

FINAL DRAFT/PROPOSED CAAPP PERMIT
Pharmacia Corporation
I.D. No.: 031288AAH
Application No.: 95110013
January 31, 2001

217/782-2113

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

PERMITTEE

Pharmacia Corporation
Attn: Ebrahim K. Khalili
4901 Searle Parkway
Skokie, Illinois 60077

Application No.: 95110013 I.D. No.: 031288AAH
Applicant's Designation: Date Received: November 6, 1995
Operation of: Pharmaceutical Research and Development Facility
Date Issued: TO BE DETERMINED Expiration Date²: DATE
Source Location: 4901 Searle Parkway, Skokie, Cook, IL 60077
Responsible Official: Arthur L. Campbell, Vice President/Product Development

This permit is hereby granted to the above-designated Permittee to operate a pharmaceutical research and development facility, pursuant to the above referenced permit application. This permit is subject to the conditions contained herein.

If you have any questions concerning this permit, please contact Nathan A. Frank at 217/782-2113.

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

DES:NAF:psj

cc: Illinois EPA, FOS, Region 1
USEPA

¹ This permit may contain terms and conditions which address the applicability, and compliance if determined applicable, of Title I of the CAA and regulations promulgated thereunder, including 40 CFR 52.21 - federal PSD and 35 IAC Part 203 - Major Stationary Sources Construction and Modification. Any such terms and conditions are identified within this permit.

² Except as provided in Condition 8.7 of this permit.

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1.0 SOURCE IDENTIFICATION

1.1 Source

Pharmacia Corporation
4901 Searle Parkway
Skokie, Illinois 60077
847/982-7661

I.D. No.: 031288AAH
Standard Industrial Classification: 2834

1.2 Owner/Parent Company

Pharmacia Corporation
4901 Searle Parkway
Skokie, Illinois 60077

1.3 Operator

Pharmacia Corporation
4901 Searle Parkway
Skokie, Illinois 60077

Ebrahim K. Khalili
847/982-7661

1.4 General Source Description

The Pharmacia Corporation Skokie Research and Development Facility is located at 4901 Searle Parkway, Skokie. The source is a pharmaceutical research and development facility, which includes approximately 400 bench-scale laboratories and pilot plant operations for the production of non-commercial drugs for research.

2.0 LIST OF ABBREVIATIONS/ACRONYMS USED IN THIS PERMIT

| | |
|------------------|--|
| Act | Illinois Environmental Protection Act [415 ILCS 5/1 et seq.] |
| 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 |
| ATU | Allotment Trading Units |
| 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 |
| CFR | Code of Federal Regulations |
| CO | Carbon Monoxide |
| ERMS | Emissions Reduction Market System |
| Ft ³ | Cubic Feet |
| Gal | Gallons |
| HAP | Hazardous Air Pollutant |
| hr | Hour |
| IAC | Illinois Administrative Code |
| I.D. No. | Identification Number of Source, assigned by Illinois EPA |
| Illinois EPA | Illinois Environmental Protection Agency |
| kg | Kilograms |
| kW | Kilowatts |
| lb | Pound |
| ILCS | Illinois Compiled Statutes |
| MBtu | Million British thermal units |
| Mg | Megagrams |
| mmHg | Millimeters of Mercury |
| mmscf | Million standard cubic feet |
| Mo | Month |
| MW | Megawatts |
| NESHAP | National Emission Standards for Hazardous Air Pollutants |
| ng | nanograms |
| NOx | Nitrogen Oxides |
| NSPS | New Source Performance Standards |
| PM | Particulate Matter |
| PM ₁₀ | Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 microns as measured by applicable test or monitoring methods |
| ppm | parts per million |

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| | |
|-----------------|---|
| PSD | Prevention of Significant Deterioration |
| RMP | Risk Management Plan |
| SO ₂ | Sulfur Dioxide |
| 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 |
| USEPA | United States Environmental Protection Agency |
| VOM | Volatile Organic Material |
| Yr | Year |

3.0 INSIGNIFICANT ACTIVITIES

3.1 Identification of Insignificant Activities

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

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

850 Gal. waste storage tank
10 Gal. wiped/thin film evaporator

- 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:

None

- 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:

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

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

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

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

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

3.2 Compliance with Applicable Requirements

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

- 3.2.1 For each cold cleaning degreaser, the Permittee shall comply with the applicable equipment and operating requirements of 35 IAC 215.182, 218.182, or 219.182.
- 3.2.2 For each particulate matter process emission unit, the Permittee shall comply with the applicable particulate matter emission limit of 35 IAC 212.321 or 212.322. For example, the particulate matter emissions from a process emission unit shall not exceed 0.55 pounds per hour if the emission unit's process weight rate is 100 pounds per hour or less, pursuant to 35 IAC 266.110.
- 3.2.3 For each organic material emission unit that uses organic material, e.g., a mixer or printing line, the Permittee shall comply with the applicable VOM emission limit of 35 IAC 215.301, 218.301, or 219.301, which requires that organic material emissions not exceed 8.0 pounds per hour or do not qualify as photochemically reactive material as defined in 35 IAC 211.4690.

3.3 Addition of Insignificant Activities

- 3.3.1 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type that is identified in Condition 3.1, until the renewal application for this permit is submitted, pursuant to 35 IAC 201.212(a).
- 3.3.2 The Permittee must notify the Illinois EPA of any proposed addition of a new insignificant activity of a type addressed by 35 IAC 201.210(a) and 201.211 other than those identified in Condition 3.1, pursuant to Section 39.5(12)(b) of the Act.
- 3.3.3 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type identified in 35 IAC 201.210(b).

4.0 SIGNIFICANT EMISSION UNITS AT THIS SOURCE

| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|---|--|------------------------|---|
| M5-A/B: 5.3 Gallon Batch Reactors* | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Constructed 5/1997 | Condenser H-1 |
| K-11/12: 10 Gallon Batch Reactors* | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Constructed 4/1990 | Condenser KH-11; Scrubbers S-5/S-6 |
| K-13/14: 10 Gallon Batch Reactors* | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Constructed 4/1990 | Condenser KH-13; Scrubbers S-5/S-6 |
| K-31/32: 30 Gallon Batch Reactors* | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Constructed 4/1990 | Condenser KH-31; Scrubbers S-5/S-6 |
| K-33/34: 30 Gallon Batch Reactors* | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Constructed 4/1990 | Condenser KH-33; Scrubbers S-5/S-6 |
| K-35: 30 Gallon Batch Reactors* | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Constructed 4/1990 | Condenser KH-35A; Scrubbers S-5/S-6 |
| K-36: 30 Gallon Batch Reactor* | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Constructed 3/1989 | Condenser HI-305; Scrubbers S-5/S-6 |
| K-51/52: 50 Gallon Batch Reactors* | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Constructed 4/1990 | Condenser KH-51B; Scrubbers S-5/S-6 |
| K-53/54: 50 Gallon Batch Reactors* | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Constructed 4/1990 | Condenser KH-53; Scrubbers S-5/S-6 |
| K-55/56: 50 Gallon Batch Reactors* | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Constructed 12/1990 | Condenser KH-55; Scrubbers S-5/S-6 |
| K-57/58: 50 Gallon Batch Reactors* | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Constructed 10/1988 | Condenser KH-57; Scrubbers S-5/S-6 |
| K-101: 100 Gallon Batch Reactor* | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Constructed 4/1990 | Condenser KH-101; Scrubbers S-5/S-6 |
| K-103: 100 Gallon Batch Reactor* | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Constructed 6/1989 | Condenser HI-305; Scrubbers S-5/S-6 |
| K-201/202: 200 Gallon Batch Reactors* | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Constructed 5/1990 | Condenser KH-201B; Scrubbers S-2/S-3 |

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| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|--|--|---------------------|---|
| K-203/204: 200 Gallon Batch Reactors* | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Constructed 6/1990 | Condenser KH-203; Scrubbers S-5/S-6 |
| K-301/302: 300 Gallon Batch Reactors* | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Constructed 8/1985 | Condenser KH-301B; Dust Collectors B-DC-001/B-DC-002**; Scrubbers S-2/S-3 |
| K-303/304: 300 Gallon Batch Reactors* | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Constructed 7/1996 | Condenser KH-303B; Dust Collectors B-DC-001/B-DC-002**; Scrubbers S-2/S-3 |
| K-305: 300 Gallon Batch Reactor* | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Constructed 5/1989 | Condenser HI-305; Scrubbers S-2/S-3 |
| K-306: 300 Gallon Batch Reactor* | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Constructed 4/1990 | Condenser KH-306; Scrubbers S-2/S-3 |
| K-505/506: 500 Gallon Batch Reactors* | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Constructed 12/2000 | Condenser KH-505B; Dust Collectors B-DC-001/B-DC-002**; Scrubbers S-2/S-3 |
| K-751/752: 750 Gallon Batch Reactors* | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Constructed 9/1985 | Condenser KH-751B; Dust Collectors B-DC-001/B-DC-002; Scrubbers S-2/S-3 |
| K-753/754: 750 Gallon Batch Reactors* | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Constructed 12/1993 | Condenser KH-754B; Dust Collectors B-DC-001/B-DC-002**; Scrubbers S-2/S-3 |
| K-1003/1004: 1000 Gallon Batch Reactors* | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Constructed 12/1997 | Condenser KH-1003B; Dust Collectors B-DC-001/B-DC-002**; Scrubbers S-2/S-3 |
| Dryer D-1 | Steam-heated vacuum shelf dryer | Constructed 6/1983 | 2 Condensers DH-1B and DH-1C in series and Dust Collector L-DC-002 |
| Dryer D-2 | Steam-heated vacuum shelf dryer | Constructed 2/1990 | 2 Condensers DH-2B and DH-2C in series and Dust Collector L-DC-002 |
| Dryer D-6 | Double cone tumble dryer | Constructed 5/1998 | 2 Condensers DH-6A and DH-6B in series and Dust Collectors B-DC-001/B-DC-002 |

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| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|-----------------------|---|---------------------|--|
| Dryer D-8 | Stokes conical rotating vacuum dryer | Constructed 2/1992 | 2 Condensers DH-2B and DH-2C in series and Dust Collector L-DC-001 |
| Dryer D-9 | Glass-lined tumble dryer | Constructed 11/1992 | 2 Condensers D-9A and D-9B in series and Dust Collector L-DC-001 |
| Dryer D-12 | Paddle dryer | Constructed 7/1998 | 2 Condensers DH-12A and DH-12B in series and Dust Collector L-DC-001 |
| Solvent Recovery Unit | Distillation column used to recover spent solvent | Constructed 2/1998 | Condenser CH-2C |
| B-1 Boiler | 49 MBtu/hr rated Natural Gas Fired Boiler with Oil Backup Capacity | Constructed 6/1966 | None |
| B-2 Boiler | 59.7 MBtu/hr rated Natural Gas Fired Boiler with Oil Backup Capacity | Constructed 3/1982 | None |
| B-3 Boiler | 59.7 MBtu/hr rated Natural Gas Fired Boiler with Oil Backup Capacity | Constructed 3/1982 | None |
| B-4 Boiler | 79.3 MBtu/hr rated Natural Gas Fired Boiler and 75 MBtu/Hr rated for Fuel Oil | Constructed 12/1999 | Low NOx burner with FGR |

*Associated Filters (F-1, FH-1, F-2, F-3, FH-3, F-4, FH-4, F-5, FH-5, F-6, FH-6A, FH-6B, F-305, PF-10, PF-11, and PF-12 are included here.)

