

PROPOSED PERMIT  
BASF Joliet Polystyrene Plant  
I.D. No.: 197800AAM  
Application No.: 95110120  
December 6, 1999

217/782-2113

**TITLE V - CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT  
and  
TITLE I PERMIT<sup>1</sup>**

PERMITTEE

BASF Joliet Polystyrene Plant  
Attn: Lori Washington  
West Service Road, I-55 and Arsenal Road  
Channahon, Illinois 60410

<u>Application No.:</u> 95110120	<u>I.D. No.:</u> 197800AAM
<u>Applicant's Designation:</u>	<u>Date Received:</u> November 30, 1995
<u>Operation of:</u> Polystyrene Plant	
<u>Date Issued:</u> TO BE DETERMINED	<u>Expiration Date<sup>2</sup>:</u> DATE
<u>Source Location:</u> West Service Rd., I-55 & Arsenal Rd., Channahon, Will County	
<u>Responsible Official:</u> Kevin T. Biehle, Plant Manager	

This permit is hereby granted to the above-designated Permittee to OPERATE a polystyrene plant, 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 Dan Punzak at 217/782-2113.

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

DES:DGP:jar\8

cc: Illinois EPA, FOS, Region 1  
USEPA

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

<sup>2</sup> Except as provided in condition 8.7 of this permit.

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1.0 SOURCE IDENTIFICATION

1.1 Source

BASF Joliet Polystyrene Plant  
West Service Road, I-55 and Arsenal Road  
Channahon, Illinois 60410  
815/423-5541

I.D. No.: 197800AAM  
Standard Industrial Classification: SIC, 2821

1.2 Owner/Parent Company

BASF Corporation  
3000 Continental Drive, North  
Mt. Olive, New Jersey 07828

1.3 Operator

BASF Joliet Polystyrene Plant  
West Service Road, I-55 and Arsenal Road  
Channahon, Illinois 60410

Kevin T. Biehle, Plant Manager  
815/423-5541

1.4 General Source Description

The BASF Joliet Polystyrene Plant is located on the West Service Road, of I-55, South of Arsenal Road in Channahon, Will County. The source manufactures several grades of polystyrene pellets. In addition, BASF operates several boilers and oil heaters to provide steam/heat for the processes.

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2.0 LIST OF ABBREVIATIONS/ACRONYMS USED IN THIS PERMIT

ACMA	Alternative Compliance Market Account
Act	Environmental Protection Act [415 ILCS 5/1 et seq.]
AP-42	Compilation of Air 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
ATUs	Allotment Trading Units
BAT	Best Available Technology
Btu	British thermal unit
°C	Degrees Celsius
CAA	Clean Air Act [42 U.S.C. Section 7401 et seq.]
CAAPP	Clean Air Act Permit Program
CFR	Code of Federal Regulations
CO	Carbon Monoxide
ERMS	Emission Reduction Marketing System
°F	Degrees Fahrenheit
gal	gallon
GPSS	General Purpose Polystyrene
HAP	Hazardous Air Pollutant
HIPS	High Impact Polystyrene
hr	hour
IAC	Illinois Administrative Code
I.D. No.	Identification Number of Source, assigned by Illinois EPA
Illinois EPA	Illinois Environmental Protection Agency
kg	Kilogram
kW	kilowatts
lb	pound
LDAR	Leak Detection and Repair
MACT	Maximum Available Control Technology
Mcf	million cubic feet
Mg	Megagram
mmBtu	Million British thermal units
mo	month
MW	Megawatt
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO <sub>x</sub>	Nitrogen Oxides
NSPS	New Source Performance Standards
PM	Particulate Matter

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PM <sub>10</sub>	Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 microns as measured by applicable test or monitoring methods
ppm	parts per million
PSD	Prevention of Significant Deterioration
RMP	Risk Management Plan
SO <sub>2</sub>	Sulfur Dioxide
T	ton
T1	Title I - identifies Title I conditions that have been carried over from an existing construction permit
T1R	Title I Revised - identifies Title I conditions that have been carried over from an existing construction permit and subsequently revised in this permit
T1N	Title I New - identifies Title I conditions that are being established 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:

F-222, F-355, and F-1222 Emergency Blowdown Drums  
F-215 GPPS Blue Dye Additives Tank  
D-3222 Emergency Blowdown Tank

- 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:

F-312 Hot Oil Reprocessing Hold Tank  
F-341 Hot Oil Condensate Hold Tank  
Two Diehead Ovens  
F-401 A & B and F-402 A & B Peroxide Solution Tanks  
F-403 and F-705 Mineral Oil Storage Tanks  
M-624 A & B, M-674 A through E, Rotary Feeders  
F-617 HIPS Off-Spec Bin  
F-662 GPPS Off-Spec Bin  
F-813 Color Concentrate Feed Bin  
F-818 Stereon Rubber Feed Bin  
F-855 Packaging Bin  
F-875 Black Carton Filling Bin  
F-870 Sample Bin for Flame Retardant Polystyrene  
F-1617 Off-Spec Bin  
M-833 Autoload Blendback Hopper Loader  
M-1186 Pellet Blend Back System  
E-381, E-1351 and E-3133 Cooling Towers  
M-8146 Feed Cyclone  
M-8141, M-8163 Dust Collectors  
M-8909 Pigment Room Dust Collector  
M-8120 Smog Hog  
F-8140, F-8142 Packaging Hoppers

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

Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

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

- 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).

