1.3(c), and 7.1.6, PM emissions from the affected pharmaceutical product manufacturing units shall be calculated based on the following:

- i. PM emissions from the Tablet Compressing Area, Spinning Disc, and House Vacuum:

$$\text{PM Emissions (lb)} = (\text{Amount of Material Recovered from Dust Collector, lb}) \times [(1 - (\text{Dust Collector Efficiency}^*, \%/100)) / (\text{Dust Collector Efficiency}^*, \%/100)]$$

- ii. PM emissions from Massers, Mills, Kady Mill, Mixers (Grals), Warm Air Dryers, Blenders, and Particle Coating:

$$\text{PM Emissions (lb)} = (\text{Dry Raw Material Usage, lb}) \times (0.003 \text{ lb PM/lb Dry Raw Materials}) \times [1 - (\text{Dust Collector Efficiency}^*, \%/100)]$$

- iii. PM emissions from Fluid Bed Dryers:

$$\text{PM Emissions (lb)} = (\text{Dry Raw Material Usage, lb}) \times (0.001 \text{ lb PM/lb Dry Raw Materials})$$

\* As specified by manufacturer or vendor of the dust collectors.

- e. To determine compliance with Conditions 5.6.1, 7.1.3(d), and 7.1.6, VOM emissions from the affected pharmaceutical product manufacturing units shall be calculated based on the following:

$$\text{VOM Emissions (lb)} = (\text{Total Amount of VOM in Raw Materials, lb}) \times (\text{Loss Factor, } \%/100) + (\text{Amount of Cleanup Solvent}) \times (\text{VOM Content of Cleanup Solvent, } \%/100)$$

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)	96.0%
Blenders	4.0%
Pan Pour	100.0%
Semi-Solid Manufacturing (Static Mixer, Encapsulator)	0.5%
Mix Tanks	0.5%

7.2 PPD Pharmaceutical Coaters  
 Controls: 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.

Note: This narrative description is for informational purposes only and is not enforceable.

7.2.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
LC907238	Thomas Engineering Model No. 48 Tablet Coater (Accela Cota #1)	1973	Dust Collector #1, Thermal Oxidizer #1, and Thermal Oxidizer #2
LC907239	Thomas Engineering Model No. 48-M111 Tablet Coater (Accela Cota #2)	1980	Dust Collector #2, Thermal Oxidizer #1, and Thermal Oxidizer #2
S-2661	Thomas Engineering Model No. 60-111 Tablet Coater (Accela Cota #3)	1982	Dust Collector #3 and Thermal Oxidizer #2
S-2660	Thomas Engineering Model No. 60-111 Tablet Coater (Accela Cota #4)	1982	Dust Collector #4 and Thermal Oxidizer #2
S-3142	GLB Glatt Air Tech. Model No. GPCG-300 Particle Coater (Particle Coater)	1985	Dust Collector #U-2230 and Thermal Oxidizer #1

### 7.2.3 Applicable Provisions and Regulations

- a. The "affected coatiers" for the purpose of these unit-specific conditions, are the Accelacotas and the Particle Coater described in Conditions 7.2.1 and 7.2.2.
- b. The affected coatiers 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 2) [35 IAC 212.321(a)].
- c. The affected coatiers are subject to 35 IAC Part 218, Subpart T, Pharmaceutical Manufacturing, because the affected coatiers emit more than 6.8 kg/day (15 lb/day) and 2,268 kg/year (2.5 tons/year) of VOM or emit more than 45.4 kg/day (100 lb/day) of VOM or emit more than 6,803 kg/year (7.5 tons/year) of VOM [35 IAC 218.480(a) and (b)].
- d. The affected coatiers 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(d)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].
  - ii. Emissions of organic material in excess of those permitted by Condition 7.2.3(d)(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 coatiers are not subject to the NESHPA 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 PM<sub>10</sub>, as identified in 35 IAC 212.324(a)(1).

#### 7.2.5 Control Requirements and Work Practices

- a. The owner or operator shall install covers on all in-process tanks used to manufacture pharmaceuticals and containing a VOL at any time. These covers must remain closed, except as production, sampling, maintenance or inspection procedures require operator access [35 IAC 218.484].
- b. The owner or operator of a pharmaceutical manufacturing source shall repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found. If the leaking component cannot be repaired until the process unit is shut down, the leaking component must then be repaired before the unit is restarted [35 IAC 218.485].
- c. Emissions subject to 35 IAC 218 Subpart T shall be controlled at all times consistent with the requirements set forth in 35 IAC 218 Subpart T. Emissions of VOM from production equipment exhaust systems shall be controlled by air pollution control equipment which reduces by 90% or more the VOM that would otherwise be emitted into the atmosphere [35 IAC 218.480(f) and 218.482(a)]. Non-VOM containing emissions are not subject to 35 IAC 218 Subpart T and do not have to be controlled.
- d. Any control device required pursuant to 35 IAC 218 Subpart T shall be operated at all times when the source it is controlling is operated [35 IAC 218.480(g)]. Non-VOM containing emissions are not subject to 35 IAC 218 Subpart T, therefore, a control device does not have to be operated when the source is not emitting VOM.
- e. 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)].

- f. 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.
- g. 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 Production and Emission Limitations

In addition to Condition 5.3.2 and the source-wide emission limitations in Condition 5.6, the affected coaters are subject to the following:

- a. Emissions and operation shall not exceed the following limits:
  - i. In addition to the VOM limitation of 74.29 tons/year in Condition 5.6.3(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 limitations were established in Permit 96010010, pursuant to MSSCAM. These limits 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. In addition, the above limitations contain revisions to previously issued Permit 81100039, as reflected in this Title V permit issued on September 9, 1999. Specifically, the permitted emissions of VOM from Accelacotas #1 and #2 were increased from 4.0 tons/year, combined to 6.0

tons/year, combined and the permitted emissions of VOM from Accelacotas #3 & #4 were decreased from 53.0 tons/year, combined to 9.0 tons/year, combined, for a total decrease in permitted VOM emissions of 42 tons/year [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>
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 35 IAC 218 Subpart T shall, 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(a)].
- b. 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 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. Compliance Assurance Monitoring (CAM) Requirements

The affected coaters are subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources. The Permittee shall comply with the monitoring requirements of the Compliance Assurance Monitoring (CAM) Plan described in Attachment 3, Table 3.1 pursuant to 40 CFR Part 64 as submitted in the Permittee's CAM plan application.

##### b. Monitoring for Pharmaceutical Manufacturing Regulations

i. 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)].

ii. Each monitor shall be equipped with a recording device [35 IAC 218.488(b)].

iii. Each monitor shall be calibrated quarterly [35 IAC 218.488(c)].

iv. Each monitor shall operate at all times while the associated control equipment is operating [35 IAC 218.488(d)]. The associated monitor does not have to operate if no VOM is being emitted from the process.

c. 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 5.9, the Permittee shall maintain records of the following items for the affected coaters to demonstrate compliance with Conditions 5.6.1 and 7.2.3 through 7.2.8, 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(b) (see also 35 IAC 218.488(a)) [35 IAC 218.489(a)(1)].
  
- c. 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 [35 IAC 218.489(b)]:
  - i. The name of the leaking equipment;
  - ii. The date and time the leak is detected;
  - iii. The action taken to repair the leak; and
  - iv. The date and time the leak is repaired.
  
- d. 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 [35 IAC 218.489(c)(1)]:
    - A. The date and time each cover is opened;
    - B. The length of time the cover remains open; and
    - C. The reason why the cover is opened.
  - 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. Records of the following items for operation and emissions of the affected coaters:
  - i. Types and quantities of raw materials, excluding water, used for each affected coater, lb/batch, lb/mo, and ton/yr;
  - ii. The operating schedule of the affected coaters or number of hours the affected coaters have been operated; and
  - iii. 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.
- h. Records for Compliance Assurance Monitoring (CAM) Requirements

The Permittee shall maintain records of the monitoring data, monitor performance data, corrective actions taken, monitoring equipment maintenance, and other supporting information related to the monitoring requirements in Condition 7.2.8(b), as required by 40 CFR 64.9(b)(1).

#### 7.2.10 Reporting Requirements

- a. Reporting of Deviations

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations 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:

- i. 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 becoming aware of such an occurrence.
- b. Reporting of Compliance Assurance Monitoring (CAM)  
  
The Permittee shall submit monitoring reports to the Illinois EPA in accordance with Condition 8.6.1 and shall include, at a minimum, the information required under Condition 8.6.1 and the following information [40 CFR 64.6(c)(3), 64.9(a)(1), and (2)]:
  - i. Summary information on the number, duration, and cause of excursions or exceedances, and the corrective actions taken [40 CFR 64.6(c)(3) and 64.9(a)(2)(i)]; and
  - ii. Summary information on the number, duration, and cause for monitoring equipment downtime incidents, other than downtime associated with calibration checks [40 CFR 64.6(c)(3) and 64.9(a)(2)(ii)].
- c. 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)].

#### 7.2.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected coaters. However, there may be provisions for source-wide operational flexibility set forth in Condition 5.11 of this permit.

#### 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)]. Calculations of daily emissions may be performed on a monthly basis.

- b. Compliance with Conditions 7.2.3(b) is addressed by proper operation of the dust collectors, as addressed by Conditions 7.2.5(g).
- c. Compliance with Conditions 7.2.3(c) and (d) is addressed by proper operation of the thermal oxidizers, as addressed by Conditions 7.2.5(c) through (g) and 7.2.8(b). To determine compliance with the thermal oxidizer combustion chamber temperature specified in Condition 7.2.5(f), a 15-minute average temperature may be determined from monitoring required by Condition 7.2.8(a) and (b).
- d. To determine compliance with Conditions 5.6.1 and 7.2.3(b), PM emissions from the affected coaters shall be calculated based on the following:

Particulate Matter Emissions:

$$\text{PM Emissions (lb)} = (\text{Dry Raw Material Usage, lb}) \times (0.003 \text{ lb PM/lb Dry Raw Materials}) \times [1 - (\text{Dust Collector Efficiency}^*, \%/100)]$$

\* As specified by manufacturer or vendor of the dust collectors

- e. To determine compliance with Conditions 5.6.1 and 7.2.6, VOM emissions from the affected coaters shall be calculated based on the following:

$$\text{VOM Emissions (lb)} = (\text{Total Amount of VOM in Raw Materials, lb}) \times (\text{Loss Factor, } \%/100)$$

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 7,000 Gallon Ethanol Storage Tanks (TA-5 and TA-6)

7.3.1 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. VOM emissions are reduced by bottom fill lines and conservation vents.

Note: This narrative description is for informational purposes only and is not enforceable.

7.3.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
TA-5	7,000 Gallon Ethanol Storage Tank (Tank TA-5)	1985	Bottom fill lines, conservation vent
TA-6	7,000 Gallon Ethanol Storage Tank (Tank TA-6)	1985	Bottom fill lines, conservation vent

7.3.3 Applicable Provisions and Regulations

- a. The "affected tanks" for the purpose of these unit-specific conditions, are Tanks TA-5 and TA-6 described in Conditions 7.3.1 and 7.3.2.
- 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]. As of the date of issuance of this permit, the affected tanks store ethanol, which is not a photochemically reactive material.

7.3.4 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 m<sup>3</sup> (approximately 10,000 gal) but less than 75 m<sup>3</sup> (approximately 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 m<sup>3</sup> (approximately 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 m<sup>3</sup> (40,000 gal).
- e. The affected tanks are not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(2), which exempts storage tanks with capacities less than 151.42 m<sup>3</sup> (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 (except for 35 IAC 218.484 and 218.485), because the affected pharmaceutical product manufacturing units do not meet the applicability criteria in 35 IAC 218.480(a) or (b).
- 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.
- i. The affected tanks are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected tanks use a passive control

measure that is not considered a control device because it acts to prevent the release of pollutants.

#### 7.3.5 Control Requirements 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 (with or without denaturant present in concentrations up to 5% by weight) or any organic material with a vapor pressure no higher than that of ethanol (or ethanol and its denaturant). This requirement was established in Permit 96010010, as issued on September 9, 1999, to address compliance with applicable provisions and regulations.

#### 7.3.6 Production and Emission Limitations

Production and emission limitations are not set for the affected tanks. However, there are source-wide production and emission limitations set forth in Condition 5.6.

#### 7.3.7 Testing Requirements

Upon request by the Illinois EPA or the USEPA, the owner or operator of any VOM source subject to 35 IAC 218 Subpart T by virtue of the provisions of Condition 7.3.4(g) (see also 35 IAC 218.480) shall, 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(a)].

#### 7.3.8 Monitoring Requirements

Monitoring requirements are not set for the affected tanks. However, there may be provisions for source-wide monitoring requirements set forth in Condition 5.8 of this permit.

7.3.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for the affected tanks to demonstrate compliance with Conditions 5.6.1, 7.3.3, and 7.3.5, pursuant to Section 39.5(7)(b) of the Act:

- a. Records of the testing 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.
- 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 [35 IAC 218.489(b)]:
  - i. The name of the leaking equipment;
  - ii. The date and time the leak is detected;
  - iii. The action taken to repair the leak; and
  - iv. The date and time the leak is repaired.
- 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 [35 IAC 218.489(c)(1)]:
    - A. The date and time each cover is opened;
    - B. The length of time the cover remains open; and
    - C. The reason why the cover is opened.
  - 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. 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. Records of the following items for operation and emissions of the affected tanks:
  - i. Identification of the material stored in each affected tank;
  - ii. The throughput of each affected tank, gal/mo and gal/yr; and
  - iii. 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.

#### 7.3.10 Reporting Requirements

##### a. Reporting of Deviations

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of an affected tank with the permit requirements as follows, pursuant to Section

39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- i. The storage of any VOL or VPL other than the material specified in Condition 7.3.5(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.
- b. 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)].
- c. 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)].

#### 7.3.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected tanks. However, there may be provisions for source-wide operational flexibility set forth in Condition 5.11 of this permit.