**Emissions from other reactors may be controlled by these dust collectors through the use of "elephant trunks," i.e., portable flexible hoses.

5.0 OVERALL SOURCE CONDITIONS

5.1 Source Description

5.1.1 This permit is issued based on the source requiring a CAAPP permit as a major source of VOM and NO_x emissions.

5.1.2 This permit is issued based on the source not being a major source of HAPs.

5.2 Applicable Regulations

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

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

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

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

- b. 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, pursuant to 35 IAC 212.123(a), except as allowed by 35 IAC 212.123(b) and 212.124.

5.2.3 Fugitive Particulate Matter Operating Program

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

- b. The operating program shall be amended from time to time by the Permittee so that the operating program is current. Such amendments shall be consistent with the requirements set forth by this Condition and shall be submitted to the Illinois EPA [35 IAC 212.312].
- c. All normal traffic pattern roads and parking facilities located at this source shall be paved or treated with water, oils, or chemical dust suppressants. All paved areas shall be cleaned on a regular basis. All areas treated with water, oils, or chemical dust suppressants shall have the treatment applied on a regular basis, as needed, in accordance with the operating program [35 IAC 212.306].

5.2.4 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.

5.2.5 Risk Management Plan

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

- a. A compliance schedule for meeting the requirements of 40 CFR Part 68 by the date provided in 40 CFR 68.10(a); or
 - b. A certification statement that the source is in compliance with all requirements of 40 CFR Part 68, including the registration and submission of the Risk Management Plan (RMP), as part of the annual compliance certification required by 40 CFR Part 70 or 71.
- 5.2.6
- a. Should this stationary source become subject to a regulation under 40 CFR Parts 60, 61, or 63, or 35 IAC after the date issued of this permit, then the owner or operator shall, in accordance with the applicable regulation(s), comply with the applicable requirements by the date(s) specified and shall certify compliance with the applicable requirements of such regulation(s) as part of the annual compliance certification, as required by 40 CFR Part 70 or 71.
 - b. No later than upon the submittal for renewal of this permit, the owner or operator shall submit, as part of an application, the necessary information to address either the non-applicability of, or demonstrate compliance with all applicable requirements of any potentially applicable regulation which was promulgated after the date issued of this permit.
- 5.2.7 Episode Action Plan
- a. If the source is required to have an episode action plan pursuant to 35 IAC 244.142, the Permittee shall maintain at the source and have on file with the Illinois EPA a written episode action plan (plan) for reducing the levels of emissions during yellow alerts, red alerts, and emergencies, consistent with safe operating procedures. The plan shall contain the information specified in 35 IAC 244.144.
 - b. The Permittee shall immediately implement the appropriate steps described in this plan should an air pollution alert or emergency be declared.
 - c. If a change occurs at the source which requires a revision of the plan (e.g., operational change, change in the source contact person), a copy of the

revised plan shall be submitted to the Illinois EPA for review within 30 days of the change. Such plans shall be further revised if disapproved by the Illinois EPA.

- d. For sources required to have a plan pursuant to 35 IAC 244.142, a copy of the original plan and any subsequent revisions shall be sent to:
 - i. Illinois EPA, Compliance Section; and
 - ii. For sources located in Cook County and outside of the city of Chicago: Cook County Department of Environmental Control; or
 - iii. For sources located within the city of Chicago: Chicago Department of Environmental Control.

5.3 Non-Applicability of Regulations of Concern

5.3.1 This permit is issued based on the source not being subject to 40 CFR 63, Subpart GGG - National Emission Standards for Pharmaceuticals Production, because the source is not a major source of HAPs. (See also Condition 5.5.2.)

5.4 Source-Wide Operational and Production Limits and Work Practices

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

None

5.5 Source-Wide Emission Limitations

5.5.1 Permitted Emissions for Fees

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

Permitted Emissions of Regulated Pollutants

| Pollutant | Tons/Year |
|------------------------------------|-----------|
| Volatile Organic Material (VOM) | 82.56 |
| Sulfur Dioxide (SO ₂) | 10.97 |
| Particulate Matter (PM) | 28.59 |
| Nitrogen Oxides (NO _x) | 84.24 |
| HAP, not included in VOM or PM | ---- |
| TOTAL | 206.35 |

5.5.2 Emissions of Hazardous Air Pollutants

The emissions of HAPs from the source shall be less than 10 tons/year for each individual HAP and 25 tons/year for all HAPs combined. Compliance with these limits shall be based on a running total of 12 months of data.

This condition is being imposed at the request of the Permittee so that the source is not considered a major source of HAP emissions and the requirements of 40 CFR 63 Subpart GGG - National Emission Standards for Pharmaceutical Production do not apply to the source.

5.5.3 Other Source-Wide Emission Limitations

The annual emissions from the below listed emission units combined shall not exceed the following limitations:

- M-5 A/B
- K-11/12
- K-13/14
- K-31/32
- K-33/34
- K-35
- K-51/52
- K-53/54
- K-55/56
- K-57/58
- K-101
- K-201/202
- K-203/204
- K-306
- D-1
- D-2
- D-8
- K-753/754
- K-303/304
- K-1003/1004

| Pollutant | Emissions (Tons/Year) | Underlying Rules |
|-----------|--------------------------|---------------------|
| VOM | 24.9 | 35 IAC Part 203 |

The above limitations contain revisions to previously issued Permits 90030029 and 88090062. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permits, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in these permits 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. Specifically, this limit has been revised to limit the combined emissions of VOM from each emission unit constructed, reconstructed, or modified between 1993 and 1997. See also Conditions 7.1.6, 7.2.6, and 7.3.6 [T1R].

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

5.6 General Recordkeeping Requirements

5.6.1 Emission Records

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

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

5.6.2 Records for HAP Emissions

The Permittee shall maintain monthly records of the following items for the source to demonstrate compliance with Condition 5.5.2:

Source wide emissions of each single HAP and all HAPs combined as calculated by the compliance procedure described in Condition 5.9.1, Ton/Mo and Ton/Yr (12 month rolling average).

5.6.3 Records for VOM Emissions

The Permittee shall maintain monthly records of the following items for the emission units listed in Condition 5.5.3 to demonstrate compliance with Condition 5.5.3:

Total combined emissions of VOM of the emission units listed in Condition 5.5.3, Ton/Mo and Ton/Yr (12 month rolling average).

5.6.4 Records for Operating Scenarios

N/A

5.6.5 Retention and Availability of Records

- a. All records and logs required by this permit shall be retained for at least five years from the date of entry (unless a longer retention period is specified by the particular recordkeeping provision herein), shall be kept at a location at the source that is readily accessible to the Illinois EPA or USEPA, and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request.
- b. The Permittee shall retrieve and print, on paper during normal source office hours, any records retained in an electronic format (e.g., computer) in response to an Illinois EPA or USEPA request for records during the course of a source inspection.

5.7 General Reporting Requirements

5.7.1 General Source-Wide Reporting Requirements

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

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

5.7.2 Annual Emissions Report

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

5.7.3 Annual Reporting of HAP Emissions

The Permittee shall submit an annual report to the Illinois EPA, Compliance Section, on HAP emissions from the source, including the following information, so as to demonstrate whether the source is being operated as a non-major source of HAP emissions. This report shall be submitted with the Annual Emissions Report (Condition 9.7).

- a. The annual emissions of individual HAPs for each month of the previous calendar year sufficient to demonstrate compliance with the 12 month running total of Condition 5.5.2, tons/year (e.g., for the month of January, the emissions from February of the preceding calendar year through January; for the month of February, the emissions from March of the preceding calendar year through February; 12 months in all); and
- b. The total emissions of all HAPs combined for each month of the previous calendar year sufficient to demonstrate compliance with the 12 month running total of Condition 5.5.2, tons/year (e.g., for the month of January, the emissions from February of the preceding calendar year through January; for the month of February, the emissions from March of the preceding calendar year through February; 12 months in all).

5.7.4 Annual Reporting of VOM Emissions

The Permittee shall submit an annual report to the Illinois EPA, Compliance Section, on VOM emissions from the units listed in Condition 5.5.3, including the following information, so as to demonstrate whether the source is in compliance with Condition 5.5.3. This report shall be submitted with the Annual Emissions Report (Condition 9.7).

- a. The total emissions of VOM resulting from the emission units listed in Condition 5.5.3 for each month of the previous calendar year sufficient to demonstrate compliance with the 12 month running total of Condition 5.5.3, tons/year (e.g., for the month of January, the emissions from February of the preceding calendar year through January; for the month of February, the emissions from March of the preceding calendar year through February; 12 months in all).

5.8 General Operational Flexibility/Anticipated Operating Scenarios

N/A

5.9 General Compliance Procedures

5.9.1 General Procedures for Calculating HAP and VOM Emissions

Compliance with the source-wide emission limits specified in Condition 5.5 shall be based on the recordkeeping and reporting requirements of Conditions 5.6 and 5.7, and Compliance Procedures in Section 7 (Unit Specific Conditions) of this permit.

- a. The emissions of HAPs from each unit shall be determined by multiplying the vapor weight percent of each HAP in each product by the VOM emissions contributed by that product.
- b. The emissions VOM from each unit shall be determined by the corresponding compliance procedure condition located in Section 7 (Unit Specific Conditions).

6.0 EMISSIONS REDUCTION MARKET SYSTEM (ERMS)

6.1 Description of ERMS

The ERMS is a "cap and trade" market system for major stationary sources located in the Chicago ozone nonattainment area. It is designed to reduce VOM emissions from stationary sources to contribute to reasonable further progress toward attainment, as required by Section 182(c) of the CAA.

The ERMS addresses VOM emissions during a seasonal allotment period from May 1 through September 30. Participating sources must hold "allotment trading units" (ATUs) for their actual seasonal VOM emissions. Each year participating sources are issued ATUs based on allotments set in the sources' CAAPP permits. These allotments are established from historical VOM emissions or "baseline emissions" lowered to provide the emissions reductions from stationary sources required for reasonable further progress.

By December 31 of each year, the end of the reconciliation period following the seasonal allotment period, each source shall have sufficient ATUs in its transaction account to cover its actual VOM emissions during the preceding season. A transaction account's balance as of December 31 will include any valid ATU transfer agreements entered into as of December 31 of the given year, provided such agreements are promptly submitted to the Illinois EPA for entry into the transaction account database. The Illinois EPA will then retire ATUs in sources' transaction accounts in amounts equivalent to their seasonal emissions. When a source does not appear to have sufficient ATUs in its transaction account, the Illinois EPA will issue a notice to the source to begin the process for Emissions Excursion Compensation.