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4.0 SIGNIFICANT EMISSION UNITS AT THIS SOURCE

Emission Unit	Description	Date Constructed	Emission Control Equipment
F-111	HIPS Rubber Dissolver	1982	None
F-113, F-115	HIPS 1 Additive Tanks	1982	None
F-127	HIPS/GPPS Solution Feed Tank	1982	Carbon Absorber (EF-7)
M-161 A and B	HIPS 1 Dies	1982	Smog Hog (M-301 and M-303)
M-234 A, B, and C and M-266R, M-276	GPPS Dies	1982, 1988, and 1993	Smog Hog (M-301 and M-303)
F-246 A	GPPS Solvent Separator Knock-Out Pot	1985	Vent Chiller (M-284 A and B)
F-211	GPPS Additive Distribution Tank	1982	None
F-1111	HIPS 2 Rubber Dissolver	1990	None
M-1161A and B	HIPS 2 Dies	1990	Smog Hog (M-1301 A and B)
F-1246	Liquid Ring Separator	1991	Vent Chiller (M-1248 A and B)
F-1248	Recycle Solvent Surge Tank	1991	Vent Chiller (M-1248 A and B)
F-3111	HIPS 3 Rubber Dissolver	1997	None
M-3161 A and B	HIPS 3 Dies	1997	Smog Hog (M-1301 and 1303)
F-3246	Liquid Ring Separator	1997	Vent Chiller (M-3248 A and B)
	Fugitive Emissions		LDAR Program
F-625	HIPS 1 Surge Bin	1982	Dust Collector (M-693A)
F-600 thru F-602	HIPS 1 Blending and Holding Silos (3)	1982	Dust Collector (M-695A)
F-650 thru F-652	GPPS Blending and Holding Silos (3)	1982	Dust Collector (M-695A)
M-691	HIPS 1 Fines Separator	1982	Baghouse (M-693)
F-661	GPPS Surge Bin	1982	Dust Collector (M-694A)
M-692	GPPS Fines Separator	1982	Baghouse (M-694)

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Emission Unit	Description	Date Constructed	Emission Control Equipment
F-655 and F-664	GPPS Blending Silos (2)	1990	Dust Collector (X-696X)
F-613 thru F-616	HIPS Hopper Car Loading Bins (4)	1982	Dust Collector (X-615)
F-656 thru F-659	GPPS Hopper Car Loading Bins (4)	1982	Dust Collector (X-616)
F-605 thru F-612	HIPS 1 Holding Silos (8)	1982	None
F-1600 thru F-1602	HIPS 2 Blending and Holding Silos (3)	1990	Dust Collector (M-1680)
M-1691	HIPS 2 Elutriator	1990	Dust Collector (M-1693)
M-3163A, B, and C	HIPS 3 Pelletizers	1997	None
DR-3163A, B, and C	HIPS 3 Pellet Dryers	1997	None
F-3600 thru F-3602	HIPS 3 Blending and Holding Silos (3)	1997	None
F-3613 thru F-3616	HIPS 3 Hopper Car Loading Bins (4)	1997	None
F-3617	HIPS 3 Off-Spec Bin	1997	None
UB H/C	Hopper Car Unloading	1992	Vacuum Unloading Receiver (F-856)
F-851 thru F-854	Holding, Storage, and Blending Silos (4)	1992	Dust Collector (M-896)
M-898	Elutriator	1992	Dust Collector (M-897)
PB H/C Load	Pellet Blending Hopper Car Loading	1992	PB H/C Filter
F-881	HIPS/GPPS Heelback Off-Spec Bin	1989	Dust Collector (M-895A)
F-885	Flame Retardant Heelback Off-Spec Bin	1989	Dust Collector (M-895B)
F-810 F-811 F-812 F-817	Base Resin Feed Bin Base Resin 2 Feed Bin Master Batch Feed Bin Blend Back Feed Tank	1989	Dust Collector (M-892)
F-872	Flame Retardant Polystyrene Blender	1989	Baghouse (M-891)
F-871, F-873, F-874	Blended Product Storage (3)	1989	Baghouse (M-891 or M-893)

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Emission Unit	Description	Date Constructed	Emission Control Equipment
H/C Load	Hopper Car Loading Station	1989	H/C Filters
B-302	42.9 mmBtu/hr Gas-Fired Boiler	1972	None
B-303	33.9 mmBtu/hr Gas-Fired Boiler	1983	None
B-301A	11.0 mmBtu Gas-Fired Hot Oil Furnace	1982	None
B-301B	11.0 mmBtu Gas-Fired Hot Oil Furnace	1982	None
B-301C	11.0 mmBtu Gas-Fired Hot Oil Furnace	1988	None
B-301D	11.0 mmBtu Gas-Fired Hot Oil Furnace	1997	None
Emergency Generator	14.8 mmBtu/hr Fuel Oil Fired Emergency Generator	1997	None
S R/C	Styrene Rail Car Unloading	1990	None
F-701	Styrene Storage Tank	1983	Submerged Loading Pipe
F-708	Styrene Storage Tank	1972	Submerged Loading Pipe
F-703	Styrene Storage Tank	1965	Submerged Loading Pipe
F-704	Ethylbenzene Storage Tank	1966	Submerged Loading Pipe
F-125	Recycle Solvent Hold Tank	1982	Submerged Loading Pipe
F-706	Oligomer Tank	Before 1982	None
F-212	GPPS Recycle Solvent Hold Tank	Before 1980	Submerged Loading Pipe
F-707	Ethylbenzene Purge Tank	1965	Submerged Loading Pipe
F-121, F-123	Rubber Solution Feed Tanks (HIPS 1)	1982	Submerged Loading Pipe
F-1123 A, B, and C	Rubber Solution Feed Tanks (HIPS 2)	1990	Submerged Loading Pipe

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Emission Unit	Description	Date Constructed	Emission Control Equipment
F-1125	Recycle Solvent Hold Tank (HIPS 2)	1990	Submerged Loading Pipe
F-3123 A, B, and C	Rubber Solution Feed Tanks (HIPS 3)	1997	Submerged Loading Pipe
F-3125	Recycle Solvent Hold Tank (HIPS 3)	1997	Submerged Loading Pipe

5.0 OVERALL SOURCE CONDITIONS

5.1 Source Description

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

5.2 Applicable Regulations

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

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

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

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

- b. 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 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:

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- 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.
- 5.2.4 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.
- 5.2.5 This facility meets the applicability provisions for existing affected sources under the Group IV Polymers and Resins NESHAP at 40 CFR 63 Subpart JJJ. Emission points subject to Subpart JJJ, except for equipment leaks, were to comply with Subpart JJJ by September 12, 1999. However, on June 30, 1999, USEPA issued a direct final rule imposing an indefinite stay for Subpart JJJ's compliance dates for existing affected sources. This indefinite stay does not impact equipment leaks provisions of the rule. These are addressed in Condition 7.1.3(c).