#### 7.3.12 Compliance Procedures

Compliance with the emission limits is addressed by the recordkeeping requirements in Condition 7.3.9 and the emission calculation procedures 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 7.3.7 (see also 35 IAC 218.487) [35 IAC 218.480(h)]. Calculations of daily emissions may be performed on a monthly basis.

- b. To determine compliance with Conditions 5.6.1, and 7.3.3(b), VOM emissions from the affected tanks may be calculated based on Version 3.1 (or the latest version) of the TANKS program.

7.4 Coal/Natural Gas Fired Boilers 4AP & 5AP  
 Controls: U-720 & U-722 Fly Ash Collectors

7.4.1 Description

Boilers 4AP and 5AP use coal and natural gas as the fuels and have fly-ash 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.

Note: This narrative description is for informational purposes only and is not enforceable.

7.4.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	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)	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

7.4.3 Applicable Provisions and Regulations

- a. The "affected boilers" for the purpose of these unit-specific conditions, are Boilers 4AP and 5AP described in Conditions 7.4.1 and 7.4.2.
- b. 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].
- c. 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 7.4.3(c)(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)].
- d. 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 major metropolitan area, to exceed 1.8 pounds of sulfur dioxide per mmBtu of actual heat input (774 nanograms per joule) [35 IAC 214.141].
- e. Startup Provisions

Subject to the following terms and conditions, the Permittee is authorized to operate an affected boiler in violation of the applicable standards in Condition 5.3.2(b) during startup. This authorization is provided pursuant to 35 IAC 201.149, 201.161 and 201.262, as the Permittee has applied for such authorization in its application, generally describing the efforts that will be used "...to minimize startup emissions, duration of individual starts, and frequency of startups."

- i. This authorization only extends for a period of up to 1.75 hours following initial firing of fuel during each startup event. This authorization does not relieve the Permittee from the continuing obligation to demonstrate that all reasonable efforts are made to minimize startup emissions, duration of individual startups and frequency of startups.
- ii. The Permittee shall conduct startup of the affected boiler in accordance with written procedures prepared by the Permittee and maintained at the facility that are specifically developed to minimize startup emissions, and that include, at a minimum, the following measures:
  - A. The Permittee shall conduct startup of an affected boiler in accordance with the manufacturer's written instructions or other

written instructions prepared by the Permittee and maintained on site and that include, at a minimum, the following measures:

- I. Monitoring of forced air/induced fans for proper combustion.
  - II. Review of the operational condition of an affected boiler prior to initiating startup of the affected boiler.
  - III. Review of the operating parameters of an affected boiler during each startup to make appropriate adjustments to the startup to reduce or eliminate excess emissions.
- 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 and reporting requirements of Condition 7.4.9(e) and 7.4.10(e).
  - iv. As provided by 35 IAC 201.265, an authorization in a permit for excess emissions during startup does not shield a Permittee from enforcement for any violation of applicable emission standard(s) that occurs during startup and only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.
- f. Malfunction and Breakdown Provisions

Subject to the following terms and conditions, the Permittee is authorized to continue operation of an affected boiler in violation of the applicable standards in Condition 7.8.3(c) in the event of a malfunction or breakdown of a fly ash collector. This authorization is provided pursuant to 35 IAC 201.149, 201.161 and 201.262 as the Permittee has applied for such authorization in its application, generally explaining why such continued operation would be required to provide essential service or to prevent risk of injury to personnel or severe damage to equipment, and describing the measures that will be taken to minimize emissions from any malfunctions and breakdowns. This authorization supersedes the general prohibition in Condition 9.2.3 against continued operation in such circumstances.

- i. This authorization only allows such continued operation as necessary to provide essential service or prevent risk of injury to personnel or severe damage to equipment and does not extend to continued operation solely for the economic benefit of the Permittee.
- ii. Upon occurrence of excess emissions due to malfunction or breakdown, the Permittee shall as soon as practical reduce operation, repair, remove the affected boiler from service, or undertake other action so that excess emissions cease. Unless the Permittee obtains an extension from the Illinois EPA, this shall be accomplished within 60 days. The Permittee may obtain an extension for up to a total of 30 days from the Illinois EPA, Air Regional Office. 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. The Illinois EPA, Air Compliance Section, in Springfield, may grant a longer extension if the Permittee demonstrates that extraordinary circumstances exist and the affected boiler can not reasonably be repaired or removed from service within the allowed time.
- iii. The Permittee shall fulfill the applicable recordkeeping and reporting requirements of Conditions 7.4.9(f) and 7.4.10(d). For these purposes, time shall be measured from the start of a particular incident. The absence of excess emissions for a short period shall not be considered to end the incident if excess emissions resume. In such circumstances, the incident shall be considered to continue until corrective actions are taken so that excess emissions cease or the Permittee takes the affected boiler out of service.
- iv. Following notification to the Illinois EPA of a malfunction or breakdown with excess emissions, the Permittee shall comply with all reasonable directives of the Illinois EPA with respect to such incident, pursuant to 35 IAC 201.263.
- v. This authorization does not relieve the Permittee from the continuing obligation to minimize excess emissions during malfunction or breakdown. As provided by 35 IAC 201.265, an authorization in a permit for continued operation with excess emissions during malfunction and breakdown does not shield the Permittee from enforcement for any such violation and

only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.

#### 7.4.4 Non-Applicability of Regulations of Concern

- a. The affected boilers are not subject to 35 IAC 217.141, Emissions of NO<sub>x</sub> 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).
- b. Pursuant to 35 IAC 218.303, fuel combustion emission units are not subject to 35 IAC 218.301, Use of Organic Material.

#### 7.4.5 Control Requirements and Work Practices

- a. Bituminous coal and natural gas shall be the only fuels fired in the affected boilers. This requirement was established in Permit 96010010, as issued on September 9, 1999, to address compliance with applicable provisions and regulations.
- b. The Permittee shall follow good operating practices for the fly ash collectors, including periodic inspection, routine maintenance and prompt repair of defects. This requirement was established in Permit 96010010, as issued on September 9, 1999, to address compliance with applicable provisions and regulations.
- c. The maximum sulfur content of bituminous coal combusted in the affected boilers shall not exceed the value calculated on a monthly basis using the equation below. This requirement is established in this permit to address compliance with applicable provisions and regulations (e.g., Condition 7.4.3(d)).

$$\% \text{ Maximum Sulfur} = (1.8 \text{ lb SO}_2/\text{mmBtu}) \times \text{HC} \times (1 \text{ mmBtu}/1,000,000 \text{ Btu}) \times (32 \text{ lb sulfur}/64 \text{ lb SO}_2) \times (100\%)$$

where HC = Measured monthly heat content of the as received coal burned (Btu/lb)

#### 7.4.6 Production and Emission Limitations

Production and emission limitations are not set for the affected boilers. However, there are source-wide production and emission limitations set forth in Condition 5.6.

#### 7.4.7 Testing Requirements

- a. Upon request by the Illinois EPA or the USEPA, and 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 5.3.2(b).
  - c. Pursuant to 35 IAC 214.101(e) and 214.104(c), plants with total solid fuel-fired heat input capacity exceeding 14.65 MW (50 million Btu/hr) but not exceeding 146.5 MW (500 million Btu/hr) shall demonstrate compliance or non-compliance with Condition 7.8.3(d) (see also 35 IAC 214.141) by either an analysis of calendar monthly composites of daily fuel samples or by compliance with 35 IAC 214.101(c), at the option of the plant. The specific ASTM procedures 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)

#### 7.4.8 Monitoring Requirements

##### a. Compliance Assurance Monitoring (CAM) Requirements

The affected boilers are subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, with respect to the emission limits for PM in Condition 7.4.3(c). The Permittee shall comply with the monitoring requirements of the Compliance Assurance Monitoring (CAM) Plan described in Attachment 3, Table 3.2 pursuant to 40 CFR Part 64 as submitted in the Permittee's CAM plan application.

At any time that the affected boilers become subject to another emission limit for PM, or a surrogate thereof, for which the emission units would be exempt from CAM pursuant to 40 CFR 64.2(b), including but not limited to 40 CFR 63, Subpart DDDDD (NESHAP for Industrial, Commercial and Institutional Boilers and Process Heaters), then any monitoring required under that regulation will be considered to satisfy the requirements of the CAM rule for purposes of PM emission limits not covered by 40 CFR 64.2(b). This permit shall be revised to address any new or revised elements of the CAM Plan in Attachment 3, Table 3.2.

#### 7.4.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for the affected boilers to demonstrate compliance with Conditions 5.6.1, 7.4.3, and 7.4.5, 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 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. 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, potential effect on emissions, date identified, date repaired, and nature of repair.
- c. Records of the following items for operation and emissions of the affected boilers:
- i. Bituminous coal consumption, ton/mo and ton/yr;
  - ii. Each proximate analysis that includes the bituminous coal sulfur content (weight percent) and heat content (Btu/lb) as determined from a representative sample on at least a monthly basis;
  - iii. Natural gas fuel usage for the affected boilers, Mft<sup>3</sup>/mo and Mft<sup>3</sup>/yr; and
  - iv. Monthly and annual aggregate NO<sub>x</sub>, PM, SO<sub>2</sub>, and VOM emissions from the affected boilers shall be maintained, based on fuel consumption and the applicable emission factors, with supporting calculations.
- d. Records for Compliance Assurance Monitoring (CAM) Requirements

The Permittee shall maintain records of the monitoring data, monitor performance data, corrective actions taken, monitoring equipment maintenance, and other supporting information related to the monitoring requirements in Condition 7.4.8(a), as required by 40 CFR 64.9(b)(1).

- e. 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 Condition 7.8.3(e), 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.
  - B. If normal operation was not achieved within 1.75, an explanation why startup could not be achieved within this time.
  - C. A detailed description of the startup, including reason for operation and whether established startup procedures (see Condition 7.4.3(e)(ii)) were performed.
  - D. An explanation why established startup procedures (see Condition 7.4.3(e)(ii)) 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.
  - F. Whether exceedance of Condition 5.3.2 may have occurred during startup. If an exceedance may have occurred, an explanation of the nature of opacity, i.e., severity and duration, during the startup and the nature of opacity at the conclusion of startup.
- ii. A maintenance and repair log for the affected boilers and associated fly ash collector, listing each activity performed with date.
- f. Records for Malfunctions and Breakdowns

The Permittee shall maintain records, pursuant to 35 IAC 201.263, of continued operation of an affected boiler subject to Condition 7.4.3(f) during malfunctions and breakdown, 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 affected boiler continued to operate in accordance with Condition 7.4.3(f).
- 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.

- vi. The amount of release above typical emissions during malfunction/breakdown.

#### 7.4.10 Reporting Requirements

##### a. Reporting of Deviations

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

- i. Operation of an affected boiler combusting coal with a sulfur content in excess of the operational limits specified in Condition 7.4.5(c) within 30 days of becoming aware of such an occurrence.

##### b. Reporting of Compliance Assurance Monitoring (CAM)

The Permittee shall submit monitoring reports to the Illinois EPA in accordance with Condition 8.6.1 and shall include, at a minimum, the information required under Condition 8.6.1 and the following information [40 CFR 64.6(c)(3), 64.9(a)(1), and (2)]:

- i. Summary information on the number, duration, and cause of excursions or exceedances, and the corrective actions taken [40 CFR 64.6(c)(3) and 64.9(a)(2)(i)]; and
- ii. Summary information on the number, duration, and cause for monitoring equipment downtime incidents, other than downtime associated with calibration checks [40 CFR 64.6(c)(3) and 64.9(a)(2)(ii)].

- c. 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)].

##### d. Reporting of Malfunctions and Breakdowns

The Permittee shall provide the following notification and reports to the Illinois EPA, Air Compliance Unit and Regional Field Office, pursuant to 35 IAC 201.263, concerning continued operation of an affected boiler

subject to Condition 7.4.3(f) during malfunction or breakdown:

- i.
  - A. 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) business days, upon becoming aware of the occurrence of noncompliance due to malfunction or breakdown.
  - B. Upon achievement of compliance, the Permittee shall give a written follow-up notice within 15 days to the Illinois EPA, Air Compliance Unit 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 was taken out of service.
  - C. If compliance is not achieved within 5 working days of the occurrence, the Permittee shall submit interim status reports to the Illinois EPA, Air Compliance Unit 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.
- ii. In accordance with Condition 8.6.1, the Permittee shall submit semi-annual malfunction and breakdown reports to the Illinois EPA pursuant to Sections 39.5(7)(a) and (f) of the Act. These reports shall include the following information for malfunctions and breakdowns of the affected boiler during the reporting period:
  - A. A listing of malfunctions and breakdowns, in chronological order, that includes:
    - I. The date, time, and duration of each incident.
    - II. The identity of the affected operation(s) involved in the incident.

- B. Dates of the notices and reports of Conditions 7.4.10(d)(i).
- C. Any supplement information the Permittee wishes to provide to the notices and reports of Conditions 7.4.10(d)(i).
- D. The aggregate duration of all incidents during the quarter.
- E. If there have been no such incidents during the calendar quarter, this shall be stated in the report.

e. Reporting of Startups

In accordance with Condition 8.6.1, the Permittee shall submit semi-annual startup reports to the Illinois EPA pursuant to Sections 39.5(7)(a) and (f) of the Act. These reports shall include the following information for startups of the affected boiler during the reporting period:

- i. A list of the startups of the affected boiler, including the date, duration and description of each startup, accompanied by a copy of the records pursuant to Condition 7.4.9(e) for each startup for which such records were required.
- ii. If there have been no startups of an affected boiler during the semi-annual period, this shall be stated in the report.

7.4.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected boilers. However, there may be provisions for source-wide operational flexibility set forth in Condition 5.11 of this permit.

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. Compliance with the CO emission limitation of Condition 7.4.3(b) is addressed by the fuel records required in Condition 7.4.9(c) and emission calculations using the emission factor in USEPA's Compilation of Air Pollutant Emission Factors, AP-42, for uncontrolled CO emissions from a coal and natural gas-fired boiler.