In addition to receiving ATUs pursuant to their allotments, participating sources may also obtain ATUs from the market, including ATUs bought from other participating sources and general participants in the ERMS that hold ATUs (35 IAC 205.630) and ATUs issued by the Illinois EPA as a consequence of VOM emissions reductions from an Emissions Reduction Generator or an Intersector Transaction (35 IAC 205.500 and 35 IAC 205.510). During the reconciliation period, sources may also buy ATUs from a secondary reserve of ATUs managed by the Illinois EPA, the "Alternative Compliance Market Account" (ACMA) (35 IAC 205.710). Sources may also transfer or sell the ATUs that they hold to other sources or participants (35 IAC 205.630).

6.2 Applicability

This permit is issued based on this source not being a participating source in the Emissions Reduction Market System (ERMS), 35 IAC Part 205, pursuant to 35 IAC 205.200. This is based on the source's actual VOM emissions during the seasonal allotment period from May 1 through September 30 of each year being less than 10 tons and the source's baseline emissions also being less than 10 tons.

6.3 Recordkeeping and Reporting

- a. The Permittee shall maintain the following records to allow the confirmation of actual VOM emissions during the seasonal allotment period:
 - i. Records of operating data and other information for each individual emission unit or group of related emission units at the source, as specified in Sections 5 and 7 of this permit, as appropriate, to determine actual VOM emissions during the seasonal allotment period;
 - ii. Records of the VOM emissions, in tons, during the seasonal allotment period, with supporting calculations, for each individual emission unit or group of related emission units at the source, determined in accordance with the procedures specified in Sections 5 and 7 of this permit; and
 - iii. Total VOM emissions from the source, in tons, during each seasonal allotment period, which shall be compiled by November 30 of each year.
- b. In the event that the source's VOM emissions during the seasonal allotment period equal or exceed 10 tons, the source shall become a participating source in the ERMS and beginning with the following seasonal allotment period, shall comply with 35 IAC Part 205, by holding allotment trading units (ATUs) for its VOM emissions during each seasonal allotment period, unless the source obtains exemption from the ERMS by operating with seasonal VOM emissions of no more than 15 tons pursuant to a limitation applied for and established in its CAAPP permit.

6.4 Federal Enforceability

Section 6.0 becomes federally enforceable upon approval of the ERMS by USEPA as part of Illinois' State Implementation Plan.

7.0 UNIT SPECIFIC CONDITIONS

7.1 Pilot Plant Batch Reactors

7.1.1 Description

The pilot plant is used to chemically synthesize various, noncommercial, pharmaceutical ingredients. This is done for the purposes of process development or to manufacture materials to support other research and development activities.

The pilot plant operations take place in various batch reactors with associated filters. The batch reactors are glass lined or stainless steel tanks. These tanks may be jacketed to permit temperature control of reactions and they are able to operate at atmospheric pressure, elevated pressure, or under a vacuum. Each batch reactor may be used to produce several different products.

A typical reaction cycle takes place as follows: Solvents and dry raw materials are charged to the reactor. After charging is complete, the vessel is sealed and is heated and pressurized as necessary. During the reaction, the contents is refluxed for a period of time. Upon completion of the reaction, the vessel may be used as a distillation pot do vaporize solvent. The reaction products are pumped to a filter to separate solid products from liquid by-products.

Emissions of PM can result from solid raw material charging. In "B" Building, these emissions are controlled by dust collectors. Emissions of VOM may result from displacement of air containing VOM during reactor charging, solvent evaporation during the reaction cycle, the condenser venting uncondensed VOM during refluxing, purging vaporized VOM remaining from a solvent wash, and opening reactors during a reaction cycle to take samples. Emissions of VOM are controlled by condensers. Scrubbers are also used to control odor and emissions of HAPs.

7.1.2 List of Emission Units and Pollution Control Equipment

| Emission Unit | Description | Emission Control Equipment |
|-----------------------------------|--|----------------------------|
| M5-A/B: 5.3 Gallon Batch Reactors | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Condenser H-1 |

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| Emission Unit | Description | Emission Control Equipment |
|-----------------------------------|--|--|
| K-11/12: 10 Gallon Batch Reactors | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Condenser KH-11; Scrubbers S-5/S-6 |
| K-13/14: 10 Gallon Batch Reactors | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Condenser KH-13; Scrubbers S-5/S-6 |
| K-31/32: 30 Gallon Batch Reactors | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Condenser KH-31; Scrubbers S-5/S-6 |
| K-33/34: 30 Gallon Batch Reactors | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Condenser KH-33; Scrubbers S-5/S-6 |
| K-35: 30 Gallon Batch Reactor | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Condenser KH-35A; Scrubbers S-5/S-6 |
| K-36: 30 Gallon Batch Reactor | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Condenser HI-305; Scrubbers S-5/S-6 |
| K-51/52: 50 Gallon Batch Reactors | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Condenser KH-51B; Scrubbers S-5/S-6 |
| K-53/54: 50 Gallon Batch Reactors | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Condenser KH-53; Scrubbers S-5/S-6 |
| K-55/56: 50 Gallon Batch Reactors | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Condenser KH-55; Scrubbers S-5/S-6 |
| K-57/58: 50 Gallon Batch Reactors | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Condenser KH-57; Scrubbers S-5/S-6 |
| K-101: 100 Gallon Batch Reactor | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Condenser KH-101; Scrubbers S-5/S-6 |

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| Emission Unit | Description | Emission Control Equipment |
|--------------------------------------|--|---|
| K-103: 100 Gallon Batch Reactor | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Condenser HI-305; Scrubbers S-5/S-6 |
| K-201/202: 200 Gallon Batch Reactors | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Condenser KH-201B; Scrubbers S-2/S-3 |
| K-203/204: 200 Gallon Batch Reactors | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Condenser KH-203; Scrubbers S-5/S-6 |
| K-301/302: 300 Gallon Batch Reactors | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Condenser KH-301B; Dust Collectors B-DC-001/B-DC-002; Scrubbers S-2/S-3 |
| K-303/304: 300 Gallon Batch Reactors | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Condenser KH-303B; Dust Collectors B-DC-001/B-DC-002; Scrubbers S-2/S-3 |
| K-305: 300 Gallon Batch Reactor | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Condenser HI-305; Scrubbers S-2/S-3 |
| K-306: 300 Gallon Batch Reactor | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Condenser KH-306; Scrubbers S-2/S-3 |
| K-505/506: 500 Gallon Batch Reactors | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Condenser KH-505B; Dust Collectors B-DC-001/B-DC-002; Scrubbers S-2/S-3 |
| K-751/752: 750 Gallon Batch Reactors | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Condenser KH-751B; Dust Collectors B-DC-001/B-DC-002; Scrubbers S-2/S-3 |
| K-753/754: 750 Gallon Batch Reactors | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Condenser KH-754B; Dust Collectors B-DC-001/B-DC-002; Scrubbers S-2/S-3 |

| Emission Unit | Description | Emission Control Equipment |
|---|---|---|
| K-1003/1004: 1000 Gallon Batch Reactors | Batch reactors used for the chemical synthesis of pharmaceutical ingredients | Condenser KH- 1003B Dust Collectors B-DC- 001/B-DC-002; Scrubbers S-2/S-3 |

7.1.3 Applicability Provisions and Applicable Regulations

- a. An "affected batch reactor" for the purpose of these unit-specific conditions, is a batch reactor described in Conditions 7.1.1 and 7.1.2.
- b. The affected batch reactors are subject to the emission limits identified in Condition 5.2.2.
- c. The affected batch reactors are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:
 - i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.1.3(c)(ii) (35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].
 - ii. Pursuant to 35 IAC 218.302, emissions of organic material in excess of those permitted by Condition 7.1.3(c)(i) (35 IAC 218.301) are allowable if such emissions are controlled by one of the following methods:
 - A. A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)]; or
 - B. Any other air pollution control equipment approved by the Illinois EPA and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would

be otherwise emitted to the atmosphere
[35 IAC 218.302(c)].

- d. Each affected batch reactor is subject to 35 IAC 212.321, which provides that:

No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit 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 subsection (b) or (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

7.1.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected batch reactors not being subject to the control requirements of 35 IAC 218 Subpart T because the emissions from each affected batch reactor is limited to less than 2.5 tons/year and 100 lbs/day of VOM, consistent with 35 IAC 218.480(a).
- b. This permit is issued based on the affected batch reactors not being subject to the control requirements of 35 IAC 218 Subpart TT because each affected batch reactor is included within the category specified in 35 IAC 218 Subpart T, pursuant to 35 IAC 218.980(b)(2).
- c. This permit is issued based on the affected batch reactors not being subject to 40 CFR 63 Subpart GGG - National Emission Standards for Pharmaceuticals Production because this source is not considered a major source of HAPs.
- d. This permit is issued based on the affected batch reactors not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because each affected batch reactor does not have potential pre-control device emissions of the applicable regulated air pollutant that equals or exceeds major source threshold levels.

7.1.5 Operational and Production Limits and Work Practices

- a. Emissions from the affected batch reactors shall be vented to the associated pollution control equipment as necessary to comply with the emission limitations in Conditions 7.1.3 and 7.1.6.
- b.
 - i. The Permittee shall follow good operating practices and procedures for fabric filters in the dust collectors, including periodic inspections, routine maintenance, and prompt repair of defects.
 - ii. The Permittee shall maintain an adequate supply of replacement filters on the premises of the source.

7.1.6 Emission Limitations

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

Emissions from each affected batch reactor shall not exceed the following limits:

| <u>(lbs/day)</u> | <u>VOM Emissions</u> | <u>(Ton/Yr)</u> |
|------------------|----------------------|-----------------|
| 100 | | 2.5 |

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).

These limits ensure that each affected batch reactor is not subject to the control requirements of 35 IAC Part 218, Subpart T.

For reactor K-505/506, the above limitations were established in Permit 00090018, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

7.1.7 Testing Requirements

None

7.1.8 Monitoring Requirements

None

7.1.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected batch reactors to demonstrate compliance with Conditions 5.5.1, 7.1.3, 7.1.5, and 7.1.6, pursuant to Section 39.5(7)(b) of the Act:

- a. The Permittee shall maintain records of the following items to demonstrate compliance with Condition 7.1.3(c) and 7.1.6:
 - i. Solvents used in each batch.
 - ii. Pressure of each batch, mmHg.
 - iii. Temperature of each batch, °C.
 - iv. Temperature of condenser coolant during each batch, °C.
 - v. Batch time, hrs.
 - vi. Control efficiency of the condensers for each batch, as calculated by the procedure described in Condition 7.1.12(d).
 - vii. Emissions of VOM from each affected batch reactor, as calculated by the procedure described in Condition 7.1.12(d), lb/batch, lb/day, and Ton/yr.
- b. Pursuant to 35 IAC 218.489(d), the Permittee shall comply with the following recordkeeping 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 [35 IAC 218.489(d)]:

- 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)].
 - 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)].
 - iii. Provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in 35 IAC 218.480(a) or 218.480(b), as appropriate [35 IAC 218.489(d)(3)].
- c. The Permittee shall maintain records of the following items for each exceedance of the limits in Conditions 7.1.3, 7.1.5, or 7.1.6, which shall include:
- i. Identification of the limit that may have been exceeded.
 - ii. Duration of the possible exceedance.
 - iii. An estimate of the amount of emissions in excess of the applicable standard.
 - iv. A description of the cause of the possible exceedance.
 - v. When compliance was reestablished.