Should this stationary source, as defined in 40 CFR Part 63, again become subject to the process equipment emission

standards in 40 CFR Part 63, Subpart JJJ, then the owner or operator shall comply with the applicable requirements of 40 CFR Part 63 Subpart JJJ by the date(s) specified in the NESHAP and shall certify compliance with the applicable requirements of 40 CFR Part 63 Subpart JJJ as part of the annual compliance certification as required by 40 CFR Part 70 or 71.

5.2.6 Episode Action Plan

- a. 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

This permit is issued based on the source not being subject to 40 CFR 63, Subparts F, G and H (HON-NESHAP), because the source is not classified as a synthetic organic chemical manufacturing industry. However, the source is subject to certain provisions in Subparts F, G and H of 40 CFR Part 63, by reference through 40 CFR 63, Subpart JJJ.

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)	77.24
Sulfur Dioxide (SO <sub>2</sub> )	3.60
Particulate Matter (PM)	19.74
Nitrogen Oxides (NO <sub>x</sub> )	121.04
HAP, not included in VOM or PM	0.0
<b>TOTAL</b>	<b>221.62</b>

5.5.2 Emissions of Hazardous Air Pollutants

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

5.5.3 Other Source-Wide Emission Limitations

Source-wide emission limitations are not set for this source pursuant to either the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21, Illinois EPA rules for Major Stationary Sources Construction and Modification, 35 IAC Part 203, or Section 502(b)(10) of the CAA. However, there may be unit specific emission limitations set forth in Section 7 of this permit pursuant to these rules.

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 Operating Scenarios

N/A

5.6.3 Retention and Availability of Records

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

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

## 5.7 General Reporting Requirements

### 5.7.1 General Source-Wide Reporting Requirements

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

### 5.7.2 Annual Emissions Report

The annual emissions report required pursuant to Condition 9.7 shall contain emissions information including HAPs 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. This report shall be submitted with the Annual Emission Report (Condition 9.7).

## 5.8 General Operational Flexibility/Anticipated Operating Scenarios

N/A

## 5.9 General Compliance Procedures

### 5.9.1 General Procedures for Calculating 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.

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- a. For the purpose of estimating VOM emissions from the tanks, the current version of TANKS 3 or a later revision to the TANKS program is acceptable.
- b. For the purpose of estimating fugitive VOM emissions from polystyrene manufacturing at the source, the emission factors found in "API publication 4588, Development of Fugitive Emission Factors and Emission Profiles for Petroleum Marketing Terminals, May 1993" is acceptable.
- c. Other VOM and PM emissions shall be calculated using previous testing, material balances and standardized calculations using vapor pressures and known flow rates.
- d. All VOM emissions are classified as HAPs.

5.10 Special Permit Shield

N/A

## 6.0 EMISSION REDUCTION MARKET SYSTEM (ERMS)

### 6.1 Description of ERMS

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

The ERMS addresses VOM emissions during a seasonal allotment period from May 1 through September 30. Once the ERMS begins, 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 during initial issuance of the sources' CAAPP permits. These allotments are established from historical VOM emissions or "baseline emissions" lowered to provide the emission reduction from stationary sources required for 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 account to cover its actual VOM emissions during the preceding season. An 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 account database. The Illinois EPA will then retire ATUs in sources' accounts in amounts equivalent to their seasonal emissions. When a source does not appear to have sufficient ATUs in its 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 emission reductions from an Emission Reduction Generator or an Intersector Transaction (35 IAC 205.500 and 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 (35 IAC 205.710). Sources may also transfer or sell the ATUs that they holds to other sources or participants (35 IAC 205.630).

6.2 Applicability

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

6.3 Obligation to Hold Allotment Trading Units (ATUs)

- a. Pursuant to 35 IAC 205.150(c)(1) and 205.720, and as further addressed by Condition 6.8, as of December 31 of each year, this source shall hold ATUs in its account in an amount not less than the ATU equivalent of its VOM emissions during the preceding seasonal allotment period (May 1 - September 30) not including VOM emissions from the following, or the source shall be subject to "emissions excursion compensation," as described in Condition 6.4.
  - i. VOM emissions from insignificant units and activities as identified in Section 3 of this permit, in accordance with 35 IAC 205.220;
  - ii. Excess VOM emissions associated with startup, shutdown, malfunction or breakdown of an emission unit as authorized elsewhere in this permit, in accordance with 35 IAC 205.225;
  - iii. Excess VOM emissions to the extent allowed by a Variance, Consent Order, or Compliance Schedule, in accordance with 35 IAC 205.320(e)(3);
  - iv. Excess VOM emissions that are a consequence of an emergency as approved by the Illinois EPA, pursuant to 35 IAC 205.750; and
  - v. VOM emissions from certain new and modified emission units as addressed by Section 6.7(b), if applicable, in accordance with 35 IAC 205.320(f).
- b. Notwithstanding the above condition, in accordance with 35 IAC 205.150(c)(2), if a source commences operation of a major modification, pursuant to 35 IAC Part 203, the source shall hold ATUs in an amount not less than 1.3 times its VOM emissions attributable to such major modification during the seasonal allotment period,

determined in accordance with the construction permit for such major modification or applicable provisions in Section 7.0 of this permit.