- b. Compliance with Condition 7.4.3(c) is addressed by proper operation of the fly ash collectors, as addressed by Condition 7.4.5(b).
- c. Compliance with Condition 7.4.3(d) is addressed by operation of the boiler with coal with a sulfur content meeting the specification of Condition 7.4.5(c) and testing pursuant to Condition 7.4.7(c).
- d. Compliance with the emission limits of Condition 5.6.1, emissions from the affected boilers shall be calculated based on the following emission factors:
  - i. 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 <sup>3</sup> )
NO <sub>x</sub>	100
PM	7.6
SO <sub>2</sub>	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.

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

- ii. Emissions from the affected boilers burning coal shall be calculated based on the following emission factors:

<u>Pollutant</u>	Emission Factor (lb/Ton)
NO <sub>x</sub>	13.7
PM	66 x (1 - (Fly Ash Collector Efficiency*/100))
SO <sub>2</sub>	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, Supplement E, September 1998. 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)

\* Efficiency as specified by manufacturer or vendor of the fly ash collectors or demonstrated in the most recent compliance test.

## 7.5 Distillate Fuel Oil/Natural Gas-Fired Boiler 6AP

### 7.5.1 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.

Note: This narrative description is for informational purposes only and is not enforceable.

### 7.5.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	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)	1981	None

### 7.5.3 Applicable Provisions and Regulations

- a. The "affected boiler" for the purpose of these unit-specific conditions, is Boiler 6AP described in Conditions 7.5.1 and 7.5.2.
- b. 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].
- c. 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].
- d. 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)].

### 7.5.4 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 NO<sub>x</sub> 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.
- d. The affected boiler is not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected boiler does not use an add-on control device to achieve compliance with an emission limitation or standard.

7.5.5 Control Requirements and Work Practices

- a. The affected boiler shall only be fired with natural gas and distillate fuel oil as the fuels. This requirement was established in Permit 96010010, as issued on September 9, 1999, to address compliance with applicable provisions and regulations.
- b. The following requirement was established in Permit 81060075. The Permittee shall not utilize distillate fuel oil (Grades No. 1 and 2) in the affected boiler with a sulfur content greater than the larger of the following two values:
  - i. 0.28 weight percent; or
  - ii. The weight percent given by the formula: maximum weight percent sulfur = (0.000015) x (Gross heating value of oil, Btu/lb).

7.5.6 Production and Emission Limitations

In addition to Condition 5.3.2 and the source-wide emission limitations in Condition 5.6, 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
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Maximum Annual Emissions from Burning Natural Gas

Sulfur Dioxide (SO <sub>2</sub> )	0.20 ton/yr
Nitrogen Oxides (NO <sub>x</sub> )	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 <sub>2</sub> )	11.10 ton/yr
Nitrogen Oxides (NO <sub>x</sub> )	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 were established in Permit 96010010, pursuant to MSSCAM and PSD. These limits 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. In addition, the above limitations contain revisions to previously issued Permit 81060075, as reflected in this Title V permit issued on September 9, 1999. Specifically, the affected boiler was converted from burning residual fuel oil to distillate fuel oil and the limits on emissions from the burning natural gas were 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 increased by 26.76 tons/year, NO<sub>x</sub> increased by 14.60 tons/year, PM decreased by 1.33 tons/year, SO<sub>2</sub> decreased by 28.10 tons/year, and VOM increased by 1.38 tons/year [T1].
- b. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

#### 7.5.7 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. 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 5.3.2(b).

#### 7.5.8 Monitoring Requirements

Monitoring requirements are not set for the affected boiler. However, there may be provisions for source-wide monitoring requirements set forth in Condition 5.8 of this permit.

#### 7.5.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for the affected boiler to demonstrate compliance with Conditions 5.6.1 and 7.5.3 through 7.5.7, 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, Mft<sup>3</sup>/mo and Mft<sup>3</sup>/yr;
  - c. Distillate fuel oil usage for the affected boiler, gal/mo and gal/yr; and
  - d. Monthly and annual aggregate CO, NO<sub>x</sub>, PM, SO<sub>2</sub>, and VOM emissions from the affected boiler shall be maintained, based on fuel consumption and the applicable emission factors, with supporting calculations.

#### 7.5.10 Reporting Requirements

##### a. Reporting of Deviations

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations 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:

- i. Emissions of CO, NO<sub>x</sub>, PM, SO<sub>2</sub>, and/or VOM in excess of the limits specified in Condition 7.5.6 within 30 days of becoming aware of such an occurrence.
- ii. The use of distillate fuel oil with a sulfur content in excess of the limit specified in Condition 7.5.5(b) with the length of time this fuel was used and the effect on emissions of SO<sub>2</sub> within 30 days of this violation being detected.

#### 7.5.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected boiler. However, there may be provisions for source-wide operational flexibility set forth in Condition 5.11 of this permit.

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 the emission limits in Conditions 7.5.3(b) and 7.5.3(c) is addressed by the records required in Condition 7.5.9 and emission factors and calculation procedures below.
- b. Compliance with Condition 7.5.3(d) is addressed by operation of the boiler with distillate fuel oil with a sulfur content meeting the specification of Condition 7.5.5(b).
- c. Compliance with the emission limits of Conditions 5.6.1 and 7.5.6 shall be based on the emission factors listed below:
  - i. 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 <sup>3</sup> )
CO	84
NO <sub>x</sub>	100
PM	7.6
SO <sub>2</sub>	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.

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

- ii. 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 <sub>x</sub>	20
PM	2
SO <sub>2</sub>	142 S
VOM	0.216

These are the emission factors for uncontrolled distillate fuel oil combustion in commercial/institutional/residential combustors, Tables 1.3-2 and 1.3-15, AP-42, Volume I, Fifth Edition, Supplement E, September 1998. S indicates that the weight % 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)

## 7.6 Distillate Fuel Oil/Natural Gas-Fired Boiler 7AP

### 7.6.1 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.

Note: This narrative description is for informational purposes only and is not enforceable.

### 7.6.2 List of Emission Units and Air Pollution Control Equipment

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 <sub>x</sub> Burners

### 7.6.3 Applicable Provisions and Regulations

- a. The "affected boiler" for the purpose of these unit-specific conditions, is Boiler 7AP described in Conditions 7.6.1 and 7.6.2.
- b. 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 SO<sub>2</sub> 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)].

- 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)].

#### 7.6.4 Non-Applicability of Regulations of Concern

- a. The affected boiler is not subject to 35 IAC 217.121, Emissions of NO<sub>x</sub> 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.
- c. The affected boiler is not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected boiler uses a passive control measure, such as a combustion or other process design feature or characteristic, that is not considered a control device because it acts to prevent the pollutants from forming.

#### 7.6.5 Control Requirements 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. This requirement was established in Permit 96010010, as issued on September 9, 1999, to address compliance with applicable provisions and regulations.
- c. The following requirement was established in Permit 92010009. The Permittee shall not utilize distillate fuel oil (Grades No. 1 and 2) in the affected boiler with a sulfur content greater than the larger of the following two values:
  - i. 0.28 weight percent; or
  - ii. The weight percent given by the formula: maximum weight percent sulfur = (0.000015) x (Gross heating value of oil, Btu/lb).

7.6.6 Production and Emission Limitations

In addition to Condition 5.3.2 and the source-wide emission limitations in Condition 5.6, 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> (*mmBtu)		
Natural Gas	720,000		
#2 Fuel Oil	14,000		
	<u>Emission Factor</u> (lb/mmBtu)		
	<u>PM</u>	<u>NO<sub>x</sub></u>	<u>SO<sub>2</sub></u>
	0.0076	0.1	0.0006
	0.014	0.165	0.28
	<u>Annual Emissions</u> (ton/yr)		
	<u>PM</u>	<u>NO<sub>x</sub></u>	<u>SO<sub>2</sub></u>
	2.7	36	0.22
	0.1	1.15	1.99

\* based on the following conversion factors:

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

- b. The above limitations were established in Permit 96010010, pursuant to MSSCAM and PSD. These limits 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. In addition, the above limitations contain revisions to previously issued Permit 92010009, as reflected in this Title V permit issued on September 9, 1999. Specifically, the permitted emissions of NO<sub>x</sub> from the combustion of fuel oil were increased from 1.0 to 1.15 tons/year, the permitted emissions of PM from the combustion of natural gas were increased from 1.8 to 2.7 tons/year, and the permitted emissions of SO<sub>2</sub> from the combustion of fuel oil were increased from 0.36 to 1.99 tons/year based on revisions to the emission factors for NO<sub>x</sub>, PM, and SO<sub>2</sub> [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).

#### 7.6.7 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 7.6.3(b)(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 7.6.12(a) (see also 40 CFR 60.42c(h)(1)) where the owner or operator seeks to demonstrate compliance with the SO<sub>2</sub> 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 7.6.3(b)(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 [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. Method 5, Method 5B, or Method 17 shall be used to measure the concentration of PM as follows:
  - A. Method 5 may be used [40 CFR 60.45c(a)(3)(i)].
  - B. Method 17 may be used provided the stack gas temperature does not exceed a temperature of 160°C (320°F) [40 CFR 60.45c(a)(3)(ii)].
- iv. 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)(4)].
- v. 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±14°C (320±25°F) [40 CFR 60.45c(a)(5)].
- vi. 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)(6)].
- vii. 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)(7)(i)];
  - B. The dry basis F-factor [40 CFR 60.45c(a)(7)(ii)]; and
  - C. The dry basis emission rate calculation procedure contained in Method 19 (40 CFR 60, Appendix A) [40 CFR 60.45c(a)(7)(iii)].
- viii. Method 9 (6-minute average of 24 observations) shall be used for determining the opacity of stack emissions [40 CFR 60.45c(a)(8)].

- 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 5.3.2(b).

#### 7.6.8 Monitoring Requirements

- a. Except as provided in 40 CFR 60.46c(d) and (e), the owner or operator of an affected facility subject to the SO<sub>2</sub> emission limits under Condition 7.6.3(b)(i) (see also 40 CFR 60.42c) shall install, calibrate, maintain, and operate a CEMS for measuring SO<sub>2</sub> concentrations and either oxygen or carbon dioxide concentrations at the outlet of the SO<sub>2</sub> control device (or the outlet of the steam generating unit if no SO<sub>2</sub> control device is used), and shall record the output of the system [40 CFR 60.46c(a)].
- b. As an alternative to operating a CEMS at the inlet to the SO<sub>2</sub> control device (or outlet of the steam generating unit if no SO<sub>2</sub> control device is used) as required under Condition 7.6.8(a) (see also 40 CFR 60.46c(a)), an owner or operator may elect to determine the average SO<sub>2</sub> emission rate by sampling the fuel prior to combustion. As an alternative to operating a CEMS at the outlet from the SO<sub>2</sub> control device (or outlet of the steam generating unit if no SO<sub>2</sub> control device is used) as required under Condition 7.6.8(a) (see also 40 CFR 60.46c(a)), an owner or operator

may elect to determine the average SO<sub>2</sub> emission rate by using Method 6B. Fuel sampling shall be conducted pursuant to either Condition 7.6.8(b)(i) or (ii) (see also 40 CFR 60.46c(d)(1) or (d)(2)). Method 6B shall be conducted pursuant to Condition 7.6.8(b)(iii) (see also 40 CFR 60.46c(d)(3)) [40 CFR 60.46c(d)].

- i. For affected facilities combusting oil, 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 SO<sub>2</sub> input rate [40 CFR 60.46c(d)(1)].
- ii. As an alternative fuel sampling procedure for affected facilities combusting oil, oil samples may be collected from the fuel tank for each steam generating unit immediately after the fuel tank is filled and before any oil is combusted. The owner or operator of the affected facility shall analyze the oil sample to determine the sulfur content of the oil. If a partially empty fuel tank is refilled, a new sample and analysis of the fuel in the tank would be required upon filling. Results of the fuel analysis taken after each new shipment of oil is received shall be used as the daily value when calculating the 30-day rolling average until the next shipment is received. If the fuel analysis shows that the sulfur content in the fuel tank is greater than 0.5 weight percent sulfur, the owner or operator shall ensure that the sulfur content of subsequent oil shipments is low enough to cause the 30-day rolling average sulfur content to be 0.5 weight percent sulfur or less [40 CFR 60.46c(d)(2)].
- iii. Method 6B may be used in lieu of CEMS to measure SO<sub>2</sub> at the inlet or outlet of the SO<sub>2</sub> control system. An initial stratification test is required to verify the adequacy of the Method 6B sampling location. The stratification test shall consist of three paired runs of a suitable SO<sub>2</sub> 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 of 40 CFR 60). 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 7.6.8(a) and (b) (see also 40 CFR 60.46c(a) and (d)) shall not apply to affected facilities subject to Condition 7.6.12(a) (see also 40 CFR 60.42c(h)(1)) where the owner or operator of the affected facility seeks to demonstrate compliance with the SO<sub>2</sub> 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)].

#### 7.6.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for the affected boiler to demonstrate compliance with Conditions 5.6.1 and 7.6.3 through 7.6.8, pursuant to Section 39.5(7)(b) of the Act:

- a. The owner or operator of each affected facility subject to the SO<sub>2</sub> emission limits or fuel oil sulfur limits under Condition 7.6.3(b)(i) (see also 40 CFR 60.42c) shall keep records of quarterly reports as required under Condition 7.6.10(c) (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 SO<sub>2</sub> 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 SO<sub>2</sub> 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 SO<sub>2</sub> 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 7.6.9(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. 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. 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.
- e. Records of the following items for operation and emissions of the affected boiler:
- i. Natural gas fuel usage for Boiler 7AP, mmBtu/mo and mmBtu/yr;
  - ii. Distillate fuel oil usage for Boiler 7AP, mmBtu/mo and mmBtu/yr; and
  - iii. Monthly and annual aggregate CO, NO<sub>x</sub>, PM, SO<sub>2</sub>, and VOM emissions from the affected boiler shall be maintained, based on fuel consumption and the applicable emission factors, with supporting calculations.