7.1.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of deviations of an affected batch reactor with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall

describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- a. The Permittee shall notify the Illinois EPA within 30 days of an exceedance of the limits in Conditions 7.1.3, 7.1.5, or 7.1.6. The notification shall include:
 - i. Identification of the limit that may have been exceeded.
 - ii. Duration of the possible exceedance.
 - iii. An estimate of the amount of emissions in excess of the applicable standard.
 - iv. A description of the cause of the possible exceedance.
 - v. When compliance was reestablished.
- b. The Permittee shall submit the following information along with its annual emission report:
 - i. A summary of exceedances of the limits in Conditions 7.1.3, 7.1.5, or 7.1.6, if any, which required notification to the Compliance Section in accordance with Condition 7.1.10(a).
 - ii. The annual emissions of VOM from the affected batch reactors for each month of the previous calendar year, to demonstrate compliance with Condition 7.1.6, tons/year (e.g., for the month of January, the emissions from February, of the preceding calendar year through January, for the month of February, the emissions from March of the preceding calendar year through February, 12 months in all).

7.1.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to an affected batch reactor without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity

constituting construction or modification of the source,
as defined in 35 IAC 201.102:

Changes in the raw materials, products, and operating
conditions, provided the batch reactors continue to
comply with the Conditions in Section 7.1 of this
permit.

7.1.12 Compliance Procedures

- a. Compliance with Condition 7.1.3(c) shall be determined by the recordkeeping requirements in Condition 7.1.9(a) and the emissions calculations procedure described in Condition 7.1.12(d).
- b. Compliance with Condition 7.1.3(d) is considered to be assured as long as the affected batch reactors are in compliance with the operational and production limits and work practices in Condition 7.1.5.
- c. Compliance with Condition 7.1.6 shall be determined by the recordkeeping requirements in Condition 7.1.9(a) and the emissions calculations procedure described in Condition 7.1.12(d).
- d. For the purposes of this permit, the Permittee shall determine the emissions from the affected batch reactors in accordance with 35 IAC 218.480(h). This Section provides the following:

Determinations of daily and annual emissions 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 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) [35 IAC 218.480(h)].

Pursuant to these requirements, the emissions of VOM from each affected batch reactor and

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the efficiency of the associated condensers shall be determined by the engineering equations described in Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/2-78-029) or "Control of Volatile Organic Compound Emissions from Batch Processes-Alternative Control Techniques Information Document" (EPA-453/R-94-020).

7.2 Pilot Plant Dryers

7.2.1 Description

Dryers are used to removed most of the remaining solvent from the filtered product. This is done by evaporating solvent by heat or vacuum until an acceptable level of dryness is reached.

Emissions of VOM result from evaporation of solvent. Emissions of VOM from each dryer are controlled by two condensers in series. Emissions of PM result from loading of dry raw materials. These emissions are controlled by dust collectors.

7.2.2 List of Emission Units and Pollution Control Equipment

| Emission Unit | Description | Emission Control Equipment |
|---------------|--------------------------------------|--|
| Dryer D-1 | Steam-heated vacuum shelf dryer | 2 Condensers DH-1B and DH-1C in series and Dust Collector L-DC-002 |
| Dryer D-2 | Steam-heated vacuum shelf dryer | 2 Condensers DH-2B and DH-2C in series and Dust Collector L-DC-002 |
| Dryer D-6 | Double cone tumble dryer | 2 Condensers DH-6A and DH-6B in series and Dust Collectors B-DC-001/B-DC-002 |
| Dryer D-8 | Stokes conical rotating vacuum dryer | 2 Condensers DH-2B and DH-2C in series and Dust Collector L-DC-002 |
| Dryer D-9 | Glass-lined tumble dryer | 2 Condensers D-9A and D-9B in series and Dust Collector L-DC-001 |
| Dryer D-12 | Paddle dryer | 2 Condensers DH-12A and DH-12B in series and Dust Collector L-DC-001 |

7.2.3 Applicability Provisions and Applicable Regulations

- a. An "affected dryer" for the purpose of these unit-specific conditions, is a dryer described in Conditions 7.2.1 and 7.2.2.

- b. The affected dryers are subject to the emission limits identified in Condition 5.2.2.
- c. The affected dryers are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:
 - i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.2.3(c)(ii) (35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].
 - ii. Pursuant to 35 IAC 218.302, emissions of organic material in excess of those permitted by Condition 7.2.3(c)(i) (35 IAC 218.301) are allowable if such emissions are controlled by one of the following methods:
 - A. A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)]; or
 - B. Any other air pollution control equipment approved by the Illinois EPA and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere [35 IAC 218.302(c)].
- d. Each affected dryer is subject to 35 IAC 212.321, which provides that:

No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit 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 subsection (b) or (c) of 35 IAC 212.321
(see also Attachment 1) [35 IAC 212.321(a)].

7.2.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected dryers not being subject to the control requirements of 35 IAC 218 Subpart T because the emissions from each affected dryer are limited to less than 2.5 tons/year and 100 lbs/day of VOM, pursuant to 35 IAC 218.480(a).
- b. This permit is issued based on the affected dryers not being subject to the control requirements of 35 IAC 218 Subpart TT because each affected dryer is included within the category specified in 35 IAC 218 Subpart T, pursuant to 35 IAC 218.980(b)(2).
- c. This permit is issued based on the affected dryers not being subject to 40 CFR 63 Subpart GGG - National Emission Standards for Pharmaceuticals Production because this source is not considered a major source of HAPs.
- d. This permit is issued based on the affected dryers not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because each affected dryer does not have potential pre-control device emissions of the applicable regulated air pollutant that equals or exceeds major source threshold levels.

7.2.5 Operational and Production Limits and Work Practices

- a. Emissions from the affected dryers shall be vented to the associated pollution control equipment as necessary to comply with the emission limitations in Conditions 7.2.3 and 7.2.6.
- b.
 - i. The Permittee shall follow good operating practices and procedures for fabric filters in the dust collectors, including periodic inspections, routine maintenance, and prompt repair of defects.
 - ii. The Permittee shall maintain an adequate supply of replacement filters on the premises of the source.

7.2.6 Emission Limitations

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

- a. Emissions from each affected dryer shall not exceed the following limits:

| <u>(lbs/day)</u> | <u>VOM Emissions</u> | <u>(Ton/Yr)</u> |
|------------------|----------------------|-----------------|
| 100 | | 2.5 |

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).

These limits ensure that the affected dryers are not subject to the control requirements of 35 IAC Part 218, Subpart T.

- b. Emissions and operations of the following affected dryers shall not exceed the following limits:

| <u>Item of Equipment</u> | <u>Operating Rate</u> | | <u>Organic Material Emissions</u> | |
|--------------------------|-----------------------|-------------------|-----------------------------------|-----------------|
| | <u>(lb/batch)</u> | <u>(Batch/yr)</u> | <u>(lb/batch)</u> | <u>(Ton/yr)</u> |
| Dryer D-6 | 960 | 120 | 4.0 | 2.47 |
| Dryer D-9 | 320 | 120 | 2.0 | 2.47 |
| Dryer D-12 | 960 | 120 | 4.0 | 2.47 |

The emission limits are based on the maximum operating rate and the compliance procedure described in Condition 7.2.12(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) [T1R].

The above limitations contain revisions to previously issued Permit 98040036. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these

revisions and has addressed the applicability and compliance of Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification. These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, the annual emission rate of VOM has been increased from the previously issued permit to allow a greater number of batches per year [T1R].

7.2.7 Testing Requirements

None

7.2.8 Monitoring Requirements

None

7.2.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected dryers to demonstrate compliance with Conditions 5.5.1, 7.2.3, 7.2.5, and 7.2.6, pursuant to Section 39.5(7)(b) of the Act:

- a. The Permittee shall maintain records of the following items to demonstrate compliance with Condition 7.2.3(c) and 7.2.6:
 - i. Percent of VOM of wet material into dryer, % weight.
 - ii. Percent of VOM in of dry material from dryer, % weight.
 - iii. Weight of Batch (dry), lbs.
 - iv. Temperature of each condenser coolant during each batch, °C.
 - v. Time of drying operation, hrs.

- vi. Control efficiency of the condensers for each batch, as calculated by the procedure described in Condition 7.2.12(d).
 - vii. Emissions of VOM from each affected dryer, as calculated by the procedure described in Condition 7.2.12(d), lb/batch, lb/day, and Ton/yr.
- b. Pursuant to 35 IAC 218.489(d), the Permittee shall comply with the following recordkeeping 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 [35 IAC 218.489(d)]:
- 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)].
 - 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)].
 - iii. Provide written notification to the Illinois EPA and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in 35 IAC 218.480(a) or 218.480(b), as appropriate [35 IAC 218.489(d)(3)].
- c. The Permittee shall maintain records of the following items for each exceedance of the limits in Conditions 7.2.3, 7.2.5, or 7.2.6, which shall include:
- i. Identification of the limit that may have been exceeded.

- ii. Duration of the possible exceedance.
- iii. An estimate of the amount of emissions in excess of the applicable standard.
- iv. A description of the cause of the possible exceedance.
- v. When compliance was reestablished.

7.2.10 Reporting Requirements

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

- a. The Permittee shall notify the Illinois EPA within 30 days of an exceedance of the limits in Conditions 7.2.3, 7.2.5, or 7.2.6. The notification shall include:
 - i. Identification of the limit that may have been exceeded.
 - ii. Duration of the possible exceedance.
 - iii. An estimate of the amount of emissions in excess of the applicable standard.
 - iv. A description of the cause of the possible exceedance.
 - v. When compliance was reestablished.
- b. The Permittee shall submit the following information along with its annual emission report:
 - i. A summary of exceedances of the limits in Conditions 7.2.3, 7.2.5, or 7.2.6, if any, which required notification to the Compliance Section in accordance with Condition 7.2.10(a).
 - ii. The annual emissions of VOM from the affected dryers for each month of the previous calendar year, to demonstrate compliance with Condition

7.2.6, tons/year (e.g., for the month of January, the emissions from February, of the preceding calendar year through January, for the month of February, the emissions from March of the preceding calendar year through February, 12 months in all).