#### 6.4 Market Transaction

- a. The source shall apply to the Illinois EPA for and obtain authorization for a Transaction Account prior to conducting any market transactions, as specified at 35 IAC 205.610(a).
- b. The Permittee shall promptly submit to the Illinois EPA any revisions to the information submitted for its Transaction Account, pursuant to 35 IAC 205.610(b).
- c. The source shall have at least one account officer designated for its Transaction Account, pursuant to 35 IAC 205.620(a).
- d. Any transfer of ATUs to or from the source from another source or general participant must be authorized by a qualified Account Officer designated by the source and approved by the Illinois EPA in accordance with 35 IAC 205.620 and the transfer must be submitted to the Illinois EPA for entry into the Transaction Account database.

#### 6.5 Emission Excursion Compensation

Pursuant to 35 IAC 205.720, if the source fails to hold ATUs in accordance with Condition 6.3, it shall provide emissions excursion compensation in accordance with the following:

- a. Upon receipt of an Excursion Compensation Notice issued by the Illinois EPA, the source shall purchase ATUs from the ACMA in the amount specified by notice, as follows:
  - i. The purchase of ATUs shall be in an amount equivalent to 1.2 times the emissions excursion; or
  - ii. If the source had an emissions excursion for the seasonal allotment period immediately before the period for the present emission excursion, the source shall purchase ATUs in an amount equivalent to 1.5 times the emissions excursion.

- b. If requested in accordance with paragraph (c) below or in the event that the ACMA balance is not adequate to cover the total emissions excursion amount, the Illinois EPA will deduct ATUs equivalent to the specified amount or any remaining portion thereof from the ATUs to be issued to the source for the next seasonal allotment period.
- c. Pursuant to 35 IAC 205.720(c), within 15 days of receipt of an Excursion Compensation Notice, the owner or operator may request that ATUs equivalent to the amount specified be deducted from the source's next seasonal allotment by the Illinois EPA, rather than purchased from the ACMA.

#### 6.6 Quantification of Seasonal VOM Emissions

- a. The methods and procedures specified in Section 5 and 7 of this permit for determining VOM emissions and compliance with VOM emission limitations shall be used for determining seasonal VOM emissions for purposes of the ERMS, with the following exceptions [35 IAC 205.315(b)]:

No exceptions

- b. The Permittee shall report emergency conditions at the source to the Illinois EPA in accordance with 35 IAC 205.750, if the Permittee intends to deduct VOM emissions in excess of the technology-based emission rates normally achieved that are attributable to the emergency from the source's seasonal VOM emissions for purposes of the ERMS. These reports shall include the information specified by 35 IAC 205.750(a), and shall be submitted in accordance with the following:
  - i. An initial emergency condition report within two days of the time when such excess emissions occurred due to the emergency; and
  - ii. A final emergency condition report, if needed to supplement the initial report, within 10 days after the conclusion of the emergency.

6.7 Annual Account Reporting

- a. For each year in which the source is operational, the Permittee shall submit, as a component of its Annual Emission Report, seasonal VOM emission information to the Illinois EPA for the seasonal allotment period. This report shall include the following information [35 IAC 205.300]:
  - i. Actual seasonal emissions of VOM from the source;
  - ii. A description of the methods and practices used to determine VOM emissions, as required by this permit, including any supporting documentation and calculations;
  - iii. A detailed description of any monitoring methods that differ from the methods specified in this permit, as provided in Section 205.337 of this Subpart;
  - iv. If a source has experienced an emergency, as provided in 35 IAC 205.750, the report shall reference the associated emergency conditions report that has been approved by the Illinois EPA;
  - v. If a source's baseline emissions have been adjusted due to a variance, consent order or CAAPP permit compliance schedule, as provided for in 35 IAC 205.320(e)(3), the report shall provide documentation quantifying the excess VOM emissions during the season that were allowed by the Variance, Consent Order, or Compliance Schedule, in accordance with 35 IAC 205.320(e)(3); and
  - vi. If a source is operating a new or modified emission unit for which three years of operational data are not yet available, as specified in 35 IAC 205.320(f), the report shall specify seasonal VOM emissions attributable to the new emission unit or the modification of the emission unit.
- b. This report shall be submitted by November 30 of each year, for the preceding seasonal allotment period.

6.8 Allotment of ATUs to the Source

- a.
  - i. The allotment of ATUs to this source is 932 ATUs per seasonal allotment period.
  - ii. This allotment of ATUs reflects the Illinois EPA's determination that the source's baseline emissions were 104.4 tons. These emissions include those from the closure of Alumax Mill Products.
  - iii. The source's allotment reflects 88% of the baseline emissions (12% reduction) except for the VOM emissions from specific emission unit excluded from such reduction, pursuant to 35 IAC 205.405 including units complying with MACT or using BAT, as identified in Condition 6.11 of this permit.
  - iv. ATUs will be issued to the source's Transaction Account by the Illinois EPA annually. These ATUs will be valid for the seasonal allotment period following issuance and, if not retired in this season, the next seasonal allotment period.
  - v. Condition 6.3(a) becomes effective beginning in the seasonal allotment period following the initial issuance of ATUs by the Illinois EPA into the Transaction Account for the source.
- b. Contingent Allotments for New or Modified Emission Units

The source was issued a construction permit prior to January 1, 1998 for the following new or modified emission units for which three years of operational data is not yet available:

Emission Unit	Construction Permit #	Date Issued	Maximum Available Allotment	Explanation of Maximum Allotment
HIPS 3	96040038	June 21, 1996	13.14	5/12 of 31.54 <sup>a</sup>

<sup>a</sup> The 31.54 ton/yr figure is derived from the new allowable for all units in HIPS 1 that will experience increases plus HIPS 3 equipment. However, the sum for all equipment must also meet the specific

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limits in Construction Permit 96040038, i.e., a net increase of less than 3.118 tons/year from HIPS 1 units and 6.42 tons/year from HIPS 3 units.