#### 7.6.10 Reporting Requirements

a. Reporting of Deviations

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations 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:

- i. Emissions of CO, NO<sub>x</sub>, PM, SO<sub>2</sub>, and/or VOM in excess of the limits specified in Condition 7.6.6 within 30 days of becoming aware of such an occurrence.
  - ii. The use of distillate fuel oil with a sulfur content in excess of the limit specified in Condition 7.6.5(c) with the length of time this fuel was used and the effect on emissions of SO<sub>2</sub> within 30 days of this violation being detected.
- b. The owner or operator of each affected facility subject to the SO<sub>2</sub> emission limits of Condition 7.10.3(b)(i) (see also 40 CFR 60.42c), or the PM or opacity limits of Condition 7.6.3(b)(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 of 40 CFR 60 [40 CFR 60.48c(b)].
- c. The owner or operator of each affected facility subject to the SO<sub>2</sub> emission limits or fuel oil sulfur limits under Condition 7.6.3(b) (see also 40 CFR 60.42c and 60.43c)

shall submit semi-annual reports, including the information listed in Condition 7.6.9(a), as applicable. All reports shall be submitted to the Illinois EPA and/or USEPA and shall be postmarked by the 30th day following the end of the reporting period [40 CFR 60.48c(d), (e), and (j)].

- e. A person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from Condition 7.6.7(c) (see also 35 IAC 212.110) that will be used [35 IAC 212.110(d)].

#### 7.6.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected boiler. However, there may be provisions for source-wide operational flexibility set forth in Condition 5.11 of this permit.

#### 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. 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 7.6.3(b)(i) (see also 40 CFR 60.42c) may be determined based on a certification from the fuel supplier, as described under Condition 7.6.9(b) (see also 40 CFR 60.48c(f)(1)) [40 CFR 60.42c(h)(1)].
- b. Compliance with the emission limits in Conditions 7.6.3(c) and 7.6.3(d) is addressed by the records required in Condition 7.6.9 and emission factors and calculation procedures below.
- c. Compliance with Condition 7.6.3(e) is addressed by operation of the boiler with distillate fuel oil with a sulfur content meeting the specification of Condition 7.6.5(c).
- d. Compliance with the emission limits of Conditions 5.6.1 and 7.6.6 is addressed by the emission factors listed below:
  - i. Emissions from the affected boiler burning natural gas shall be calculated based on the following emission factors:

A. Standard Emission Factors:

<u>Pollutant</u>	<u>Natural Gas Emission Factor (lb/Mft<sup>3</sup>)</u>
CO	84
PM	7.6
SO <sub>2</sub>	0.6
VOM	5.5

These are the emission factors for natural gas combustion in small boilers (< 100 mmBtu/hr), controlled - low NO<sub>x</sub> 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>	<u>Natural Gas Emission Factor (lb/Mft<sup>3</sup>)</u>
NO <sub>x</sub>	50

This is the emission factor for NO<sub>x</sub> as supplied by the vendor of the affected boiler.

Boiler Emissions (lb) = (Natural Gas Consumed, Mft<sup>3</sup>) x (The Appropriate Emission Factor, lb/Mft<sup>3</sup>)

- ii. 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>	<u>Distillate Fuel Oil Emission Factor (lb/1,000 gal)</u>
CO	5
PM	2
SO <sub>2</sub>	142 S
VOM	0.216

These are the emission factors for uncontrolled distillate fuel oil combustion in commercial/institutional/residential combustors, Tables 1.3-2 and 1.3-15, AP-42, Volume I, Fifth Edition, Supplement E, September 1998. S indicates that the weight %

of sulfur in the oil should be multiplied by the value given.

B. Vendor Supplied Emission Factor:

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

This is the emission factor for NO<sub>x</sub> 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)

## 7.7 Natural Gas Fired Rental Boiler R-2

### 7.7.1 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<sub>x</sub> 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.

Note: This narrative description is for informational purposes only and is not enforceable.

### 7.7.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
R-2	Nebraska Boiler Model No. NOS.2A.67 Natural Gas Fired Boiler (R-2 Rental Boiler, 88 mmBtu/hr)	September 1998	Low NO <sub>x</sub> Burners

### 7.7.3 Applicable Provisions and Regulations

- a. The "affected boiler" for the purpose of these unit-specific conditions, is the R-2 Rental Boiler described in Conditions 7.7.1 and 7.7.2.
- b. 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.
- 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].

### 7.7.4 Non-Applicability of Regulations of Concern

- a. The affected boiler is not subject to 35 IAC 217.121, Emissions of NO<sub>x</sub> 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.
- c. The affected boiler is not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected boiler uses a passive control measure, such as a combustion or other process design feature or characteristic, that is not considered a control device because it acts to prevent the pollutants from forming.

7.7.5 Control Requirements and Work Practices

The affected boiler shall only be operated with natural gas as the fuel. This requirement was established in Permit 97120046.

7.7.6 Production and Emission Limitations

In addition to Condition 5.3.2 and the source-wide emission limitations in Condition 5.6, the affected boiler is subject to the following:

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

Firing Rate <u>(mmBtu/hr)</u>	Fuel Usage <u>(Mft<sup>3</sup>/yr)</u>			
88	252			
<u>Pollutant</u>	E M I S S I O N S <u>(lb/Mft<sup>3</sup>)</u>	<u>(lb/hr)</u>	<u>(T/yr)</u>	
CO	163.4	14.42	20.59	
NO <sub>x</sub>	37.8	3.34	4.76	
PM	7.6	0.67	0.96	
SO <sub>2</sub>	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<sub>x</sub>, 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 were established in Permit 96010010, pursuant to MSSCAM and PSD. These limits 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. In addition, the above limitations contain revisions to previously issued Permit 97120046, as reflected in this Title V permit issued on September 9, 1999. Specifically, the permitted emissions of CO were increased from 7.69 to 20.69 tons/year and the permitted emissions of NO<sub>x</sub> were 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 were decreased from 1.77 to 0.96 tons/year and the permitted emissions of VOM were increased from 0.36 tons/year to 0.69 tons/year based on revisions to the standard AP-42 emission factors [T1].

7.7.7 Testing Requirements

Testing requirements are not set for the affected boiler. However, there are source-wide testing requirements in Condition 5.7 and general testing requirements in Condition 8.5.

7.7.8 Monitoring Requirements

Monitoring requirements are not set for the affected boiler. However, there may be provisions for source-wide monitoring requirements set forth in Condition 5.8 of this permit.

7.7.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for the affected boiler to demonstrate compliance with Condition 5.6.1, 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, Mft<sup>3</sup>/mo and Mft<sup>3</sup>/yr; and
- c. Records of the monthly and annual aggregate CO, NO<sub>x</sub>, PM, SO<sub>2</sub>, and VOM emissions from the affected boiler shall be maintained, based on fuel consumption and the applicable emission factors, with supporting calculations.

7.7.10 Reporting Requirements

- a. Reporting of Deviations

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations 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:

- i. Emissions of CO, NO<sub>x</sub>, SO<sub>2</sub>, VOM and/or PM in excess of the limits specified in Condition 7.7.6 within 30 days of becoming aware of such an occurrence.
- b. Pursuant to 40 CFR 60.48c, the owner or operator of each affected facility shall submit notification of the date of construction or reconstruction, anticipated startup, and actual startup, as provided by 40 CFR 60.7. This notification shall include:
  - i. The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility [40 CFR 60.48c(a)(1)].
  - ii. The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired [40 CFR 60.48c(a)(3)].

7.7.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected boiler. However, there may be provisions for source-wide operational flexibility set forth in Condition 5.11 of this permit.

7.7.12 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 the CO emission limitation of Condition 7.7.3(c) is addressed by the fuel records required in Condition 7.7.9(b) and emission calculations using the emission factor in USEPA's Compilation of Air Pollutant Emission Factors, AP-42, for uncontrolled CO emissions from a gas-fired boiler.
- b. To determine compliance with Condition 5.6.1, emissions from the affected boiler shall be calculated based on the following emission factors:
  - i. Standard Emission Factors:

<u>Pollutant</u>	<u>Emission Factor</u> <u>(lb/Mft<sup>3</sup>)</u>
PM	7.6
SO <sub>2</sub>	0.6

<u>Pollutant</u>	<u>Emission Factor</u> <u>(lb/Mft<sup>3</sup>)</u>
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</u> <u>(lb/Mft<sup>3</sup>)</u>
CO	163.4
NO <sub>x</sub>	37.8

These are the emission factors for CO and NO<sub>x</sub> as supplied by the vendor of the affected boiler.

Boiler Emissions (lb) = (Natural Gas Consumed, Mft<sup>3</sup>) x  
(The Appropriate Emission Factor, lb/Mft<sup>3</sup>)

7.8 Natural Gas-Fired Chillers C13A & C14

Controls: Chiller 13A Low NO<sub>x</sub> Burner and Chiller 14 Engine Catalytic Converter

7.8.1 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.

Note: This narrative description is for informational purposes only and is not enforceable.

7.8.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
C13A	York International Model YPC-FN-20G-46-C-s Natural Gas-Fired Chiller (Chiller 13A, 13.738 mmBtu/hr)	April 1996	Low NO <sub>x</sub> Burner
C14	Caterpillar, Inc. Model 3608SI Natural Gas-Fired Chiller (Chiller 14, 19 mmBtu/hr)	September 1992	Chiller 14 Engine Catalytic Converter

7.8.3 Applicable Provisions and Regulations

- a. The "affected chillers" for the purpose of these unit-specific conditions, are Chillers 13A and 14 described in Conditions 7.8.1 and 7.8.2.
- b. 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].
- c. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 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].

7.8.4 Non-Applicability of Regulations of Concern

- a. The affected chillers are not subject to 35 IAC 216.121, Emissions of CO 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 217.71, Emissions of NO<sub>x</sub> 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 PM<sub>10</sub>, as identified in 35 IAC 212.324(a)(1).
- e. Chiller 13A is not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources because Chiller 13A uses a passive control measure, such as a combustion or other process design feature or characteristic, that is not considered a control device because it acts to prevent the pollutants from forming.

7.8.5 Control Requirements and Work Practices

- a. The affected chillers shall only be operated with natural gas as the fuel. This requirement was established in Permit 96010010, as issued on September 9, 1999, to address compliance with applicable provisions and regulations.
- 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. This requirement was established in Permit 96010010, as issued on September 9, 1999, to address compliance with applicable provisions and regulations, specifically, 35 IAC Part 203.

7.8.6 Production and Emission Limitations

In addition to Condition 5.3.2 and the source-wide emission limitations in Condition 5.6, the affected chillers are subject to the following:

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

Firing Rate (mmBtu/hr)	Operating Hours (Hours/yr)	E M I S S I O N S			
		NO <sub>x</sub> (lb/hr)	(T/yr)	CO (lb/hr)	(T/yr)
13.74	3,600	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 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 PSD [T1].
- b. i. Emissions and operation of Chiller #14 shall not exceed the following limits:

Operating Hours (Hours/yr)	NO <sub>x</sub> (lb/hr)	E M I S S I O N S					VOM (T/yr)
		CO (T/yr)	CO (lb/hr)	CO (T/yr)	CO (lb/hr)	CO (T/yr)	
5,208	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 96010010, pursuant to MSSCAM and 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 PSD. In addition, the above limitations contain revisions to previously issued Permit 94120092, as reflected in this Title V permit issued on September 9, 1999. Specifically, the annual VOM emission limit was increased by 0.01 ton [T1].
- c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.8.7 Testing Requirements

- a. 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 7.8.7(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 7.8.7(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 7.8.7(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)].

7.8.8 Monitoring Requirements

Monitoring requirements are not set for the affected chillers. However, there may be provisions for source-wide monitoring requirements set forth in Condition 5.8 of this permit.

7.8.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for the affected chillers to demonstrate compliance with Conditions 5.6.1 and 7.8.3 through 7.8.8, 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 7.8.7, which include the following [Section 39.5(7)(e) of the Act]:
  - i. The date, place and time of sampling or measurements;
  - ii. The date(s) analyses were performed;
  - iii. The company or entity that performed the analyses;
  - iv. The analytical techniques or methods used;
  - v. The results of such analyses; and
  - vi. The operating conditions as existing at the time of sampling or measurement.
- 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, Mft<sup>3</sup>/mo, and Mft<sup>3</sup>/yr;

- d. The average heat content of natural gas on a monthly basis, Btu/scf; and
- e. Monthly and annual aggregate CO, NO<sub>x</sub>, PM, SO<sub>2</sub>, 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.

7.8.10 Reporting Requirements

a. Reporting of Deviations

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of an affected chiller 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:

- i. 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 7.8.3(c) and/or 7.8.6(c) within 30 days of becoming aware of such an occurrence.
- ii. Emissions of NO<sub>x</sub>, CO, and/or VOM in excess of the limits in Condition 7.8.6 based on the current month's records plus the preceding 11 months within 30 days of becoming aware of such an occurrence.

7.8.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected chillers. However, there may be provisions for source-wide operational flexibility set forth in Condition 5.11 of this permit.

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 the emission limits in Conditions 7.8.3(b) and 7.8.3(c) is addressed by the records required in Condition 7.8.9 and emission factors and calculation procedures below.
- b. Compliance with Condition 7.8.3(c) is also addressed by operation of the Chiller 14 engine catalytic converter as specified in Condition 7.8.5(a).

c. Compliance with the emission limits of Conditions 5.6.1 and 7.8.6 shall be based on the emission factors and formulas listed below:

i. To determine compliance with Conditions 5.6.1 and 7.8.6, 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/Mft<sup>3</sup>)</u>
PM	7.6
SO <sub>2</sub>	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/Mft<sup>3</sup>)</u>
CO	37
NO <sub>x</sub>	31
VOM	25

These are the emission factors for CO, NO<sub>x</sub>, and VOM as supplied by the vendor of the affected chiller.