7.2.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to an affected dryer without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification of the source, as defined in 35 IAC 201.102:

Changes in the raw materials, products, and operating conditions, provided the dryers continue to comply with the Conditions in Section 7.2 of this permit.

7.2.12 Compliance Procedures

- a. Compliance with Condition 7.2.3(c) shall be determined by the recordkeeping requirements in Condition 7.2.9(a) and the emissions calculations procedure described in Condition 7.2.12(d).
- b. Compliance with Condition 7.2.3(d) is considered to be assured as long as the affected dryers are in compliance with the operational and production limits and work practices in Condition 7.2.5.
- c. Compliance with Condition 7.2.6 shall be determined by the recordkeeping requirements in Condition 7.2.9(a) and the emissions calculations procedure described in Condition 7.2.12(d).
- d. For the purposes of this permit, the Permittee shall determine the emissions from the affected dryers in accordance with 35 IAC 218.480(h). This Section provides the following:

Determinations of daily and annual emissions 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

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(or material throughput or material consumption data). In the absence of representative test data pursuant to 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) [35 IAC 218.480(h)].

Pursuant to these requirements, the emissions of VOM from each affected dryer and the control efficiency of the associated series of condensers shall be determined by the engineering equations described in Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/2-78-029) or "Control of Volatile Organic Compound Emissions from Batch Processes-Alternative Control Techniques Information Document" (EPA-453/R-94-020).

7.3 Solvent Recovery Unit

7.3.1 Description

The solvent recovery unit is a distillation column designed to recover spent solvent from various process equipment in the pilot plant so that it can be reused. The recovery unit is equipped with reflux and vent condensers. The unit has a maximum capacity of 25 gal/hr.

7.3.2 List of Emission Units and Pollution Control Equipment

| Emission Unit | Description | Emission Control Equipment |
|-----------------------|---|----------------------------|
| Solvent Recovery Unit | Distillation column used to recover spent solvent | Condenser CH-2C |

7.3.3 Applicability Provisions and Applicable Regulations

- a. The "affected solvent recovery unit" for the purpose of these unit-specific conditions, is the solvent recovery unit described in Conditions 7.3.1 and 7.3.2.
- b. The affected solvent recovery unit is subject to the emission limits identified in Condition 5.2.2.
- c. The affected solvent recovery unit is subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:
 - i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.3.3(c)(ii) (35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].
 - ii. Pursuant to 35 IAC 218.302, emissions of organic material in excess of those permitted by Condition 7.3.3(c)(i) (35 IAC 218.301) are allowable if such emissions are controlled by one of the following methods:
 - A. A vapor recovery system which adsorbs and/or condenses at least 85 percent of

the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)]; or

- B. Any other air pollution control equipment approved by the Illinois EPA and approved by the USEPA as a SIP revision capable of reducing by 85 percent or more the uncontrolled organic material that would be otherwise emitted to the atmosphere [35 IAC 218.302(c)].

7.3.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected solvent recovery unit not being subject to the control requirements of 35 IAC 218 Subpart T because the emissions from the solvent recovery unit is limited to less than 2.5 tons/year and 100 lbs/day of VOM, consistent with 35 IAC 218.480(a).
- b. This permit is issued based on the affected solvent recovery unit not being subject to 35 IAC 218 Subpart TT because the affected solvent recovery unit is included within the category specified in 35 IAC 218 Subpart T, pursuant to 35 IAC 218.980(b)(2).
- c. This permit is issued based on the affected solvent recovery unit not being subject to 40 CFR 63 Subpart GGG - National Emission Standards for Pharmaceuticals Production because this source is not considered a major source of HAPs.
- d. This permit is issued based on the affected solvent recovery unit not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected solvent recovery unit does not have potential pre-control device emissions of the applicable regulated air pollutant that equals or exceeds major source threshold levels.

7.3.5 Operational and Production Limits and Work Practices

- a. The condenser shall be in operation at all times when the affected solvent recovery unit is in operation or emitting air contaminants.

7.3.6 Emission Limitations

- a. In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected solvent recovery unit is subject to the following:

Emissions from the affected solvent recovery unit shall not exceed the following limits:

| <u>(Lbs/Day)</u> | <u>VOM Emissions</u> | <u>(Ton/Yr)</u> |
|------------------|----------------------|-----------------|
| 100 | | 2.5 |

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).

These limits ensure that the affected solvent recovery unit is not subject to the control requirements of 35 IAC Part 218, Subpart T.

- b. Emissions and operations of the affected solvent recovery unit shall not exceed the following limits:

| <u>Input Feed Rate</u> | <u>VOM Emissions</u> | |
|------------------------|----------------------|-----------------|
| <u>(Gal/Hr)</u> | <u>(Lbs/Hr)</u> | <u>(Ton/Yr)</u> |
| 25 | 0.43 | 1.28 |

The emission limits are based on the maximum operating rate and the compliance procedure described in Condition 7.3.12(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) [T1].

The above limitations were established in Permit 98030048, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

7.3.7 Testing Requirements

None

7.3.8 Monitoring Requirements

None

7.3.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected solvent recovery unit to demonstrate compliance with Conditions 5.5.1, 7.3.3, 7.3.5, and 7.3.6, pursuant to Section 39.5(7)(b) of the Act:

- a. The Permittee shall maintain records of the following items to demonstrate compliance with Condition 7.3.3(c) and 7.3.6:
 - i. Input feed rate, Gal/Hr.
 - ii. Type of solvent recovered.
 - iii. Temperature of condenser coolant, °C.
 - iv. Hours of operation of equipment.
 - v. Control efficiency of the condensers for each batch, as calculated by the procedure described in Condition 7.3.12(c).
 - v. Emissions of VOM from each affected solvent recovery unit, as calculated by the procedure described in Condition 7.3.12(c), lb/batch, lb/day, and Ton/yr.
- b. Pursuant to 35 IAC 218.489(d), the Permittee shall comply with the following recordkeeping 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 [35 IAC 218.489(d)]:

- 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)].

- 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)].
 - iii. Provide written notification to the Agency and the USEPA within 30 days of a determination that such an emission unit has exceeded the applicability cutoffs in 35 IAC 218.480(a) or 218.480(b), as appropriate [35 IAC 218.489(d)(3)].
- c. The Permittee shall maintain records of the following items for each exceedance of the limits in Conditions 7.3.3, 7.3.5, or 7.3.6, which shall include:
- i. Identification of the limit that may have been exceeded.
 - ii. Duration of the possible exceedance.
 - iii. An estimate of the amount of emissions in excess of the applicable standard.
 - iv. A description of the cause of the possible exceedance.
 - v. When compliance was reestablished.

7.3.10 Reporting Requirements

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

- a. The Permittee shall notify the Illinois EPA within 30 days of an exceedance of the limits in Conditions 7.3.3, 7.3.5, or 7.3.6. The notification shall include:

- i. Identification of the limit that may have been exceeded.
 - ii. Duration of the possible exceedance.
 - iii. An estimate of the amount of emissions in excess of the applicable standard.
 - iv. A description of the cause of the possible exceedance.
 - v. When compliance was reestablished.
- b. The Permittee shall submit the following information along with its annual emission report:
- i. A summary of exceedances of the limits in Conditions 7.3.3, 7.3.5, or 7.3.6, if any, which required notification to the Compliance Section in accordance with Condition 7.3.10(a).
 - ii. The annual emissions of VOM from affected solvent recovery unit for each month of the previous calendar year, to demonstrate compliance with Condition 7.3.6, tons/year (e.g., for the month of January, the emissions from February, of the preceding calendar year through January, for the month of February, the emissions from March of the preceding calendar year through February, 12 months in all).

7.3.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to the affected solvent recovery unit without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification of the source, as defined in 35 IAC 201.102:

Changes in the solvents recovered in the affected solvent recovery unit provided the affected solvent recovery unit continues to comply with the Conditions in Section 7.3 of this permit.

7.3.12 Compliance Procedures

- a. Compliance with Condition 7.3.3(c) shall be determined by the recordkeeping requirements in Condition 7.3.9(a) and the emissions calculations procedure described in Condition 7.3.12(c).
- b. Compliance with Condition 7.3.6 shall be determined by the recordkeeping requirements in Condition 7.3.9(a) and the emissions calculations procedure described in Condition 7.3.12(c).
- c. For the purposes of this permit, the Permittee shall determine the emissions from the affected solvent recovery unit in accordance with 35 IAC 218.480(h). This Section provides the following:

Determinations of daily and annual emissions 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 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) [35 IAC 218.480(h)].

Pursuant to these requirements, the emissions of VOM from the affected solvent recovery unit and the efficiency of the associated condenser shall be determined by the engineering equations described in Appendix B of "Control of Volatile Organic Emissions from Manufacturing of Synthesized Pharmaceutical Products" (EPA-450/2-78-029) or "Control of Volatile Organic Compound Emissions from Batch Processes-Alternative Control Techniques Information Document" (EPA-453/R-94-020).

7.4 Steam Generation Boilers Constructed Prior to June 9, 1989

7.4.1 Description

The 3 boilers are used to generate steam for pilot plant operations, laboratory operations, and for comfort heating.

7.4.2 List of Emission Units and Pollution Control Equipment

| Emission Unit | Description | Emission Control Equipment |
|---------------|--|----------------------------|
| B-1 Boiler | 49 MBtu/hr rated Natural Gas Fired Boiler with Oil Backup Capacity | None |
| B-2 Boiler | 59.7 MBtu/hr rated Natural Gas Fired Boiler with Oil Backup Capacity | None |
| B-3 Boiler | 59.7 MBtu/hr rated Natural Gas Fired Boiler with Oil Backup Capacity | None |

7.4.3 Applicability Provisions and Applicable Regulations

- a. An "affected boiler" for the purpose of these unit-specific conditions, is a boiler described in Conditions 7.4.1 and 7.4.2.
- b. The affected boilers are subject to the emission limits identified in Condition 5.2.2.
- c. When using liquid fuel, each affected boiler is subject to 35 IAC 212.206, which provides:

The emissions of particulate matter (PM) into the atmosphere in any one hour period shall not exceed 0.15 kg/MW-hr (0.10 lb/MBtu) of actual heat input from any fuel combustion emission unit using liquid fuel exclusively [35 IAC 212.206].

- d. When using liquid fuel, boilers B-2 and B-3 are subject to 35 IAC 214.122(b) which provides:

No person shall cause or allow the emission of sulfur dioxide into the atmosphere in any one hour period from any new fuel combustion source with actual heat input smaller than, or equal to, 73.2 MW (250 MBtu/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 lbs/MBtu).

- e. When using liquid fuel, boiler B-1 is subject to 35 IAC 214.161 which provides:

No person shall cause or allow the emission of sulfur dioxide into the atmosphere in any one hour period from any existing fuel combustion emission source, 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 lbs/MBtu).