In accordance with 35 IAC 205.310(h) and 205.320(f), the source shall submit a written request for, or an application for, a revised emissions baseline and allotment which address these emission units by December 1 of the year of the third complete seasonal allotment period in which each such newly constructed or modified emission unit is operational. Such submittal shall include information from the affected emission units on the seasonal emissions for these first three seasonal allotment periods.

- c. Notwithstanding the above, part or all of the above ATUs will not be issued to the source in circumstances as set forth in 35 IAC Part 205, including:
  - i. Transfer of ATUs by the source to another participant or the ACMA, in accordance with 35 IAC 205.630;
  - ii. Deduction of ATUs as a consequence of emission excursion compensation, in accordance with 35 IAC 205.720; and
  - iii. Transfer of ATUs to the ACMA, as a consequence of shutdown of the source, in accordance with 35 IAC 205.410.

#### 6.9 Recordkeeping for ERMS

The Permittee shall maintain copies of the following documents as its Compliance Master File for purposes of ERMS [35 IAC 205.700(a)]:

- a. Seasonal component of the Annual Emission Report;
- b. Information on actual VOM emissions, as specified in detail in Sections 5 and 7 of this permit and Condition 6.6(a); and

- c. Any transfer agreements for the purchase or sale of ATUs and other documentation associated with the transfer of ATUs.

#### 6.10 Federal Enforceability

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

#### 6.11 Exclusions from Further Reductions

- a. VOM emissions from the following emission units, if satisfying subsection (a)(1), (a)(2), or (a)(3) prior to May 1, 1999, shall be excluded from the VOM emissions reductions requirements specified in IAC 205.400(c) and (e) as long as such emission units continue to satisfy subsection (a)(1), (a)(2), or (a)(3) [35 IAC 205.405(a)]:
  - i. Emission units that comply with any NESHAP or MACT standard promulgated pursuant to the CAA;
  - ii. Direct combustion emission units designed and used for comfort heating purposes, fuel combustion emission units and internal combustion engines; and
  - iii. An emission unit for which a LAER demonstration has been approved by the Agency on or after November 15, 1990.

The source has demonstrated in their ERMS application and the Illinois EPA has determined that the following emission units qualifies for exclusion from further reductions because they meet the criteria as indicated above [35 IAC 205.400(a) and (c)]:

B-302 Erie City Steam Boiler  
B-303 Zurn Industrial Steam Boiler  
B-301A "A" Hot Oil Furnace  
B-301B "B" Hot Oil Furnace  
B-301C "C" Hot Oil Furnace  
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- b. VOM emissions from the emission units using BAT for controlling VOM emissions, prior to May 1, 1999, shall not

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be subject to the VOM emissions reductions requirements specified in IAC 205.400(c) or (e) as long as such emission unit continues to use such BAT [35 IAC 205.405(b)].

The source has demonstrated in their ERMS application and the Illinois EPA has determined that the following emission units qualifies from further reductions because these emission units use BAT for controlling VOM emissions as indicated above [35 IAC 205.400(b) and (c)]:

Styrene Railcar Unloading Station  
F-701 Styrene Storage Tank  
F-708 Styrene Storage Tank  
F-703 Styrene Storage Tank  
F-704 Ethylbenzene Storage Tank  
F-125 Recycle Solvent Tank  
F-706 Oligomer Tank  
F-212 GPPS Recycle Solvent Tank  
F-707 Ethylbenzene Purge Tank  
F-111 Rubber Dissolver  
F-121 Styrene Rubber Solution Feed Tank  
F-123 Styrene Rubber Solution Feed Tank  
F-113 HIPS Additive Tank  
F-127 Mercaptan Solution Feed Tank  
EF-7 Mercaptan Room (carbon adsorption unit)  
M-161 A & B Extrusion Dies  
F-211 GPPS Additive Tank  
M-234 A, B&C; M-266R; M-276 GPPS dies  
M-301 and M-303 Smog Hogs  
F-246A GPPS Solvent Separator Knock-Out Pot  
M-284A & B Vent Chiller  
F-115 HIPS Additive Tank  
F-1111 Rubber Dissolver  
F-1123A, B&C Rubber Solution Feed Tanks  
M-1161A & B HIPS2 Dies  
M-1303 A & B, Smog Hog  
F-1246 Liquid Ring Separator  
M-1248 A & B HIPS2 Vent Chiller  
F-1125 HIPS2 Recycle Solvent Hold Tank

7.0 UNIT SPECIFIC CONDITIONS

7.1 Unit HIPS/GPPS VOM Emitting Processes  
 Control See Condition 7.2.2

7.1.1 Description

Polystyrene is a polymer of styrene so that in the reactors there is a cross-linking between styrene molecules but not a reaction between two different materials. Small amounts of ethylbenzene are added and a product called HIPS also includes rubber compounds that cross link with the styrene. The product from the reactors go to "dies" to be pelletized and the dies are vented to a smog-hog, which removes PM. The reactors are not listed as emission units because they (all HIPS and GPPS reactors) vent to separator knock-out pots which vent to a vent chiller, essentially a very low temperature condenser. The flow rate is very low. Liquids from the knock-out pot and condenser are recycled.