Chiller Emissions (lb) = (Natural Gas Consumed, Mft<sup>3</sup>) x (The Appropriate Emission Factor, lb/Mft<sup>3</sup>)

ii. To determine compliance with Conditions 5.6.1 and 7.8.6, emissions from Chiller No. 14 shall be calculated based on the following emission factors and formulas listed below:

A. Emission Factors from Stack Test:

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

These are the controlled emission factors for CO, NO<sub>x</sub>, and VOM (based on nonmethane emissions)

which were determined from the most recent stack test.

Chiller Emissions (lb) = (Natural Gas Consumed, Mft<sup>3</sup>) x (Heat Content of Natural Gas, Btu/scf) x (1,000,000 scf/Mft<sup>3</sup>) x (1 mmBtu/1,000,000 Btu) x (The Appropriate Emission Factor, lb/mmBtu)

B. Standard Emission Factors:

<u>Pollutant</u>	<u>Emission Factor (lb/Mft<sup>3</sup>)</u>
PM	10.0
SO <sub>2</sub>	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 PM<sub>10</sub> factor.

Chiller Emissions (lb) = (Natural Gas Consumed, Mft<sup>3</sup>) x (The Appropriate Emission Factor, lb/Mft<sup>3</sup>)

7.9 Natural Gas-Fired Boilers (< 10 mmBtu/hr)

7.9.1 Description

These boilers are utilized to provide process steam and heat to the source. These units have a maximum heat input rating of less than 10 mmBtu/hr. These boilers only use natural gas as the fuel. Emissions from the boilers are the byproducts of fuel combustion from natural gas.

Note: This narrative description is for informational purposes only and is not enforceable.

7.9.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
AP50-2	Weil McLain Model BG-988-WF-WB-MO-CSDI-UL Natural Gas Fired Boiler (Boiler AP50-2, 3 mmBtu/hr)	October 2001	None
AP50-1	Weil McLain Model PG-988-WF-PF-LO-UL Natural Gas Fired Boiler (Boiler AP50-1, 2.71 mmBtu/hr)	August 1995	None

7.9.3 Applicable Provisions and Regulations

- a. The "affected boilers" for the purpose of these unit-specific conditions, are the units described in Conditions 7.9.1 and 7.9.2.
- b. Other than applicable provisions and regulations listed in Condition 5.3.2, there are no applicable provisions or regulations for the affected boilers.

7.9.4 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 fuel combustion emission units have a maximum design heat input capacity of less than 2.9 MW (10 mmBtu/hr), therefore, this regulation does not apply.
- b. The affected boilers are not subject to 35 IAC 216.121, Emissions of CO from Fuel Combustion Emission Units, because the actual heat input of the affected boilers is less than 2.9 MW (10 mmBtu/hr).

- c. The affected boilers are not subject to 35 IAC 217.121, Emissions of NO<sub>x</sub> from New Fuel Combustion Emission Sources, because the actual heat input of the affected fuel combustion emission units 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.
- e. The affected boilers are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected boiler does not use an add-on control device to achieve compliance with an emission limitation or standard.

7.9.5 Control Requirements and Work Practices

- a. All affected boilers shall only be operated with natural gas as the fuel. This requirement was established for units AP50-1/AP50-2 in Permit 96010010 and Permit 02070092 to address compliance with applicable provisions and regulations [T1].

7.9.6 Production and Emission Limitations

In addition to Condition 5.3.2 and the source-wide emission limitations in Condition 5.6, the affected boilers are subject to the following:

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

<u>Item of Equipment</u>	<u>Firing Rate (mmBtu/hr)</u>	<u>Operating Hours (hours/yr)</u>
Boiler AP50-1	2.72	6,552
Boiler AP50-2	3	

<u>Item of Equipment</u>	<u>E M I S S I O N S</u>			
	<u>(lb/hr)</u>	<u>NO<sub>x</sub> (ton/yr)</u>	<u>(lb/hr)</u>	<u>CO (ton/yr)</u>
Boiler AP50-1	0.27	0.87	0.22	0.73
Boiler AP50-2	0.3	1.3	0.1	0.44

- 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 were established in Permits 96010010 and 02070092, pursuant to PSD. These limits 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. In addition, the above limitations contain revisions to previously issued Permit 95100145, as reflected in this Title V permit issued on September 9, 1999. Specifically, the permitted emissions of CO for Boiler AP50-1 were increased from 0.44 ton/yr to 0.71 ton/yr based on a revision to the standard AP-42 emission factor. It should be noted that Boiler AP50-1 was listed as Boiler AP50-2 in Permit 95100145 and Boiler AP50-2 was listed as Boiler AP50-1A in Permit 02070092 [T1].

- d. The above limitations contain revisions to previously issued Permit 92100095. 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 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 for Boiler K8-1 were increased from 0.74 to 3.09 ton/yr based on a revision to the standard AP-42 emission factor. In addition, the permitted emissions of CO for Boiler AP50-1 were increased by 0.02 ton/yr [T1R].

#### 7.9.7 Testing Requirements

Testing requirements are not set for the affected boilers. However, there are source-wide testing requirements in Condition 5.7 and general testing requirements in Condition 8.5.

#### 7.9.8 Monitoring Requirements

Monitoring requirements are not set for the affected boilers. However, there may be provisions for source-wide monitoring requirements set forth in Condition 5.8 of this permit.

#### 7.9.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for the

affected boilers to demonstrate compliance with Condition 5.6.1, pursuant to Section 39.5(7)(b) of the Act:

- a. Records of the fuel usage for the affected boilers, Mft<sup>3</sup>/mo and Mft<sup>3</sup>/yr; and
- b. Records of the monthly and annual aggregate CO, NO<sub>x</sub>, PM, SO<sub>2</sub>, and VOM emissions from the affected boilers shall be maintained, based on fuel consumption and the applicable emission factors, with supporting calculations.

7.9.10 Reporting Requirements

- a. Reporting of Deviations

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

- i. Emissions of NO<sub>x</sub> and/or CO in excess of the limit specified in Condition 7.9.6 within 30 days of becoming aware of such an occurrence.

7.9.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected boilers. However, there may be provisions for source-wide operational flexibility set forth in Condition 5.11 of this permit.

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. To determine compliance with Conditions 5.6.1 and 7.9.6, emissions from the affected boilers shall be calculated based on the following emission factors:

<u>Pollutant</u>	<u>Emission Factor (lb/Mft<sup>3</sup>)</u>
CO (Boilers AP50-1 and K8-1)	84
CO (Boiler AP50-2)	10
NO <sub>x</sub>	100
PM	7.6
SO <sub>2</sub>	0.6
VOM (Boilers AP50-1 and K8-1)	5.5
VOM (Boiler AP50-2)	16

Except as indicated below, 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. The CO, NO<sub>x</sub>, and VOM emission factors for Boiler AP50-2 are vendor-supplied emission factors.

Boiler Emissions (lb) = (Natural Gas Consumed, Mft<sup>3</sup>) x (The Appropriate Emission Factor, lb/Mft<sup>3</sup>)

7.10 Natural Gas-Fired Boilers (> 10 mmBtu/hr)

7.10.1 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.

Note: This narrative description is for informational purposes only and is not enforceable.

7.10.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
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
K2-1	Cleaver Brooks Model LR-614-35 Natural Gas Fired Boiler (Boiler K2-1, 15 mmBtu/hr)	Oct. 1982	None
K2-2	Cleaver Brooks Model LR-614-35 Natural Gas Fired Boiler (Boiler K2-2, 15 mmBtu/hr)	Oct. 1982	None

7.10.3 Applicable Provisions and Regulations

- a. The "affected boilers" for the purpose of these unit-specific conditions, are Boilers AP52-1, AP52-2, AP52-3, K2-1, and K2-2 described in Conditions 7.10.1 and 7.10.2.
- b. 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].

7.10.4 Non-Applicability of Regulations of Concern

- a. The affected boilers are not subject to 35 IAC 217.141, Emissions of NO<sub>x</sub> 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).
- b. Pursuant to 35 IAC 218.303, fuel combustion emission units are not subject to 35 IAC 218.301, Use of Organic Material.
- c. The affected boilers are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected boilers do not use an add-on control device to achieve compliance with an emission limitation or standard.

7.10.5 Control Requirements and Work Practices

- a. The affected boilers shall only be operated with natural gas as the fuel. This requirement was established in Permit 96010010, as issued on September 9, 1999, to address compliance with applicable provisions and regulations.

7.10.6 Production and Emission Limitations

In addition to Condition 5.3.2 and the source-wide emission limitations in Condition 5.6, the affected boilers are subject to the following:

- a. Emissions and operation of Boilers K2-1 and K2-2 shall not exceed the following limits:

<u>Item of Equipment</u>	<u>E M I S S I O N S</u>			
	<u>(lb/hr)</u>	<u>(ton/yr)</u>	<u>(lb/hr)</u>	<u>(ton/yr)</u>
Boilers K2-1 and K2-2	3.0	13.1	2.5	11.0

- 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 were established in Permit 82100044, pursuant to PSD. These limits 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 [T1].

7.10.7 Testing Requirements

Testing requirements are not set for the affected boilers. However, there are source-wide testing requirements in Condition 5.7 and general testing requirements in Condition 8.5.

7.10.8 Monitoring Requirements

Monitoring requirements are not set for the affected boilers. However, there may be provisions for source-wide monitoring requirements set forth in Condition 5.8 of this permit.

7.10.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for the affected boilers to demonstrate compliance with Condition 5.6.1, pursuant to Section 39.5(7)(b) of the Act:

- a. Records of the fuel usage for the affected boilers, Mft<sup>3</sup>/mo and Mft<sup>3</sup>/yr; and
- b. Records of the monthly and annual aggregate NO<sub>x</sub>, PM, SO<sub>2</sub>, and VOM emissions from the affected boilers shall be maintained, based on fuel consumption and the applicable emission factors, with supporting calculations.

7.10.10 Reporting Requirements

- a. Reporting of Deviations

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of an affected boiler with the permit requirements, 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.

7.10.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected boilers. However, there may be provisions for source-wide operational flexibility set forth in Condition 5.11 of this permit.

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. Compliance with the CO emission limitation of Condition 7.10.3(c) is addressed by the fuel records required in Condition 7.10.9(b) and emission calculations using the emission factor in USEPA's Compilation of Air Pollutant Emission Factors, AP-42, for uncontrolled CO emissions from a gas-fired boiler.

- b. To determine compliance with Conditions 5.6.1 and 7.10.6, emissions from the affected boiler shall be calculated based on the following emission factors:

<u>Pollutant</u>	<u>Emission Factor</u> <u>(lb/Mft<sup>3</sup>)</u>
NO <sub>x</sub>	100
PM	7.6
SO <sub>2</sub>	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, Mft<sup>3</sup>) x (The Appropriate Emission Factor, lb/Mft<sup>3</sup>)

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

7.11.1 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.

Note: This narrative description is for informational purposes only and is not enforceable.

7.11.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
AP52-6	Hurst Boiler Model No. S4-X-350-150 Natural Gas Fired Boiler (Boiler AP52-6, 14.7 mmBtu/hr)	May 1997	None

7.11.3 Applicable Provisions and Regulations

- a. The "affected boiler" for the purpose of these unit-specific conditions, is Boiler AP52-6 described in Conditions 7.11.1 and 7.11.2.
- b. 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.
- 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].

7.11.4 Non-Applicability of Regulations of Concern

- a. The affected boiler is not subject to 35 IAC 217.121, Emissions or NO<sub>x</sub> 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.

- c. The affected boiler is not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected boiler does not use an add-on control device to achieve compliance with an emission limitation or standard.

7.11.5 Control Requirements and Work Practices

- a. The affected boiler shall only be operated with natural gas as the fuel. This requirement was established in Permit 96010010, as issued on September 9, 1999, to address compliance with applicable provisions and regulations.

7.11.6 Production and Emission Limitations

In addition to Condition 5.3.2 and the source-wide emission limitations in Condition 5.6, the affected boiler is subject to the following:

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

<u>Firing Rate</u> (mmBtu/hr)	<u>Operating Hours</u> (hr/yr)	E M I S S I O N S					
		NO <sub>x</sub>	CO		PM		
		(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)
14.645	8,400	1.44	6.03	1.21	5.06	0.11	0.46

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 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<sub>x</sub> was decreased from 8.45 ton/yr to 6.03 ton/yr, the limit for CO was increased from 2.12 ton/yr to 5.06 ton/yr, and the limit for PM was decreased from 0.85 ton/yr to 0.46 ton/yr based on changes in the standard AP-42 emission factors. Hourly limits were also adjusted similarly [T1R].

#### 7.11.7 Testing Requirements

Testing requirements are not set for the affected boiler. However, there are source-wide testing requirements in Condition 5.7 and general testing requirements in Condition 8.5.

#### 7.11.8 Monitoring Requirements

Monitoring requirements are not set for the affected boiler. However, there may be provisions for source-wide monitoring requirements set forth in Condition 5.8 of this permit.

#### 7.11.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for the affected boiler to demonstrate compliance with Conditions 5.6.1 and 7.11.3 through 7.11.6, pursuant to Section 39.5(7)(b) of the Act:

- a. The owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each day [40 CFR 60.48c(g)];
- b. Records of the fuel usage for the affected boiler, Mft<sup>3</sup>/mo and Mft<sup>3</sup>/yr; and
- c. Records of the monthly and annual aggregate CO, NO<sub>x</sub>, PM, SO<sub>2</sub>, 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

##### a. Reporting of Deviations

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations 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:

- i. Emissions of CO, NO<sub>x</sub>, and/or PM in excess of the limits specified in Condition 7.11.6 within 30 days of becoming aware of such an occurrence.
- b. Pursuant to 40 CFR 60.48c, the owner or operator of each affected facility shall submit notification of the date of construction or reconstruction, anticipated startup, and actual startup, as provided by 40 CFR 60.7. This notification shall include:
  - i. The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility [40 CFR 60.48c(a)(1)].
  - ii. The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired [40 CFR 60.48c(a)(3)].