- f. Each affected boiler is subject to 35 IAC 216.121, which provides:

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 mate/hr) to exceed 200 ppm, corrected to 50 percent excess air.

7.4.4 Non-Applicability of Regulations of Concern

- a. The New Source Performance Standard for Small-Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc, applies to units constructed, reconstructed, or modified after June 9, 1989, with firing rates of 100 MBtu/hr or less, but greater than 10 MBtu/hr. The dates of construction of the affected boilers were prior to the date for which the NSPS would be applicable. Therefore, these rules do not apply to these affected boilers
- b. Each affected boiler is not subject to 35 IAC 217.441, emissions of NO_x from existing fuel combustion emission units in major metropolitan areas, because the actual heat input of each affected boiler is less than 73.2 MW (250 MBtu/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. This permit is issued based on the affected boilers not being subject to 40 CFR Part 64, Compliance

Assurance Monitoring (CAM) for Major Stationary Sources, because each affected boiler does not use an add-on control device to achieve compliance with an emission limitation or standard.

7.4.5 Operational and Production Limits and Work Practices

- a. The affected boiler shall only be fired by natural gas or distillate fuel oil as the fuels.
- b. The Permittee shall not use distillate fuel oil (grades No. 1 and 2 fuels) in the affected boilers 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:

$$\text{Maximum Weight Percent Sulfur} = (0.000015) \times (\text{Gross Heating Value of Oil, Btu/Lb}).$$

7.4.6 Emission Limitations

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

Emissions and operations of boilers B-2 and B-3 each shall not exceed the following limits:

| Operating Hours (Hrs/Yr) | NO _x Emissions | | CO Emissions | |
|-----------------------------|---------------------------|----------|--------------|----------|
| | (Lb/Hr) | (Ton/Yr) | (Lb/Hr) | (Ton/Yr) |
| 4100 | 8.51 | 17.44 | 4.89 | 10.3 |

The emission limits are based on the maximum hours of operation, the maximum firing rate, and the compliance procedure described in Condition 7.4.12(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) [T1R].

The above limitations contain revisions to previously issued Permit 82070001. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this

aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, these limits have been increased to account for a more accurate emission factor [T1R].

7.4.7 Testing Requirements

None

7.4.8 Monitoring Requirements

None

7.4.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected boilers to demonstrate compliance with Conditions 5.5.1, 7.4.3, 7.4.5, and 7.4.6, pursuant to Section 39.5(7)(b) of the Act:

- a. The Permittee shall maintain records of the following items to demonstrate compliance with Condition 7.4.6:
 - i. Natural gas usage, mmscf/Hr and mmscf/Yr.
 - ii. Distillate fuel oil usage, Gal/Hr and Gal/Yr.
 - iii. Hours of operation of equipment.
 - iv. The maximum sulfur content for each shipment of distillate fuel oil used in each affected boiler, %weight.
 - v. Emissions of NO_x and CO as calculated by the compliance procedure described in Condition 7.4.12(d).

- b. The Permittee shall maintain records of the following items for each exceedance of the limits in Conditions 7.4.3, 7.4.5, or 7.4.6, which shall include:
 - i. Identification of the limit that may have been exceeded.
 - ii. Duration of the possible exceedance.
 - iii. An estimate of the amount of emissions in excess of the applicable standard.
 - iv. A description of the cause of the possible exceedance.
 - v. When compliance was reestablished.

7.4.10 Reporting Requirements

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

- a. The Permittee shall notify the Illinois EPA within 30 days of an exceedance of the limits in Conditions 7.4.3, 7.4.5, or 7.4.6. The notification shall include:
 - i. Identification of the limit that may have been exceeded.
 - ii. Duration of the possible exceedance.
 - iii. An estimate of the amount of emissions in excess of the applicable standard.
 - iv. A description of the cause of the possible exceedance.
 - v. When compliance was reestablished.
- b. The Permittee shall submit the following information along with its annual emission report:

- i. A summary of exceedances of the limits in Conditions 7.4.3, 7.4.5, or 7.4.6, if any, which required notification to the Compliance Section in accordance with Condition 7.4.10(a).
- ii. The annual emissions of NO_x and CO from boilers B-2 and B-3 for each month of the previous calendar year, to demonstrate compliance with Condition 7.4.6, tons/year (e.g., for the month of January, the emissions from February, of the preceding calendar year through January, for the month of February, the emissions from March of the preceding calendar year through February, 12 months in all).

7.4.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to an affected boiler without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification of the source, as defined in 35 IAC 201.102:

None

7.4.12 Compliance Procedures

- a. Compliance with Conditions 7.4.3(c) and (f) is demonstrated under inherent operating conditions of the affected boilers, so that no compliance procedures are set in this permit addressing this requirement.
- b. Compliance with Condition 7.4.3(d) and (e) is demonstrated under inherent operating conditions of the affected boilers fired by distillate oil with a sulfur content meeting the specifications of Condition 7.4.5(b), so that no compliance procedures are set in this permit addressing this regulation.
- c. Compliance with Condition 7.4.6 is determined based on the recordkeeping requirements in Condition 7.4.9(a) and the emission calculation procedure described in Condition 7.4.12(d).

d. Emissions shall be calculated based on the recordkeeping requirements in Condition 7.4.9(a) and the emission factors and formulas listed below:

i. Emissions resulting from natural gas combustion shall be calculated based on the following emission factors:

| Emission Factor | |
|------------------|-------------------|
| <u>Pollutant</u> | <u>(lb/mmscf)</u> |
| PM | 7.5 |
| NO _x | 100 |
| SO ₂ | 0.6 |
| VOM | 5.5 |
| CO | 84 |

These are the AP-42 emission factors for uncontrolled natural gas combustion in small industrial boilers, chapter 1.4.

$$E_{ng} = ngc \times \frac{ef}{2000}$$

Where:

E_{ng} = Emissions from natural gas combustion (tons/year)

ngc = natural gas usage (mmscf/year)

ef = Emission factor listed above (lb/mmscf)

ii. Emissions resulting from distillate fuel oil combustion shall be calculated based on the following emission factors:

| Emission Factor | |
|------------------|-----------------------------------|
| <u>Pollutant</u> | <u>(lb/10³ gallon)</u> |
| PM | 2 |
| NO _x | 20 |
| SO ₂ | 142S |
| VOM | 0.34 |
| CO | 5 |

These are the AP-42 emission factors for uncontrolled distillate fuel oil combustion in industrial boilers, Chapter 1.3. 'S' indicates

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

$$E_{do} = doc \times \frac{ef}{2000}$$

Where:

E_{do} = Emissions from distillate fuel oil combustion (tons/year)

doc = distillate fuel oil usage (10^3 gallon/year)

ef = Emission factor listed above ($1b/10^3$ gallon)

7.5 Steam Generation Boilers Constructed On or After to June 9, 1989

7.5.1 Description

This boiler is used to generate steam for pilot plant operations, laboratory operations, and for comfort heating.

7.5.2 List of Emission Units and Pollution Control Equipment

| Emission Unit | Description | Emission Control Equipment |
|---------------|---|-------------------------------------|
| B-4 Boiler | 79.3 MBtu/hr rated Natural Gas Fired Boiler and 75 MBtu/hr rated for Fuel Oil | Low NO _x burner with FGR |

7.5.3 Applicability Provisions and Applicable Regulations

- a. An "affected boiler" for the purpose of these unit-specific conditions, is a boiler described in Conditions 7.5.1 and 7.5.2.
- b. The affected boiler is subject to the emission limits identified in Condition 5.2.2.
- c. The affected boiler is subject to 40 CFR 60 Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. Pursuant to this subpart, the affected boiler shall meet the following standards of performance:
 - i. The emission of sulfur dioxide (SO₂) into the atmosphere in any one hour period from any affected boiler burning liquid fuel exclusively shall not exceed 215 ng/J of actual heat input when distillate fuel oil is burned (0.5 lb/MBtu); as an alternative the Permittee shall not combust oil in affected boilers that contains greater than 0.5 weight percent sulfur. All limits shall be based on a 30-day rolling average [40 CFR 60.42c(d) and (g)].
 - ii. The emission of gases into the atmosphere from any affected boiler, except during periods of startup, malfunction and shutdown, shall not exhibit an opacity greater than 20 percent (6-minute average), except for one 6-minute

period per hour of not more than 27 percent opacity [40 CFR 60.43c(c) and (d)].

- d. When using liquid fuel, each affected boiler is subject to 35 IAC 212.206, which provides:

The emissions of particulate matter (PM) into the atmosphere in any one hour period shall not exceed 0.15 kg/MW-hr (0.10 lb/MBtu) of actual heat input from any fuel combustion emission unit using liquid fuel exclusively [35 IAC 212.206].

- e. When using liquid fuel, the affected boiler is subject to 35 IAC 214.122(b) which provides:

No person shall cause or allow the emission of sulfur dioxide into the atmosphere in any one hour period from any new fuel combustion source with actual heat input smaller than, or equal to, 73.2 MW (250 MBtu/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 lbs/MBtu).

- f. Each affected boiler is subject to 35 IAC 216.121, which provides:

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 hr/hr) to exceed 200 ppm, corrected to 50 percent excess air.

7.5.4 Non-Applicability of Regulations of Concern

- a. The affected boiler is not subject to 35 IAC 217.441, emissions of NO_x from existing fuel combustion emission units in major metropolitan areas, because the actual heat input of the affected boiler is less than 73.2 MW (250 MBtu/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. This permit is issued based on the affected boiler not being 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.

7.5.5 Operational and Production Limits and Work Practices

- a. The affected boiler shall only be fired by natural gas or distillate fuel oil as the fuels.
- b. The Permittee shall not use distillate fuel oil (grades No. 1 and 2 fuels) in the affected boilers 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:

$$\text{Maximum Weight Percent Sulfur} = (0.000015) \times (\text{Gross Heating Value of Oil, Btu/Lb}).$$
- c. Usage of natural gas and fuel oil shall not exceed the following limits:

| <u>Fuel</u> | <u>Monthly Usage</u> | <u>Annual Usage</u> |
|---------------------|----------------------|---------------------|
| Natural Gas | 59.0 mmscf | 695 mmscf |
| Distillate Fuel Oil | 160,715 Gal | 160,715 Gal |

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).

The above limitations were established in Permit 99060028.

7.5.6 Emission Limitations

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

Emissions from the affected boiler shall not exceed the following limits:

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| <u>Fuel</u> | <u>Pollutant</u> | <u>Monthly Emissions (Ton/Mo)</u> | <u>Annual Emissions (Ton/Yr)</u> |
|---------------------|------------------|---|--|
| Natural Gas | PM | 0.26 | 2.64 |
| | CO | 2.92 | 29.18 |
| | NOx | 1.21 | 17.34 |
| | VOM | 0.19 | 1.91 |
| | SO ₂ | 0.02 | 0.21 |
| Distillate Fuel Oil | PM | 0.16 | 0.16 |
| | CO | 0.41 | 0.41 |
| | NO _x | 1.23 | 1.35 |
| | VOM | 0.02 | 0.02 |
| | SO ₂ | 3.24 | 3.24 |

The emission limits are based on the maximum fuel usages allowed by Condition 7.5.5(c), and the compliance procedure described in Condition 7.5.12(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) [T1].