7.1.2 List of Emission Units and Pollution Control Equipment

Emission Equipment Number	Unit Process <sup>a</sup>	Description	Emission Control Equipment
S R/C		Railcar Unloading and Various Storage Tanks (See Attachment 1)	Most Have Submerged Loading
F-111	HIPS 1	Rubber Dissolver	None
F-113, F-115	HIPS 1	HIPS Additive Tanks	None
F-127	HIPS/GPPS	HIPS/GPPS Solution Feed Tank	Carbon Absorber <sup>b</sup> (EF-7)
M-161 A & B	HIPS 1	HIPS 1 Dies	Smog Hog <sup>c</sup> (M-301 and M-303)
M-234 A, B, & C; M-266R, M-276	GPPS	GPPS Dies	Smog Hog <sup>c</sup> (M-301 and M-303)
F-246 A	GPPS	GPPS Solvent Separator Knock-Out Pot	Vent Chiller (M-284 A & B)

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Emission Equipment Number	Unit Process <sup>a</sup>	Description	Emission Control Equipment
F-211	GPPS	GPPS Additive Distribution Tank	None
F-1111	HIPS 2	Rubber Dissolver	None
M-1161A & B	HIPS 2	HIPS 2 Dies	Smog Hog <sup>c</sup> (M-1303 A & B)
F-1246	HIPS 2	Liquid Ring Separator	Vent Chiller (M-1248 A & B)
F-1248	HIPS 2	Recycle Solvent Surge Tank	Vent Chiller (M-1248 A & B)
F-3111	HIPS 3	Rubber Dissolver	None
M-3161 A & B	HIPS 3	HIPS 3 Dies	Smog Hog <sup>c</sup> (M-1303 A & B)
F-3246	HIPS 3	Liquid Ring Separator	Vent Chiller (M-3248 A & B)
		Fugitive Emissions	LDAR Program

- a HIPS is high impact polystyrene. Specific line number also identified. GPPS is general purpose polystyrene.
- b Control is for odor purposes and not necessary to comply with any regulations.
- c Two units but only one runs at any time. Alternate operations. Electrostatic precipitators for PM.

7.1.3 Applicability Provisions and Applicable Regulations

- a. An "affected polystyrene process unit" for the purpose of these unit-specific conditions is a process line that includes any of the various pieces of equipment listed in Condition 7.1.2.
- b. The HIPS 1/GPPS and HIPS 2 and 3 processes, which includes the equipment in Condition 7.1.2 with the unit process identified as HIPS 2 or 3 are subject to a NSPS for polymers, 40 CFR 60, Subparts A and DDD. The polystyrene process emission standard for these units is contained in 40 CFR 60.562-1(b)(1)(ii).

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This standard requires that the outlet gas stream temperature from each final condenser (i.e., vent chillers) in the material recovery section not to exceed - 13EF (- 25EC). Temperature exceedances shall not be considered a violation when such exceedances occur during periods of startup, shutdown, or malfunction. (40 CFR 60.562-1(b)(1)(ii))

Note: Condition 5.2.4 stated that USEPA has imposed an indefinite stay for 40 CFR 63 Subpart JJJ's compliance dates for existing affected sources, except for equipment leaks. If USEPA promulgates revisions to 40 CFR 63 Subpart JJJ and/or imposes compliance dates for 40 CFR 63 Subpart JJJ, the facility may be required to comply with portions of 40 CFR 63 Subpart JJJ, in lieu of 40 CFR 60 Subpart DDD. If that occurs, this permit must be revised to reflect the current applicable rules.

- c. i. For the equipment leaks program, 40 CFR 63 Subpart JJJ incorporates the equipment leaks requirements of 40 CFR 63 Subpart H with the differences specified at 40 CFR 63.1331(a). These include the following standards:

63.162	General Standards
63.163	Standards for Pumps in Light Liquid Service
63.164	Standards for Compressors
63.165	Standards for Pressure Relief Devices in Gas/Vapor Service
63.166	Standards for Sampling Connections
63.167	Standards for Open-Ended Valves or Lines
63.168	Standards for Valves in Gas/Vapor and Light Liquid Service
63.169	Standards for Pumps, Valves, Connectors and Agitators in Heavy Liquid Service; Instrumentation System; and Pressure Relief Devices in Liquid Service
63.170	Standards for Surge Control Vessels and Bottom Receivers
63.171	Standards for Delay of Repair

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- 63.172 Standards for Closed-Vent Systems and Control Devices
  - 63.173 Standards for Agitators in Gas/Vapor Service and in Light Liquid Service
  - 63.174 Standards for Connectors Gas/Vapor Service and in Light Liquid Service
- ii. The Permittee shall also comply with the equipment leak provisions of 35 Ill. Adm. Code Part 218, Subpart Q. To the extent that they are duplicative, compliance with a more stringent standard (i.e. NESHAP) shall be deemed compliance with both standards.
- d. All of the material recovery sections of each affected polystyrene line are subject to 35 IAC 218.642 which states that no person shall cause or allow the emissions of VOM from the material recovery section (i.e., vent chillers) to exceed 0.12 kg VOM per 1,000 kg of polystyrene produced (0.12 lb/1,000 lb or 0.24 lb/ton). Compliance with Condition 7.1.3(b) assures compliance with this limit.
- e. Each affected emission unit listed in Condition 7.1.2 is subject to 35 IAC 218.301 which limits organic material emissions to 8 lb/hr if the material is photochemically reactive. Pursuant to the definition in 35 IAC 211.4690, the organic materials involved in this process are photochemically reactive. The control efficiency of the vent chillers is greater than 85%. The smog-hog is considered to be a PM control device only and not a device for reducing organic material emissions.
- f. All of the polystyrene process units (HIPS 1/GPPS, HIPS 2, and HIPS 3), including the emission units listed in Condition 7.1.2, are subject to 35 IAC 218, Subpart RR, Miscellaneous Organic Chemical Manufacturing Process because the units not regulated by 35 IAC 218 Subpart BB have a potential to emit (PTE) greater than 25 tons/year. However, because those units, with the exception of styrene railcar unloading (S R/C) are within the category specified by 35 IAC Subpart BB, the control requirements of 35

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IAC 218.966 do not apply pursuant to 35 IAC 218.960(b)(2).