7.11.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected boiler. However, there may be provisions for source-wide operational flexibility set forth in Condition 5.11 of this permit.

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 the CO emission limitation of Condition 7.11.3(c) is addressed by the fuel records required in Condition 7.11.9(b) and emission calculations using the emission factor in USEPA's Compilation of Air Pollutant Emission Factors, AP-42, for uncontrolled CO emissions from a gas-fired boiler.
- b. To determine compliance with Conditions 5.6.1 and 7.11.6, emissions from the affected boiler shall be calculated based on the following emission factors:

<u>Pollutant</u>	<u>Emission Factor</u> <u>(lb/Mft<sup>3</sup>)</u>
CO	84
NO <sub>x</sub>	100
PM	7.6
SO <sub>2</sub>	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, Mft<sup>3</sup>) x (The Appropriate Emission Factor, lb/Mft<sup>3</sup>)

7.12 Diesel-Fired Emergency Generators

7.12.1 Description

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

Note: This narrative description is for informational purposes only and is not enforceable.

7.12.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
AP-5	Cummins Model DQKC Diesel-Fired Generator (Emergency Diesel Generator AP-5, 2000 kW)	May 2003	None
AP-7	Cummins Model DQKC Diesel-Fired Generator (Emergency Diesel Generator AP-7, 2000 kW)	May 2003	None
K-14	Cummins Model DQKC Diesel-Fired Generator (Emergency Diesel Generator K-14, 2000 kW)	April 2003	None
AP14C	Caterpillar Model #3516/E275 Diesel-Fired Generator (Emergency Diesel Generator AP14C, 1500 kW)	June 1985	None

7.12.3 Applicable Provisions and Regulations

- a. The "affected diesel generators" for the purpose of these unit-specific conditions, are the Emergency Diesel Generators described in Conditions 7.12.1 and 7.12.2.
- b. 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).
- c. 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].

- 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 diesel generators are not subject to 35 IAC 216.121, Emissions of CO from Fuel Combustion Emission Units, because the affected diesel generators are not by definition fuel combustion emission units.
- b. The affected diesel generators are not subject to 35 IAC 217.121, Emissions of NO<sub>x</sub> 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 diesel generators are not by definition fuel combustion emission units.
- c. This permit is issued based on the affected diesel generators 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 generators are not subject to 35 IAC 212.324, Process Emission Units in Certain Areas, because the source is not located in a non-attainment area for PM<sub>10</sub>, as identified in 35 IAC 212.324(a)(1).
- e. The affected diesel generators are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected diesel generators do not use an add-on control device to achieve compliance with an emission limitation or standard.

#### 7.12.5 Control Requirements and Work Practices

The following requirements were established in Permit 96010010, as issued on September 9, 1999, and Permit 03020028 to address compliance with applicable provisions and regulations.

- a. The affected diesel generators 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 generators:
  - i. 0.28 weight percent, or

- ii. The weight percent given by the formula: maximum weight percent sulfur = (0.000015) x (Gross heating value of oil, Btu/lb).

7.12.6 Production and Emission Limitations

In addition to Condition 5.3.2 and the source-wide emission limitations in Condition 5.6, the affected diesel generators are subject to the following:

- a. i. Emissions of air contaminants from the Diesel Generator AP14C shall not exceed the amounts specified in the Table below:

Annual Emissions (ton/yr)		
<u>SO<sub>2</sub></u>	<u>NO<sub>x</sub></u>	<u>CO</u>
0.4	1.6	0.3

- ii. These limits are based on emission rates calculated using standard emission factors and firing 5,250 gallons of fuel oil per year.

- iii. The above limitations were established in Permit 96010010, pursuant to PSD. These limits 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. In addition, the above limitations contain revisions to previously issued Permit 85040037, as reflected in this Title V permit issued on September 9, 1999. Specifically, the permitted emissions in NO<sub>x</sub> were increased from 1.3 tons/year to 1.6 tons/year based on the use of an updated emission factor [T1].

- b. i. Emissions of air contaminants from the Diesel Generators AP-5, AP-7, and K-14 shall not exceed the following limits:

Fuel Oil Usage		NO <sub>x</sub> Emissions		CO Emissions	
<u>(gal/mo)</u>	<u>(gal/yr)</u>	<u>(lb/hr)</u>	<u>(ton/yr)</u>	<u>(lb/hr)</u>	<u>(ton/yr)</u>
169,000	169,000	51.01	31.5	7.18	4.4

- ii. These limits are based on emission rates calculated using standard emission factors and the maximum firing rate of the emergency generators.

iii. The above limitations contain revisions to previously issued Permit 03020028. 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 PSD. These limits continue to ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, the hourly emission limits were decreased (by a factor of approximately 3.5) and the monthly and annual fuel oil usage limits were increased (from 73,125 gallons to 169,000 gallons) based on revised emission factors. The annual emission limits remain unchanged [T1R].

#### 7.12.7 Testing Requirements

Testing requirements are not set for the affected diesel generators. However, there are source-wide testing requirements in Condition 5.7 and general testing requirements in Condition 8.5.

#### 7.12.8 Monitoring Requirements

Monitoring requirements are not set for the affected diesel generators. However, there may be provisions for source-wide monitoring requirements set forth in Condition 5.8 of this permit.

#### 7.12.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for the affected diesel generators to demonstrate compliance with Conditions 5.6.1 and 7.12.3 through 7.12.6, pursuant to Section 39.5(7)(b) of the Act:

- a. Distillate fuel oil usage for the affected diesel generators, gal/mo and gal/yr;
- b. The sulfur content of the distillate fuel oil used in the affected diesel generators (% by Wt), which shall be recorded for each shipment of oil delivered to the source; and

- c. Monthly and annual aggregate CO, NO<sub>x</sub>, PM, SO<sub>2</sub>, and VOM emissions from the affected diesel generators shall be maintained, based on type of fuel used, fuel consumption and the applicable emission factors, with supporting calculations.

#### 7.12.10 Reporting Requirements

##### a. Reporting of Deviations

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of an 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:

- i. The use of distillate fuel oil with a sulfur content in excess of the limit specified in Condition 7.12.5(b) with the length of time this fuel was used and the effect on emissions of SO<sub>2</sub> within 30 days of this violation being detected.
- ii. Emissions of CO, NO<sub>x</sub>, and/or SO<sub>2</sub> in excess of the limits specified in Condition 7.12.6 within 30 days of becoming aware of such an occurrence.

#### 7.12.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected diesel generators. However, there may be provisions for source-wide operational flexibility set forth in Condition 5.11 of this permit.

#### 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 the emission limits in Conditions 7.12.3(c) and 7.12.3(d) is addressed by the records required in Condition 7.12.9 and standard emission factors and calculation procedures below.
- b. Compliance with Condition 7.12.3(b) is addressed by operation of the affected diesel generators with distillate fuel oil with a sulfur content meeting the specification of Condition 7.12.5(b).
- c. To determine compliance with Conditions 5.6.1 and 7.12.6, emissions from the emergency generator AP14C shall be calculated based on the following emission factors:

<u>Pollutant</u>	<u>Emission Factor (lb/1,000 Gal)</u>
CO	130.0
NO <sub>x</sub>	604.0
PM	42.5
SO <sub>2</sub>	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 (1/1,000) x (The Appropriate Emission Factor, lb/1,000 gal)

- d. To determine compliance with Conditions 5.6.1 and 7.12.6, emissions from the affected diesel generators (except emergency generator AP14C) shall be calculated based on the following emission factors:

- i. Standard Emission Factors:

<u>Pollutant</u>	<u>Emission Factor (lb/mmBtu)</u>
PM	0.0697
PM <sub>10</sub>	0.0573
SO <sub>2</sub>	1.01*S

These are the emission factors for Distillate Oil (Diesel) Industrial Internal Combustion Engines, Tables 3.4-1 and 3.4-2, AP-42, Volume I, Fifth Edition, Supplement B, October 1996. S indicates that the weight % of sulfur in the diesel fuel should be multiplied by the value given.

Diesel Generator Emissions (lb) = (Distillate Fuel Oil Consumed, gal) x (140,000 Btu/gal) x (The Appropriate Emission Factor, lb/mmBtu) x (1 mmBtu/1,000,000 Btu)

- ii. Vendor-Supplied Emission Factors:

<u>Pollutant</u>	<u>Emission Factor (lb/mmBtu)</u>
CO	0.3737
NO <sub>x</sub>	2.65
VOM	0.0672

These are the emission factors supplied by the vendor of the affected diesel generator engines.

Diesel Generator Emissions (lb) = (Distillate Fuel Oil Consumed, gal) x (140,000 Btu/gal) x (The Appropriate Emission Factor, lb/mmBtu) x (1 mmBtu/1,000,000 Btu)

## 7.13 Mobile Generators

### 7.13.1 Description

The source uses two mobile generators which are permanently mounted on trailers. These generators provide highly flexible emergency power to a particular building or production area in the event that service is lost. These generators also provide flexible temporary power to a particular building or production area to facilitate repair and maintenance of electrical service at the sites.

Note: This narrative description is for informational purposes only and is not enforceable.

### 7.13.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Mobile Generator 1	Cummins Model DQKC Diesel-Fired Generator (2000 kW)	Nov. 2004	None
Mobile Generator 2	Cummins Model DQKC Diesel-Fired Generator (2000 kW)	Nov. 2004	None

### 7.13.3 Applicable Provisions and Regulations

- a. The "affected mobile generators" for the purpose of these unit-specific conditions, are the generators described in Conditions 7.13.1 and 7.13.2.
- b. 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).
- c. 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].
- 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].

- e. No person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit, except as allowed by 35 IAC 212.123(b) and 212.124 [35 IAC 212.123(a)].
- f. The affected mobile generators are subject to the requirements at 40 CFR Part 89, Control of Emissions from New and In-Use Nonroad Compression-Ignition Engines. The obligations with respect to these regulations are on the equipment manufacturer or vender rather than the owner or operator, except for the following:
  - i. The acts listed in 40 CFR 89.1003 are prohibited, including removing or rendering inoperative a device or element of design installed in compliance with 40 CFR Part 89 and circumventing or attempting to circumvent the residence time requirements.
  - ii. The owner is responsible for the proper maintenance of the engine, pursuant to 40 CFR 89.1007(c).

#### 7.13.4 Non-Applicability of Regulations of Concern

- a. The affected mobile generators are not subject to 35 IAC 216.121, Emissions of CO from Fuel Combustion Emission Units, because the affected mobile generators are not by definition fuel combustion emission units.
- b. The affected mobile generators are not subject to 35 IAC 217.121, Emissions of NO<sub>x</sub> 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 mobile generators are not by definition fuel combustion emission units.
- c. This permit is issued based on the affected mobile generators 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 mobile generators are not subject to 35 IAC 212.324, Process Emission Units in Certain Areas, because the source is not located in a non-attainment area for PM<sub>10</sub>, as identified in 35 IAC 212.324(a)(1).
- e. The affected mobile generators are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected mobile generators do not use an add-on control device to achieve compliance with an emission limitation or standard.

7.13.5 Control Requirements and Work Practices

- a. The affected mobile generators combined operating hours shall not exceed 1,235 hours annually. This requirement was established in Permit 04080062 to address compliance with applicable provisions and regulations.
- b. The affected mobile generators shall only be operated with diesel fuel oil as the fuel. This requirement was established in Permit 04080062 to address compliance with applicable provisions and regulations.
- c. Diesel fuel oil with a sulfur content greater than the larger of the following two values shall not be used in the affected mobile generators:
  - i. 0.28 weight percent, or
  - ii. The weight percent given by the formula: maximum weight percent sulfur = (0.000015) x (Gross heating value of oil, Btu/lb).

7.13.6 Production and Emission Limitations

In addition to Condition 5.3.2 and the source-wide emission limitations in Condition 5.6, the affected mobile generators are subject to the following:

- a. i. Emissions from the affected mobile generators shall not exceed the following limits:

<u>Pollutant</u>	<u>Emissions (Tons/Month)</u>	<u>Emissions (Tons/Year)</u>
PM	0.83	0.83
PM <sub>10</sub>	0.68	0.68
CO	4.44	4.44
NO <sub>x</sub>	31.50	31.50
SO <sub>x</sub>	3.48	3.48
VOM	0.80	0.80

- ii. These limits are based on 1,235 operating hours per year and emission factors as listed in Condition 7.13.12. 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).
- iii. The above limitations were established in Permit 04080062, pursuant to MSSCAMand/or PSD. These limits 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 [T1].

7.13.7 Testing Requirements

Testing requirements are not set for the affected mobile generators. However, there are source-wide testing requirements in Condition 5.7 and general testing requirements in Condition 8.5.

7.13.8 Monitoring Requirements

Monitoring requirements are not set for the affected mobile generators. However, there may be provisions for source-wide monitoring requirements set forth in Condition 5.8 of this permit.

7.13.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for the affected mobile generators to demonstrate compliance with Conditions 5.6.1 and 7.13.3 through 7.13.6, pursuant to Section 39.5(7)(b) of the Act:

- a. Diesel fuel oil usage for the affected mobile generators, gal/mo and gal/yr;
- b. Combined operating hours of the affected mobile generators, hr/yr;
- c. The sulfur content of the diesel fuel oil used in the affected mobile generators (% by Wt), which shall be recorded for each shipment of oil delivered to the source; and
- d. Monthly and annual aggregate CO, NO<sub>x</sub>, PM, SO<sub>2</sub>, and VOM emissions from the affected mobile generators shall be maintained, based on type of fuel used, fuel consumption and the applicable emission factors, with supporting calculations.

7.13.10 Reporting Requirements

a. Reporting of Deviations

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of an affected mobile 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:

- i. The use of diesel fuel oil with a sulfur content in excess of the limit specified in Condition 7.13.5(c) with the length of time this fuel was used and the

effect on emissions of SO<sub>2</sub> within 30 days of this violation being detected.

- ii. Emissions of CO, NO<sub>x</sub>, and/or SO<sub>2</sub> in excess of the limits specified in Condition 7.13.6 within 30 days of becoming aware of such an occurrence.