The above limitations were established in Permit 99060028, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

7.5.7 Testing Requirements

None

7.5.8 Monitoring Requirements

None

7.5.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected boiler to demonstrate compliance with Conditions 5.5.1, 7.5.3, 7.5.5, and 7.5.6, pursuant to Section 39.5(7)(b) of the Act:

- a. The Permittee shall maintain records of the following items to demonstrate compliance with Condition 7.5.5, 7.5.6 and 40 CFR 60 Subpart Dc:
 - i. Total daily natural gas usage for the affected boiler, Ft³/Day [40 CFR 60.48c(g)].
 - ii. Total daily distillate fuel oil usage, Gal/Day [40 CFR 60.48c(g)].
 - iii. The maximum sulfur content (in weight %) for each shipment of distillate fuel oil used in the affected boiler.
 - iv. Fuel oil supplier certification, including:
 - A. The name of the oil supplier [40 CFR 60.48c(f)(i)].
 - B. A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil found at 40 CFR 60.41c [40 CFR 60.48c(f)(ii)].
 - v. Annual aggregate NO_x, CO, PM, SO₂, and VOM emissions from the affected boiler, as calculated by the compliance procedure described in Condition 7.5.12(c).
- b. The Permittee shall maintain records of the following items for each exceedance of the limits in Conditions 7.5.3, 7.5.5, or 7.5.6, which shall include:
 - i. Identification of the limit that may have been exceeded.
 - ii. Duration of the possible exceedance.
 - iii. An estimate of the amount of emissions in excess of the applicable standard.
 - iv. A description of the cause of the possible exceedance.
 - v. When compliance was reestablished.

7.5.10 Reporting Requirements

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

- a. The Permittee shall submit a quarterly report, which shall include, in addition to the fuel supplier certification required in Condition 7.5.9(a)(iv) (40 CFR 60.48c(f)), a certified statement signed by the Permittee that the records of fuel supplier certifications submitted represent all of the fuel consumed during the quarter [40 CFR 60.48c(e)(11)].
- b. The Permittee shall notify the Illinois EPA within 30 days of an exceedance of the limits in Conditions 7.5.3, 7.5.5, or 7.5.6. The notification shall include:
 - i. Identification of the limit that may have been exceeded.
 - ii. Duration of the possible exceedance.
 - iii. An estimate of the amount of emissions in excess of the applicable standard.
 - iv. A description of the cause of the possible exceedance.
 - v. When compliance was reestablished.
- c. The Permittee shall submit the following information along with its annual emission report:
 - i. A summary of exceedances of the limits in Conditions 7.5.3, 7.5.5, or 7.5.6, if any, which required notification to the Compliance Section in accordance with Condition 7.5.10(b).
 - ii. The annual emissions of NO_x, CO, PM, SO₂, and VOM from the affected boiler for each month of the previous calendar year, to demonstrate compliance with Condition 7.5.6, tons/year (e.g., for the month of January, the emissions

from February, of the preceding calendar year through January, for the month of February, the emissions from March of the preceding calendar year through February, 12 months in all).

7.5.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to an affected boiler without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification of the source, as defined in 35 IAC 201.102:

None

7.5.12 Compliance Procedures

- a. Compliance with Conditions 7.5.3(d) and (f) is demonstrated under inherent operating conditions of the affected boilers, so that no compliance procedures are set in this permit addressing these requirements.
- b. Compliance with Condition 7.5.3(c) and (e) and is demonstrated under inherent operating conditions of the affected boiler fired by distillate oil with a sulfur content meeting the specifications of Condition 7.5.5(b), so that no compliance procedures are set in this permit addressing these requirements.
- c. Compliance with Condition 7.5.6 is determined by the recordkeeping requirements in Condition 7.5.9(a) and the emission calculation procedure described in Condition 7.5.12(d).
- d. Emissions shall be calculated based on the recordkeeping requirements in Condition 7.5.9(a) and the emission factors and formulas listed below:
 - i. Emissions resulting from natural gas combustion shall be calculated based on the following emission factors:

| Emission Factor | |
|------------------|-------------------|
| <u>Pollutant</u> | <u>(lb/mmscf)</u> |
| PM | 7.5 |
| NO _x | 32 |
| SO ₂ | 0.6 |
| VOM | 5.5 |
| CO | 84 |

These are the AP-42 emission factors for natural gas combustion in small industrial boilers with low NOx burners and flue gas recirculation, chapter 1.4.

$$E_{ng} = ngc \times \frac{ef}{2000}$$

Where:

E_{ng} = Emissions from natural gas combustion
(tons/year)

ngc = natural gas usage (mmscf/year)

ef = Emission factor listed above (lb/mmscf)

- ii. Emissions resulting from distillate fuel oil combustion shall be calculated based on the following emission factors:

| Emission Factor | |
|------------------|-----------------------------------|
| <u>Pollutant</u> | <u>(lb/10³ gallon)</u> |
| PM | 2 |
| NO _x | 10 |
| SO ₂ | 142S |
| VOM | 0.34 |
| CO | 5 |

These are the AP-42 emission factors for distillate fuel oil combustion in industrial boilers with low NOx burners and flue gas recirculation, Chapter 1.3. 'S' indicates that the weight % of sulfur in the oil should be multiplied by the value given.

$$E_{do} = doc \times \frac{ef}{2000}$$

Where:

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E_{do} = Emissions from distillate fuel oil
combustion (tons/year)

doc = distillate fuel oil usage (10^3
gallon/year)

ef = Emission factor listed above ($lb/10^3$
gallon)

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 _____ **{insert public notice start date}** (the date of issuance of the draft permit) unless this permit has been modified to reflect such new requirements.

8.2 Applicability of Title IV Requirements (Acid Deposition Control)

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

8.3 Emissions Trading Programs

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

8.4 Operational Flexibility/Anticipated Operating Scenarios

8.4.1 Changes Specifically Addressed by Permit

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

8.4.2 Changes Requiring Prior Notification

The Permittee is authorized to make physical or operational changes that contravene express permit terms

without applying for or obtaining an amendment to this permit, provided that [Section 39.5(12)(a)(i) of the Act]:

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

8.5 Testing Procedures

Tests conducted to measure composition of materials, efficiency of pollution control devices, emissions from process or control equipment, or other parameters shall be conducted using standard test methods. Documentation of the test date, conditions,

methodologies, calculations, and test results shall be retained pursuant to the recordkeeping procedures of this permit. Reports of any tests conducted as required by this permit or as the result of a request by the Illinois EPA shall be submitted as specified in Condition 8.6.

8.6 Reporting Requirements

8.6.1 Monitoring Reports

If monitoring is required by any applicable requirements or conditions of this permit, a report summarizing the required monitoring results, as specified in the conditions of this permit, shall be submitted to the Air Compliance Section of the Illinois EPA every six months as follows [Section 39.5(7)(f) of the Act]:

| <u>Monitoring Period</u> | <u>Report Due Date</u> |
|--------------------------|------------------------|
| January - June | September 1 |
| July - December | March 1 |

All instances of deviations from permit requirements must be clearly identified in such reports. All such reports shall be certified in accordance with Condition 9.9.

8.6.2 Test Notifications

Unless otherwise specified elsewhere in this permit, a written test plan for any test required by this permit shall be submitted to the Illinois EPA for review at least 60 days prior to the testing pursuant to Section 39.5(7)(a) of the Act. The notification shall include at a minimum:

- a. The name and identification of the affected unit(s);
- b. The person(s) who will be performing sampling and analysis and their experience with similar tests;
- c. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and the means by which the operating parameters for the source and any control equipment will be determined;

- d. The specific determination of emissions and operation which are intended to be made, including sampling and monitoring locations;
- e. The test method(s) which will be used, with the specific analysis method, if the method can be used with different analysis methods;
- f. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification; and
- g. Any proposed use of an alternative test method, with detailed justification.

8.6.3 Test Reports

Unless otherwise specified elsewhere in this permit, the results of any test required by this permit shall be submitted to the Illinois EPA within 60 days of completion of the testing. The test report shall include at a minimum [Section 39.5(7)(e)(i) of the Act]:

- a. The name and identification of the affected unit(s);
- b. The date and time of the sampling or measurements;
- c. The date any analyses were performed;
- d. The name of the company that performed the tests and/or analyses;
- e. The test and analytical methodologies used;
- f. The results of the tests including raw data, and/or analyses including sample calculations;
- g. The operating conditions at the time of the sampling or measurements; and
- h. The name of any relevant observers present including the testing company's representatives, any Illinois EPA or USEPA representatives, and the representatives of the source.

8.6.4 Reporting Addresses

- a. The following addresses should be utilized for the submittal of reports, notifications, and renewals:

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- i. Illinois EPA - Air Compliance Section

Illinois Environmental Protection Agency
Bureau of Air
Compliance Section (MC 40)
P.O. Box 19276
Springfield, Illinois 62794-9276
 - ii. Illinois EPA - Air Regional Field Office

Illinois Environmental Protection Agency
Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016
 - iii. Illinois EPA - Air Permit Section (MC 11)

Illinois Environmental Protection Agency
Division of Air Pollution Control
Permit Section
P.O. Box 19506
Springfield, Illinois 62794-9506
 - iv. USEPA Region 5 - Air Branch

USEPA (AR - 17J)
Air & Radiation Division
77 West Jackson Boulevard
Chicago, Illinois 60604
- b. Unless otherwise specified in the particular provision of this permit, reports shall be sent to the Illinois EPA - Air Compliance Section with a copy sent to the Illinois EPA - Air Regional Field Office.

8.7 Obligation to Comply with Title I Requirements

Any term, condition, or requirement identified in this permit by T1, T1R, or T1N is established or revised pursuant to 35 IAC Part 203 or 40 CFR 52.21 ("Title I provisions") and incorporated into this permit pursuant to both Section 39.5 and Title I provisions. Notwithstanding the expiration date on the first page of this permit, the Title I conditions remain in effect pursuant to Title I provisions until the Illinois EPA deletes or revises them in accordance with Title I procedures.

9.0 STANDARD PERMIT CONDITIONS

9.1 Effect of Permit

9.1.1 The issuance of this permit does not release the Permittee from compliance with State and Federal regulations which are part of the Illinois State Implementation Plan, as well as with other applicable statutes and regulations of the United States or the State of Illinois or applicable ordinances, except as specifically stated in this permit and as allowed by law and rule [Section 39.5(7)(j)(iv) of the Act].