- g. All of the polystyrene process units (HIPS 1/GPPS, HIPS 2, and HIPS 3), including the emission units listed in Condition 7.1.2, are subject to 35 IAC 218, Subpart TT, Other Emission Units, because the units not regulated by 35 IAC 218 Subpart BB have 25 tons/year. However, because those units, with the exception of styrene railcar unloading (S R/C) are within the category specified by 35 IAC 218 Subpart BB, the control requirements of 35 IAC 218.986 do not apply pursuant to 35 IAC 218.980(b)(2).
- h. The source is subject to 35 IAC 218 Subpart TT because the potential to emit VOM emissions from units not subject to 35 IAC Subpart BB to over 25 tons/year. However, the Permittee has accepted a limit of unloading 1,000 railcars of styrene per year, which limits VOM emissions to under 2.5 tons per calendar year, thus qualifying for the exemption from control in 35 IAC 218.980(d).
- i. While each emission unit in Condition 7.1.2 is subject to 35 IAC 212.321, only the dies emit any PM. This rule states: No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceed the allowable emission rates specified by using the equation:

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

Where:

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

- 1. Up to process weight rate of 408 Mg/hr (450 T/hr):

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	<u>Metric</u>	<u>English</u>
P	Mg/hr	T/hr
E	kg/hr	lbs/hr
A	1.214	2.54
B	0.534	0.534

j. Malfunction and Breakdown

- i. In the event of a malfunction or breakdown of a vent chiller or equipment that vents to a vent chiller (M-284 A & B, M-1248 A & B, M-3248 A & B), the Permittee is authorized to continue operation of the polystyrene reactors in violation of the applicable requirement of 35 IAC 218.301 and 218.642, as necessary to prevent risk of injury to personnel or severe damage to equipment. This authorization is subject to the following requirements:
  - A. The Permittee shall repair the damaged feature(s) of the vent chillers or begin an orderly shutdown of the reactors if the vent chillers cannot be repaired within two days or the Permittee obtains an extension for up to three additional days, from the Illinois EPA. The request for such an extension must document that repair parts are unavailable and specify a schedule of actions the Permittee will take that will assure the feature(s) will be repaired of the reactors shutdown as soon as possible.
  - B. The Permittee shall fulfill the applicable recordkeeping and reporting requirements of Conditions 7.1.9(a) and 7.1.10(a).
- ii. Styrene storage tanks (F-701 and 708) may continue to operate (i.e. have styrene pumped into them) during malfunction or breakdown of either or both tank refrigeration systems as the tanks remain in compliance with Condition 7.1.3(e).

k. Startup/Shutdown Provisions

The Permittee is authorized to operate an affected polystyrene process unit in violation of the applicable limit of 35 IAC 218.301 and 218.642 during startup or shutdown pursuant to 35 IAC 201.262, as the Permittee has affirmatively demonstrated that all reasonable efforts have been made to minimize startup emissions, duration of individual starts, and frequency of startups. This authorization is subject to the following:

- i. This authorization only extends for a period of up to 12-hours following the startup event.
- ii. The Permittee shall minimize startup/shutdown emissions, the duration of startups/shutdowns, and minimize the frequency of startups/shutdowns.
- iii. The Permittee shall fulfill the applicable recordkeeping requirements of Condition 7.1.9(a).

7.1.4 Non-Applicability of Regulations of Concern

- a. None of the tanks listed in Attachment 1 are subject to the NSPS, 40 CFR 60 Subpart K, Ka or Kb because the vapor pressure of the material stored is too low to meet the applicability requirements of the NSPS. Although not subject to an NSPS, some tanks do require recordkeeping pursuant to the NSPS, see Condition 7.1.9.
- b. The storage tanks in Attachment 1 are not subject to 35 IAC 218.120 because the applicability requirements in Section 218.119 exempt tanks due to either or both vapor pressure and tank volume. The tanks are exempt from 35 IAC 218.122(b) due to the vapor pressure exemption in Section 218.122(c).

7.1.5 Control Requirements or Operational and Production Limits and Work Practices

- a. The vent chillers on the material recovery sections shall be operated to meet the temperature requirements in Condition 7.1.3(b).
- b. The carbon adsorber on the mercaptan solution tank (F-127) is for odor purposes only and not required to demonstrate compliance with applicable rules listed in Condition 7.1.3(e); therefore the carbon adsorber (once through type, not regenerated) may be replaced as felt necessary by the Permittee.
- c. The styrene day tank (F-703) shall be operated at a constant level so that there are no emissions due to elevation changes from emptying and filling of the tank. Constant level is defined as a variation of less than 2 inches.
- d.
  - i. Production of polystyrene product from all lines combined shall not exceed 972 million pounds per year.
  - ii. Compliance with annual production limits shall be determined from a running total of twelve months of data.
- e. The number of railcars of styrene unloaded shall not exceed 1,000 per calendar year.

7.1.6 Emission Limitations

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

Emissions from the affected units shall not exceed the following limits [T1]:

<u>Emission Unit</u>	<u>VOM Emissions (ton/year)</u>
F-701	12.13
F-708	7.05
F-703	1.41

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<u>Emission Unit</u>	<u>VOM Emissions (ton/year)</u>
F-706	0.02
F-704	0.11
F-707	0.23
F-127	0.06
F-113	0.28
M-1303 A and B	3.83
F-3111	6.42
All other new equipment in HIPS 3	3.12

These limits are based on the maximum operation.