7.13.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected mobile generators. However, there may be provisions for source-wide operational flexibility set forth in Condition 5.11 of this permit.

7.13.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.13.9 and the emission factors and formulas listed below:

- a. Compliance with the emission limits in Conditions 7.13.3(c) and 7.13.3(d) is addressed by the records required in Condition 7.13.9 and standard emission factors and calculation procedures below.
- b. Compliance with Condition 7.13.3(b) is addressed by operation of the affected mobile generators with diesel fuel oil with a sulfur content meeting the specification of Condition 7.13.5(c).
- c. To determine compliance with Conditions 5.6.1 and 7.13.6, emissions from the affected mobile generators shall be calculated based on the following emission factors:
  - i. Standard Emission Factors:

<u>Pollutant</u>	<u>Emission Factor</u> <u>(lb/mmBtu)</u>
PM	0.0697
PM <sub>10</sub>	0.0573
SO <sub>2</sub>	1.01*S

These are the emission factors for Distillate Oil (Diesel) Industrial Internal Combustion Engines, Tables 3.4-1 and 3.4-2, AP-42, Volume I, Fifth Edition, Supplement B, October 1996. S indicates that the weight % of sulfur in the diesel fuel should be multiplied by the value given.

Diesel Generator Emissions (lb) = (Diesel Fuel Oil Consumed, gal) x (140,000 Btu/gal) x (The Appropriate Emission Factor, lb/mmBtu) x (1 mmBtu/1,000,000 Btu)

ii. Vendor-Supplied Emission Factors:

<u>Pollutant</u>	<u>Emission Factor</u> <u>(lb/mmBtu)</u>
CO	0.3737
NO <sub>x</sub>	2.65
VOM	0.0672

These are the emission factors supplied by the vendor of the affected mobile generator engines.

Diesel Generator Emissions (lb) = (Diesel Fuel Oil Consumed, gal) x (140,000 Btu/gal) x (The Appropriate Emission Factor, lb/mmBtu) x (1 mmBtu/1,000,000 Btu)

- iii. A heating value of 140,000 Btu/gallon for diesel fuel and fuel consumption rate of 137.3 gallons/hour, based on maximum operating conditions, is acceptable for the required emission calculations.

## 7.14 New Natural Gas-Fired Boilers and Water Heaters

### 7.14.1 Description

These boilers and heaters are utilized to provide process steam and heat to the source. These units have a maximum heat input rating of less than 10 mmBtu/hr. These boilers and heaters only use natural gas as the fuel. Emissions from the boilers and heaters are the byproducts of fuel combustion from natural gas.

Note: This narrative description is for informational purposes only and is not enforceable.

### 7.14.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Building K8	Miura Steam Boilers K8-1 and K8-2 (6.0 mmBtu/hr each) with Low NO <sub>x</sub> Burners	July 2009	None
	Two AERCO Hot Water Heaters HW-1 and HW-2 (firing rate 3.0 mmBtu/hr each) with Low NO <sub>x</sub> Burners	September 2008	None

### 7.14.3 Applicable Provisions and Regulations

- a. The "affected fuel combustion emission units" for the purpose of these unit-specific conditions, are the units described in Conditions 7.14.1 and 7.14.2.
- b. Other than applicable provisions and regulations listed in Condition 5.3.2, there are no applicable provisions or regulations for the affected fuel combustion emission units.
- c. The boilers are subject to certain requirements of 40 CFR Part 63 Subpart DDDDD (as discussed further of this subsection) after this regulation becomes final and is published in the Federal Register.

### 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 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 fuel combustion emission units have a maximum design heat input capacity of less than 2.9 MW (10 mmBtu/hr), therefore, this regulation does not apply.

- b. The affected fuel combustion emission units are not subject to 35 IAC 216.121, Emissions of CO from Fuel Combustion Emission Units, because the actual heat input of the affected fuel combustion emission units is less than 2.9 MW (10 mmBtu/hr).
- c. The affected boilers are not subject to 35 IAC 217.121, Emissions of NO<sub>x</sub> from New Fuel Combustion Emission Sources, because the actual heat input of the affected fuel combustion emission units 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.
- e. The affected fuel combustion emission units are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected fuel combustion emission units do not use an add-on control device(s) to achieve compliance with an emission limitation or standard.
- f. The water heaters identified in Condition 7.14.2 are not subject to 40 CFR Part 63 Subpart DDDDD, pursuant to 40 CFR 63.7491, and therefore to case-by-case MACT determination performed by the Illinois EPA.

7.14.5 Case-by-Case MACT Determination for Boilers K8-1 and K8-2

a. Operating Limitations

- i. Boilers K8-1 and K8-2 shall only be operated with natural gas as the fuel.
- ii. Operate and maintain each boiler according to the provisions of 40 CFR 63.6(e)(1)(i).

b. Testing Requirements

- i. Upon written request by the Illinois EPA, the Permittee shall conduct performance test(s) for Boilers K8-1 and K8-2 and furnish the Illinois EPA with a written report of the results of such test(s). Such testing shall be conducted within 75 calendar days of the request, or on the date agreed upon by the Illinois EPA, whichever is later.
- ii. These tests shall be designed to measure the CO emissions under conditions which are representative of maximum emissions.
- iii. The following USEPA test methods shall be used for testing of emissions, unless another method is

approved by the Illinois EPA. Refer to 40 CFR 60, Appendix A, for test methods.

Location of Sample Points	Method 1
Gas Flow and Velocity	Method 2
Flue Gas Weight	Method 3
Moisture	Method 4
CO	Method 10

Note: This case-by-case determination is made pursuant to Section 112(j) of the Clean Air Act and Section 39.5(19) of the Act, implemented according to 40 CFR Part 63, Subpart B.

7.14.6 Control Requirements and Work Practices

- a. All affected fuel combustion emission units shall only be operated with natural gas as the fuel. For two boilers in Building K8 and two water heaters this requirement is newly established in Permit 96010010(T1N).
- b. For all boilers, the Permittee shall conduct a tune-up of each boiler biennially to demonstrate continuous compliance as specified in paragraphs 40 CFR 63.7540(a)(10)(i) through (a)(10)(vi), as specified in 40 CFR Part 63, Subpart DDDDD as proposed June 4, 2010 (75 FR 32006, e.seq.).

7.14.7 Production and Emission Limitations

In addition to Condition 5.3.2 and the source-wide emission limitations in Condition 5.6, the affected fuel combustion emission units are subject to the following:

- a. Emissions and operation of two boilers (Building K8) and two water heaters shall not exceed the following limits:

<u>Item of Equipment</u>	<u>Natural Gas Consumption</u> (mmscf)	
	<u>(mmscf/mo)</u>	<u>(mmscf/yr)</u>
Two Boilers (total)	8.75	103.1
Two Water Heaters (total)	4.37	51.6
Total:	13.1	154.7

<u>Item of Equipment</u>	<u>E M I S S I O N S</u> <u>NO<sub>x</sub></u>		<u>E M I S S I O N S</u> <u>PM</u>	
	<u>(lb/mo)</u>	<u>(ton/yr)</u>	<u>(lb/mo)</u>	<u>(ton/yr)</u>
Two Boilers (total)	216.0	1.27	66.2	0.39

<u>Item of Equipment</u>	E M I S S I O N S			
	NO <sub>x</sub>		CO	
	<u>(lb/mo)</u>	<u>(ton/yr)</u>	<u>(lb/mo)</u>	<u>(ton/yr)</u>
Two Water Heaters (total)	131.0	0.77	263.0	1.55

- 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) [T1N].
- c. The above limitations are being established in this permit pursuant to Title I of the CAA, specifically MSSCAM and/or PSD [T1N].
- d. The limits on natural gas consumption for the affected fuel combustion emission units shall be based on the total fuel consumption limit for the building K8, with gas usage per unit projected based on the operating hours and rated capacity of each unit in this building.

7.14.8 Testing Requirements

Testing requirements are not set for the water heaters.

7.14.9 Monitoring Requirements

Monitoring requirements are not set for the affected fuel combustion emission units.

7.14.10 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for the affected fuel combustion emission units to demonstrate compliance with Condition 5.6.1, pursuant to Section 39.5(7)(b) of the Act:

- a. Records of monthly operating hours (hr/mo) and maximum nameplate rated fuel firing rate for each affected fuel combustion emission unit (mmBtu/hr).
- b. Records of the fuel usage for the boilers and water heaters, Mft<sup>3</sup>/mo and Mft<sup>3</sup>/yr. These records shall be based on the total fuel consumption recorded for the building K8, with gas usage per unit determined based on the operating hours and rated capacity of each fuel combustion emission unit in this building during each month;
- c. Records of the monthly and annual emissions from the boilers and water heaters, based on fuel consumption and

the applicable emission factors, with supporting calculations;

- d. Records of tune-ups performed for boilers as required by Condition 7.14.6(b); and
- e. Records of the test results performed.

7.14.11 Reporting Requirements

a. Reporting of Deviations

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of an affected fuel combustion emission units 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:

- i. Emissions of NO<sub>x</sub> , CO and PM in excess of the limits specified in Condition 7.14.7 within 30 days of becoming aware of such an occurrence.
- ii. Natural gas usage in excess of the limits specified in Condition 7.14.7 within 30 days of becoming aware of such an occurrence.

7.14.12 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected fuel combustion emission units.

7.14.13 Compliance Procedures

- a. Compliance with CO emission limit of Condition 7.14.5(a) shall be based on the testing requirements of Condition 7.14.5(c), tune-up procedures for boilers of Condition 7.14.6(b) and the recordkeeping requirements of Condition 7.14.10.
- b. To determine compliance with Conditions 5.6.1 and 7.14.7, emissions from the affected fuel combustion emission units shall be calculated based on the following emission factors:

<u>Pollutant</u>	Emission Factor
CO (Boilers K8-1 & K8-2)*	0.0044 lb/MMBtu
CO (Water Heaters HW-1 & HW-2 )*	0.0589 lb/MMBtu
NO <sub>x</sub> (Boilers K8-1 & K8-2)*	0.024 lb/MMBtu
NO <sub>x</sub> (Water Heaters HW-1 & HW-2)*	0.0294 lb/MMBtu

<u>Pollutant</u>	Emission Factor
PM (Boilers & Water Heaters)**	7.6 <u>lb/Mft<sup>3</sup></u>

\* Based on the vendors specifications

\*\* Based on 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.

## 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 November 9, 2006 (the date of issuance of the proposed permit) unless this permit has been modified to reflect such new requirements.

### 8.2 Applicability of Title IV Requirements (Acid Deposition Control)

This source is not an affected source under Title IV of the CAA and is not subject to requirements pursuant to Title IV of the CAA.

### 8.3 Emissions Trading Programs

No permit revision shall be required for increases in emissions allowed under any USEPA approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for elsewhere in this permit and that are authorized by the applicable requirement [Section 39.5(7)(o)(vii) of the Act].

### 8.4 Operational Flexibility/Anticipated Operating Scenarios

#### 8.4.1 Changes Specifically Addressed by Permit

Physical or operational changes specifically addressed by the Conditions of this permit that have been identified as not requiring Illinois EPA notification may be implemented without prior notice to the Illinois EPA.

#### 8.4.2 Changes Requiring Prior Notification

The Permittee is authorized to make physical or operational changes that contravene express permit terms without applying for or obtaining an amendment to this permit, provided that [Section 39.5(12)(a)(i) of the Act]:

- a. The changes do not violate applicable requirements;
- b. The changes do not contravene federally enforceable permit terms or conditions that are monitoring (including test

methods), recordkeeping, reporting, or compliance certification requirements;

- c. The changes do not constitute a modification under Title I of the CAA;
- d. Emissions will not exceed the emissions allowed under this permit following implementation of the physical or operational change; and
- e. The Permittee provides written notice to the Illinois EPA, Division of Air Pollution Control, Permit Section, at least 7 days before commencement of the change. This notice shall:
  - i. Describe the physical or operational change;
  - ii. Identify the schedule for implementing the physical or operational change;
  - iii. Provide a statement of whether or not any New Source Performance Standard (NSPS) is applicable to the physical or operational change and the reason why the NSPS does or does not apply;
  - iv. Provide emission calculations which demonstrate that the physical or operational change will not result in a modification; and
  - v. Provide a certification that the physical or operational change will not result in emissions greater than authorized under the Conditions of this permit.

## 8.5 Testing Procedures

Tests conducted to measure composition of materials, efficiency of pollution control devices, emissions from process or control equipment, or other parameters shall be conducted using standard test methods if applicable test methods are not specified by the applicable regulations or otherwise identified in the conditions of this permit.

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 Conditions 8.6.3 and 8.6.4.

## 8.6 Reporting Requirements

### 8.6.1 Monitoring Reports

Reports summarizing required monitoring as specified in the conditions of this permit shall be submitted to the Illinois EPA

every six months as follows, unless more frequent submittal of such reports is required in Sections 5 or 7 of this permit [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 determinations of emissions and operation that are intended to be made, including sampling and monitoring locations;
- e. The test method(s) that 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. Unless otherwise specified in the particular provision of this permit or in the written instructions distributed by the Illinois EPA for particular reports, reports and notifications shall be sent to the Illinois EPA - Air Compliance Unit with a copy sent to the Illinois EPA - Air Regional Field Office.
- b. As of the date of issuance of this permit, the addresses of the offices that should generally be utilized for the submittal of reports and notifications are as follows:

- i. Illinois EPA - Air Compliance Unit

Illinois Environmental Protection Agency  
Bureau of Air  
Compliance & Enforcement Section (MC 40)  
P.O. Box 19276  
Springfield, Illinois 62794-9276

- ii. Illinois EPA - Air Quality Planning Section

Illinois Environmental Protection Agency  
Bureau of Air  
Air Quality Planning Section (MC 39)  
P.O. Box 19276  
Springfield, Illinois 62794-9276

iii. Illinois EPA - Air Regional Field Office

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
9511 West Harrison  
Des Plaines, Illinois 60016

iv. USEPA Region 5 - Air Branch

USEPA (AR - 17J)  
Air & Radiation Division  
77 West Jackson Boulevard  
Chicago, Illinois 60604

- c. Permit applications should be addressed to the Air Permit Section. As of the date of issuance of this permit, the address of the Air Permit Section is as follows:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
Permit Section (MC 11)  
P.O. Box 19506  
Springfield, Illinois 62794-9506

8.7 Title I Conditions

Notwithstanding the expiration date on the first page of this CAAPP permit, Title I conditions in this permit, which are identified by a T1, T1N, or T1R designation, remain in effect until such time as the Illinois EPA takes action to revise or terminate them in accordance with applicable procedures for action on Title I conditions. This is because these conditions either: (a) incorporate conditions of earlier permits that were issued by the Illinois EPA pursuant to authority that includes authority found in Title I of the CAA (T1 conditions), (b) were newly established in this CAAPP permit pursuant to authority that includes such Title I authority (T1N conditions), or (c) reflect a revision or combination of conditions established in this CAAPP permit (T1R conditions). (See also Condition 1.5.)