9.1.2 In particular, this permit does not alter or affect the following:

- a. The provisions of Section 303 (emergency powers) of the CAA, including USEPA's authority under that Section;
- b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
- c. The applicable requirements of the acid rain program consistent with Section 408(a) of the CAA; and
- d. The ability of USEPA to obtain information from a source pursuant to Section 114 (inspections, monitoring, and entry) of the CAA.

9.1.3 Notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.

9.2 General Obligations of Permittee

9.2.1 Duty to Comply

The Permittee must comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the CAA and the Act, and is grounds for any or all of the following: enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application [Section 39.5(7)(o)(i) of the Act].

The Permittee shall meet applicable requirements that become effective during the permit term in a timely manner unless an alternate schedule for compliance with the applicable requirement is established.

9.2.2 Duty to Maintain Equipment

The Permittee shall maintain all equipment covered under this permit in such a manner that the performance or operation of such equipment shall not cause a violation of applicable requirements.

9.2.3 Duty to Cease Operation

No person shall cause, threaten or allow the continued operation of any emission unit during malfunction or breakdown of the emission unit or related air pollution control equipment if such operation would cause a violation of an applicable emission standard, regulatory requirement, ambient air quality standard or permit limitation unless such malfunction or breakdown is allowed by a permit condition [Section 39.5(6)(c) of the Act].

9.2.4 Disposal Operations

The source shall be operated in such a manner that the disposal of air contaminants collected by the equipment operations, or activities shall not cause a violation of the Act or regulations promulgated thereunder.

9.2.5 Duty to Pay Fees

The Permittee must pay fees to the Illinois EPA consistent with the fee schedule approved pursuant to Section 39.5(18) of the Act, and submit any information relevant thereto [Section 39.5(7)(o)(vi) of the Act]. The check should be payable to "Treasurer, State of Illinois" and sent to: Fiscal Services Section, Illinois Environmental Protection Agency, P.O. Box 19276, Springfield, Illinois 62794-9276.

9.3 Obligation to Allow Illinois EPA Surveillance

Upon presentation of proper credentials and other documents, the Permittee shall allow the Illinois EPA, or an authorized representative to perform the following [Section 39.5(7)(a) and (p)(ii) of the Act and 415 ILCS 5/4]:

- a. Enter upon the Permittee's premises where an actual or potential emission unit is located; where any regulated equipment, operation, or activity is located or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect during hours of operation any sources, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- d. Sample or monitor any substances or parameters at any location:
 - i. At reasonable times, for the purposes of assuring permit compliance; or
 - ii. As otherwise authorized by the CAA, or the Act.
- e. Obtain and remove samples of any discharge or emission of pollutants authorized by this permit; and
- f. Enter and utilize any photographic, recording, testing, monitoring, or other equipment for the purposes of preserving, testing, monitoring, or recording any activity, discharge or emission at the source authorized by this permit.

9.4 Obligation to Comply With Other Requirements

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

9.5 Liability

9.5.1 Title

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

9.5.2 Liability of Permittee

This permit does not release the Permittee from any liability for damage to person or property caused by or

resulting from the construction, maintenance, or operation of the sources.

9.5.3 Structural Stability

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

9.5.4 Illinois EPA Liability

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

9.5.5 Property Rights

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

9.6 Recordkeeping

9.6.1 Control Equipment Maintenance Records

A maintenance record shall be kept on the premises for each item of air pollution control equipment. As a minimum, this record shall show the dates of performance and nature of preventative maintenance activities.

9.6.2 Records of Changes in Operation

A record shall be kept describing changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under this permit, and the emissions resulting from those changes [Section 39.5(12)(b)(iv) of the Act].

9.6.3 Retention of Records

- a. Records of all monitoring data and support information shall be retained for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, original strip-chart recordings for

continuous monitoring instrumentation, and copies of all reports required by this permit [Section 39.5(7)(e)(ii) of the Act].

- b. Other records required by this permit shall be retained for a period of at least 5 years from the date of entry unless a longer period is specified by a particular permit provision.

9.7 Annual Emissions Report

The Permittee shall submit an annual emissions report to the Illinois EPA, Compliance Section no later than May 1 of the following year, as required by 35 IAC Part 254.

9.8 Requirements for Compliance Certification

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

- a. The certification shall include the identification of each term or condition of this permit that is the basis of the certification; the compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source, both currently and over the reporting period consistent with the conditions of this permit.
- b. All compliance certifications shall be submitted to USEPA Region 5 in Chicago as well as to the Illinois EPA.
- c. All compliance reports required to be submitted shall include a certification in accordance with Condition 9.9.

9.9 Certification

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

9.10 Defense to Enforcement Actions

9.10.1 Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit [Section 39.5(7)(o)(ii) of the Act].

9.10.2 Emergency Provision

- a. An emergency shall be an affirmative defense to an action brought for noncompliance with the technology-based emission limitations under this permit if the following conditions are met through properly signed, contemporaneous operating logs, or other relevant evidence:
 - i. An emergency occurred as provided in Section 39.5(7)(k) of the Act and the Permittee can identify the cause(s) of the emergency. Normally, an act of God such as lightning or flood is considered an emergency;
 - ii. The permitted source was at the time being properly operated;
 - iii. The Permittee submitted notice of the emergency to the Illinois EPA within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken; and
 - iv. During the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission limitations, standards, or regulations in this permit.
- b. This provision is in addition to any emergency or upset provision contained in any applicable requirement. This provision does not relieve a Permittee of any reporting obligations under existing federal or state laws or regulations.

9.11 Permanent Shutdown

This permit only covers emission units and control equipment while physically present at the indicated source location(s). Unless this permit specifically provides for equipment relocation, this permit is void for the operation or activity of any item of equipment on the date it is removed from the permitted location(s) or permanently shut down. This permit expires if all equipment is removed from the permitted location(s), notwithstanding the expiration date specified on this permit.

9.12 Reopening and Reissuing Permit for Cause

9.12.1 Permit Actions

This permit may be modified, reopened, and reissued, for cause pursuant to Section 39.5(15) of the Act. The filing of a request by the Permittee for a permit modification, revocation, and reissuance, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition [Section 39.5(7)(o)(iii) of the Act].

9.12.2 Reopening and Revision

This permit must be reopened and revised if any of the following occur [Section 39.5(15)(a) of the Act]:

- a. Additional requirements become applicable to the equipment covered by this permit and three or more years remain before expiration of this permit;
- b. Additional requirements become applicable to an affected source for acid deposition under the acid rain program;
- c. The Illinois EPA or USEPA determines that this permit contains a material mistake or inaccurate statement when establishing the emission standards or limitations, or other terms or conditions of this permit; and
- d. The Illinois EPA or USEPA determines that this permit must be revised to ensure compliance with the applicable requirements of the Act.

9.12.3 Inaccurate Application

The Illinois EPA has issued this permit based upon the information submitted by the Permittee in the permit application. Any misinformation, false statement or misrepresentation in the application shall be grounds for revocation under Section 39.5(15)(b) of the Act.

9.12.4 Duty to Provide Information

The Permittee shall furnish to the Illinois EPA, within a reasonable time specified by the Illinois EPA any information that the Illinois EPA may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to the Illinois EPA copies of records required to be kept by this permit, or for information claimed to be confidential, the Permittee may furnish such records directly to USEPA along with a claim of confidentiality [Section 39.5(7)(o)(v) of the Act].

9.13 Severability Clause

The provisions of this permit are severable, and should any one or more be determined to be illegal or unenforceable, the validity of the other provisions shall not be affected. The rights and obligations of the Permittee shall be construed and enforced as if this permit did not contain the particular provisions held to be invalid and the applicable requirements underlying these provisions shall remain in force [Section 39.5(7)(i) of the Act].

9.14 Permit Expiration and Renewal

The right to operate terminates on the expiration date unless the Permittee has submitted a timely and complete renewal application. For a renewal to be timely it must be submitted no later than 9 and no sooner than 12 months prior to expiration. The equipment may continue to operate during the renewal period until final action is taken by the Illinois EPA, in accordance with the original permit conditions [Section 39.5(5)(1), (n), and (o) of the Act].

10.0 ATTACHMENTS

10.1 Attachment 1 Emissions of Particulate Matter from New Process
 Emission Units

10.1.1 Process Emission Units for Which Construction or
 Modification Commenced On or After April 14, 1972

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

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

where:

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

- i. Up to process weight rates of 408 Mg/hr (450 Ton/hr):

| | Metric | English |
|---|--------|---------|
| P | Mg/hr | Ton/hr |
| E | kg/hr | lb/hr |
| A | 1.214 | 2.54 |
| B | 0.534 | 0.534 |

- ii. For process weight rate greater than or equal to 408 Mg/hr (450 Ton/hr):

| | Metric | English |
|---|--------|---------|
| P | Mg/hr | Ton/hr |
| E | kg/hr | lb/hr |
| A | 11.42 | 24.8 |
| B | 0.16 | 0.16 |

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

| Metric | | English | |
|--------|-------|---------|-------|
| P | E | P | E |
| Mg/hr | kg/hr | Ton/hr | lb/hr |
| 0.05 | 0.25 | 0.05 | 0.55 |
| 0.1 | 0.29 | 0.10 | 0.77 |
| 0.2 | 0.42 | 0.2 | 1.10 |
| 0.3 | 0.64 | 0.30 | 1.35 |
| 0.4 | 0.74 | 0.40 | 1.58 |
| 0.5 | 0.84 | 0.50 | 1.75 |
| 0.7 | 1.00 | 0.75 | 2.40 |
| 0.9 | 1.15 | 1.00 | 2.60 |
| 1.8 | 1.66 | 2.00 | 3.70 |
| 2.7 | 2.1 | 3.00 | 4.60 |
| 3.6 | 2.4 | 4.00 | 5.35 |
| 4.5 | 2.7 | 5.00 | 6.00 |
| 9.0 | 3.9 | 10.00 | 8.70 |
| 13.0 | 4.8 | 15.00 | 10.80 |
| 18.0 | 5.7 | 20.00 | 12.50 |
| 23.0 | 6.5 | 25.00 | 14.00 |
| 27.0 | 7.1 | 30.00 | 15.60 |
| 32.0 | 7.7 | 35.00 | 17.00 |
| 36.0 | 8.2 | 40.00 | 18.20 |
| 41.0 | 8.8 | 45.00 | 19.20 |
| 45.0 | 9.3 | 50.00 | 20.50 |
| 90.0 | 13.4 | 100.00 | 29.50 |
| 140.0 | 17.0 | 150.00 | 37.00 |
| 180.0 | 19.4 | 200.00 | 43.00 |
| 230.0 | 22.0 | 250.00 | 48.50 |
| 270.0 | 24.0 | 300.00 | 53.00 |
| 320.0 | 26.0 | 350.00 | 58.00 |
| 360.0 | 28.0 | 400.00 | 62.00 |
| 408.0 | 30.1 | 450.00 | 66.00 |
| 454.0 | 30.4 | 500.00 | 67.00 |

10.2 Attachment 2 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: _____

NAF:psj