## 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.

9.1.2 In particular, this permit does not alter or affect the following [Section 39.5(7)(j)(iv) of the Act]:

- 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, pursuant to Section 39.5(7)(j) and (p) of the Act, 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, or 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 this permit provides for such continued operation consistent with the Act and applicable Illinois Pollution Control Board regulations [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 there under.

#### 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 as may be required by law and in accordance with constitutional limitations, the Permittee shall allow the Illinois EPA, or an authorized representative to perform the following [Sections 4 and 39.5(7)(a) and (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 applicable requirements; or
  - ii. As otherwise authorized by the CAA, or the Act.
- e. Obtain and remove samples of any discharge or emission of pollutants authorized by this permit; and
- f. Enter and utilize any photographic, recording, testing, monitoring, or other equipment for the purposes of preserving, testing, monitoring, or recording any regulated activity, discharge or emission at the source authorized by this permit.

#### 9.4 Obligation to Comply with Other Requirements

The issuance of this permit does not release the Permittee from applicable State and Federal laws and regulations, and applicable local ordinances addressing subjects other than air pollution control.

#### 9.5 Liability

##### 9.5.1 Title

This permit shall not be considered as in any manner affecting the title of the premises upon which the permitted source is located.

##### 9.5.2 Liability of Permittee

This permit does not release the Permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the sources.

##### 9.5.3 Structural Stability

This permit does not take into consideration or attest to the structural stability of any unit or part of the source.

##### 9.5.4 Illinois EPA Liability

This permit in no manner implies or suggests that the Illinois EPA (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the source.

##### 9.5.5 Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege [Section 39.5(7)(o)(iv) of the Act].

## 9.6 Recordkeeping

### 9.6.1 Control Equipment Maintenance Records

A maintenance record shall be kept on the premises for each item of air pollution control equipment. At 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 including any logs, plans, procedures, or instructions required to be kept 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, Air Quality Planning Section no later than May 1 of the following year, as required by 35 IAC Part 254.

## 9.8 Requirements for Compliance Certification

Pursuant to Section 39.5(7)(p)(v) of the Act, the Permittee shall submit annual compliance certifications. The compliance certifications shall be submitted no later than May 1 or more frequently as specified in the applicable requirements or by permit condition. The compliance certifications shall be submitted to the Air Compliance Unit, Air Regional Field Office, and USEPA Region 5 - Air Branch. The addresses for the submittal of the compliance certifications are provided in Condition 8.6.4 of this permit.

- a. The certification shall include the identification of each term or condition of this permit that is the basis of the

certification; the compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source, both currently and over the reporting period consistent with the conditions of this permit.

- b. All compliance certifications shall be submitted to USEPA Region 5 in Chicago as well as to the Illinois EPA.
- c. All compliance reports required to be submitted shall include a certification in accordance with Condition 9.9.

#### 9.9 Certification

Any document (including reports) required to be submitted by this permit shall contain a certification by a responsible official of the Permittee that meets the requirements of Section 39.5(5) of the Act and applicable regulations [Section 39.5(7)(p)(i) of the Act]. An example Certification by a Responsible Official is included as Attachment 1 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 [Section 39.5(7)(k) of the Act]:

- 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.

Note: For this purpose, emergency means a situation arising from sudden and reasonably unforeseeable events beyond the control of the source, as further defined by Section 39.5(7)(k)(iv) of the Act.

- 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 [Section 39.5(7)(k)(iv) of the Act].

#### 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, revoked, reopened and reissued, or terminated for cause in accordance with applicable provisions of Section 39.5 of the Act. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, 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 that inaccurate statements were made in establishing the emission standards or limitations, or other terms or conditions of this permit.

- d. The Illinois EPA or USEPA determines that this permit must be revised or revoked to ensure compliance with the applicable requirements.

#### 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 and reissuance under Section 39.5(15) of the Act, pursuant to Sections 39.5(5)(e) and (i) 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. In the event of a challenge to any portion of the permit, other portions of the permit may continue to be in effect. Should any portion of this permit be determined to be illegal or unenforceable, the validity of the other provisions shall not be affected and 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

Upon the expiration of this permit, if the source is operated, it shall be deemed to be operating without a permit unless a timely and complete CAAPP application has been submitted for renewal of this permit. However, if a timely and complete application to renew this CAAPP permit has been submitted, the terms and all conditions of this CAAPP permit will remain in effect until the issuance of a renewal permit [Section 39.5(5)(l) and (o) of the Act].

Note: Pursuant to Sections 39.5(5)(h) and (n) of the Act, upon submittal of a timely and complete renewal application, the permitted source may continue to operate until final action is taken by the Illinois EPA on the renewal application, provided, however, that this protection shall cease if the applicant fails to submit any additional information necessary to evaluate or take final action on the renewal

application as requested by the Illinois EPA in writing. For a renewal application to be timely, it must be submitted no later than 9 months prior to the date of permit expiration.

9.15 General Authority for the Terms and Conditions of this Permit

The authority for terms and conditions of this permit that do not include a citation for their authority is Section 39.5(7)(a) of the Act, which provides that the Illinois EPA shall include such provisions in a CAAPP permit as are necessary to accomplish the purposes of the Act and to assure compliance with all applicable requirements. Section 39.5(7)(a) of the Act is also another basis of authority for terms and conditions of this permit that do include a specific citation for their authority.

Note: This condition is included in this permit pursuant to Section 39.5(7)(n) of the Act.

**10.0 ATTACHMENTS**

Attachment 1 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: \_\_\_\_\_

Attachment 2 Emissions of Particulate Matter from Process Emission Units

- a. New Process Emission Units for Which Construction or Modification Commenced On or After April 14, 1972 [35 IAC 212.321].
- 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 [35 IAC 212.321(a)].
- ii. 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,

A. 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

B. 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

iii. Limits for Process Emission Units For Which Construction or Modification Commenced On or After April 19, 1972 [35 IAC 212.321(c)]:

Metric P <u>Mg/hr</u>	E <u>kg/hr</u>	English P <u>T/hr</u>	E <u>lb/hr</u>
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

b. Existing Process Emission Units for Which Construction or Modification Prior to April 14, 1972 [35 IAC 212.322].

- i. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit for which construction or modification commenced prior to April 14, 1972, which, either alone or in combination with the emission of particulate matter from all other similar process emission units at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 [35 IAC 212.322(a)].
- ii. Interpolated and extrapolated values of the data in subsection (c) of 35 IAC 212.321 shall be determined by using the equation [35 IAC 212.322(b)]:

$$E = C + A(P)^B$$

where:

P = Process weight rate; and  
 E = Allowable emission rate; and,

A. 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

B. 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

iii. Limits for Process Emission Units For Which Construction or Modification Commenced Prior to April 14, 1972 [35 IAC 212.322(c)]:

Metric P <u>Mg/hr</u>	E <u>kg/hr</u>	English P <u>T/hr</u>	E <u>lb/hr</u>
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

Attachment 3 Compliance Assurance Monitoring (CAM) Plan

Table 3.1 PSEU Designation:	Accela Cotas #1 through #4, Glatt Particle Coater
Significant Emission Unit Section:	7.2
Pollutant:	VOM

Indicators:	#1: Thermal Oxidizer #1 and #2 Combustion Chamber (TOCC) Temperature	#2: None
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GENERAL CRITERIA

THE MONITORING APPROACH USED TO MEASURE THE INDICATORS:	The TOCC temperature is measured with a thermocouple.	
THE INDICATOR RANGE WHICH PROVIDES A REASONABLE ASSURANCE OF COMPLIANCE:	The TOCC will be preheated to a minimum temperature of 1,400°F before the Particle Coater begins using a VOM-containing material. The TOCC will be maintained at a minimum of 1,400°F during VOM-based coating operations.	
QUALITY IMPROVEMENT PLAN (QIP) THRESHOLD LEVELS:	No QIP threshold is necessary. The TOCC temperature monitoring system is an existing, mature, and reliable system.	

PERFORMANCE CRITERIA

THE SPECIFICATIONS FOR OBTAINING REPRESENTATIVE DATA:	The TOCC temperature sensor is located within the combustion chamber and was installed following manufacturer guidelines.	
VERIFICATION PROCEDURES TO CONFIRM THE OPERATIONAL STATUS OF THE MONITORING:	The TOCC temperature monitoring system is existing and operational.	
QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PRACTICES THAT ENSURE THE VALIDITY OF THE DATA:	a. The TOCC temperature monitoring system is periodically inspected, undergoes annual preventive maintenance, and defects are promptly repaired. b. The TOCC temperature monitor is calibrated quarterly following manufacturer recommendations.	
THE MONITORING FREQUENCY:	The TOCC temperature is continuously monitored (at least once every 15 minutes) during VOM-based coating operations.	
THE DATA COLLECTION PROCEDURES THAT WILL BE USED:	Actual TOCC temperature is monitored using a calibrated thermocouple. Data may be recorded using a paper-type chart recorder and/or a computer system when the thermal oxidizer is used to control VOM emissions.	
THE DATA AVERAGING PERIOD FOR DETERMINING WHETHER AN EXCURSION OR EXCEEDANCE HAS OCCURRED:	An excursion or exceedance occurs when the average TOCC temperature for any 15-minute period during the control of VOM emission is below the 1,400°F maintenance requirement.	

Table 3.2 PSEU Designation:	Boilers 4AP and 5AP
Significant Emission Unit Section:	7.4
Pollutant:	PM

Indicators:	#1: Multi-cyclone Separator (MCS) Airflow Pressure Drop	#2: None
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GENERAL CRITERIA

THE MONITORING APPROACH USED TO MEASURE THE INDICATORS:	The airflow pressure drop across the MCS will be measured and recorded daily.	
THE INDICATOR RANGE WHICH PROVIDES A REASONABLE ASSURANCE OF COMPLIANCE:	The MCS airflow pressure drop indicator range will be determined through a performance test. The expected indicator range is 1-5 inches water column pressure drop.	
QUALITY IMPROVEMENT PLAN (QIP) THRESHOLD LEVELS:	None	

PERFORMANCE CRITERIA

THE SPECIFICATIONS FOR OBTAINING REPRESENTATIVE DATA:	A differential pressure meter will be installed across the MCS. Installation and maintenance of the MCS differential pressure meter will comply with the manufacturer's instructions.	
VERIFICATION PROCEDURES TO CONFIRM THE OPERATIONAL STATUS OF THE MONITORING:	The MCS airflow pressure drop indicator installation, calibration, and operation will comply with manufacturer requirements. The MCS will be inspected at least annually for leaks or pluggage, and repairs will be made appropriately. The MCS airflow pressure drop indicator measuring system will be inspected periodically for pluggage or leakage.	
QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PRACTICES THAT ENSURE THE VALIDITY OF THE DATA:	The MCS airflow pressure drop indicator will be calibrated at least semi-annually following the manufacturer's instructions. The MCS and the airflow pressure drop measuring system will be inspected at least annually for pluggage or leaks.	
THE MONITORING FREQUENCY:	MCS airflow pressure drop readings will be monitored once per day.	
THE DATA COLLECTION PROCEDURES THAT WILL BE USED:	MCS airflow pressure drop readings will be recorded once per day.	
THE DATA AVERAGING PERIOD FOR DETERMINING WHETHER AN EXCURSION OR EXCEEDANCE HAS OCCURRED:	Not applicable	

Attachment 4 Guidance

The Illinois has prepared guidance for sources on the Clean Air Act Permit Program (CAAPP) that is available on the Internet site maintained by the Illinois EPA, [www.epa.state.il.us](http://www.epa.state.il.us). This guidance includes instructions on applying for a revision or renewal of the CAAPP permit.

Guidance On Revising A CAAPP Permit:

[www.epa.state.il.us/air/caapp/caapp-revising.pdf](http://www.epa.state.il.us/air/caapp/caapp-revising.pdf)

Guidance On Renewing A CAAPP Permit:

[www.epa.state.il.us/air/caapp/caapp-renewing.pdf](http://www.epa.state.il.us/air/caapp/caapp-renewing.pdf)

The application forms prepared by the Illinois EPA for the CAAPP are also available from the Illinois EPA's Internet site:

[www.epa.state.il.us/air/caapp/index.html](http://www.epa.state.il.us/air/caapp/index.html)

These CAAPP application forms should also be used by a CAAPP source when it applies for a construction permit. For this purpose, the appropriate CAAPP application forms and other supporting information, should be accompanied by a completed Application For A Construction Permit form (199-CAAPP) and Fee Determination for Construction Permit Application form (197-FEE):

[www.epa.state.il.us/air/caapp/199-caapp.pdf](http://www.epa.state.il.us/air/caapp/199-caapp.pdf)

[www.epa.state.il.us/air/permits/197-fee.pdf](http://www.epa.state.il.us/air/permits/197-fee.pdf)

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Attachment 5 Net VOM Emissions Increase Determination

Table 1

Contemporaneous 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 2

Contemporaneous 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 3

Net 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).