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 annual limitations were established in revised Construction Permit 96040038, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned Construction Permit does not constitute a new major source or major modification pursuant to 35 IAC Part 203. One tank (F-705) has been removed from the list because it is an insignificant emission unit.

#### 7.1.7 Testing Requirements

- a. Within 60 days of a written request by the Illinois EPA, the Permittee shall conduct a demonstration to determine compliance with the temperature limits for the vent chillers as described in Condition 7.1.2(b) employing the test protocol described in 40 CFR 60.564(a)(1) and (5) and 60.564(i).
- b. LDAR testing (monitoring) shall comply with Method 21 of 40 CFR 60, Appendix A, as specified in 40 CFR 63.180(b) and also specified in 35 IAC 218.421.

7.1.8 Monitoring Requirements

A temperature monitoring device shall be installed at the condenser exit (product side). The temperature monitoring device shall measure and record continuously the operating temperature to within 1 percent (relative to degrees Celsius) or  $\pm 0.5^{\circ}\text{E}$  Celsius ( $\pm 0.9^{\circ}\text{E}$  Fahrenheit), whichever is greater. (40 CFR 60.563(a)(1) and (b)(5)(i).)

7.1.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected polystyrene process unit to demonstrate compliance with Conditions 5.5.1, 7.1.2 and 7.1.6, pursuant to 40 CFR 60.565 and Section 39.5(7)(b) of the Act:

a. Records for Startup and Shutdown

The Permittee shall maintain the following records, pursuant to Section 39.5(7)(b) of the Act, for each affected polystyrene process unit subject to Condition 7.1.3(b), which at a minimum shall include:

- i. The following information for each startup or shutdown of an affected polystyrene process unit:
  - A. Date and duration of the startup or shutdown, i.e., start time and time normal operation achieved, i.e., vent chillers are at proper temperature;
  - B. If normal operation was not achieved within twelve hours or shutdown completed, an explanation why startup could not be achieved in eight hours;
  - C. A detailed description of the startup or shutdown, including reason for operation and whether procedures in the startup plan were followed;

D. An explanation of why established startup or shutdown procedures could not be performed, if not performed;

b. Records for Malfunctions and Breakdowns of Vent Chillers

The Permittee shall maintain records, pursuant to 35 IAC 201.263, of continued operation of an affected polystyrene process unit subject to 35 IAC 218.301, 218.642 and 40 CFR 60.7 during malfunctions and breakdown of the control features of the polystyrene process unit, which as a minimum, shall include:

- i. Date and duration of malfunction or breakdown;
  - ii. A detailed explanation of the malfunction or breakdown;
  - iii. An explanation why the damaged feature(s) could not be immediately repaired within 48 hours or the reactors removed from service without risk of injury to personnel or severe damage to equipment;
  - iv. The measures used to reduce the quantity of emissions and the duration of the event;
  - v. The steps taken to prevent similar malfunctions or breakdowns or reduce their frequency and severity; and
  - vi. The amount of release above typical emissions during malfunction/breakdown.
- c. Three hour average exit temperature from each vent chiller (i.e., eight three hour averages each day).
- d. Recordkeeping for equipment leaks shall meet the requirements of 40 CFR 63.181 and 35 IAC 218.425.
- e. Polystyrene production (lb/mo).

- f. Records of the dimension of the storage tank and an analysis showing the capacity of the tank for tanks F-212, F-701, F-703, F-708, F-3123 A-C, and F-3125.
- g. VOM emission calculations to verify compliance with various limits in Condition 7.1.6 (lb/yr).
- h. Total VOM and HAP emissions (lb/mo).

#### 7.1.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of the affected polystyrene process 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. For the vent chillers, all three-hour periods of operation during which the average operating temperature was more than 6EC above the average operating temperature established during the most recent performance test. (40 CFR 60.565(k).)
- b. VOM emissions exceeding the limits in Condition 7.1.6.
- c. Production exceeding the limit in Condition 7.1.5(d).
- d. The Illinois EPA must be notified in writing if the Permittee chooses to comply with 40 CFR 60 Subpart DDD by a provision other than temperature of the material recovery condenser as specified in Condition 7.1.3(b).
- e. Semi-annual report for startup, shutdown, and malfunction of vent chillers, as required by 40 CFR 60.565(k).

#### 7.1.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to the polystyrene

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lines 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:

GPPS grade material may be manufactured in lines called HIPS since the emission rate is less than or equal to HIPS grade.

#### 7.1.12 Compliance Procedures

See Condition 5.9.1 for emission calculation procedures.

7.2 Unit Solid Material Handling Processes  
 Control Various Dust Collectors or Filters

7.2.1 Description

These processes involve storage or movement of polystyrene that is directly connected to the manufacturing process. After the "Dies" in Section 7.1, the product is a solid material and moved by air conveyors. Fines may form and become a dust. Dust collectors remove these fines except that in the HIPS 3 unit a dense phase conveying system is employed which reduces formation of fines and no control equipment is necessary to comply.

VOM is not emitted by these processes.

7.2.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
F-625	HIPS 1 Surge Bin	Dust Collector (M-693A)
F-600 thru F-602	HIPS 1 Blending and Holding Silos (3)	Dust Collector (M-695A)
F-650 thru F-652	GPPS Blending and Holding Silos (3)	Dust Collector (M-695A)
M-691	HIPS 1 Fines Separator	Baghouse (M-693)
F-661	GPPS Surge Bin	Dust Collector (M-694A)
M-692	GPPS Fines Separator	Baghouse (M-694)
F-655 and F-664	GPPS Blending Silos	Dust Collector (M-696X)
F-613 thru F-616	HIPS Hopper Car Loading Bins (4)	Dust Collector (X-615)
F-656 thru F-659	GPPS Hopper Car Loading Bins (4)	Dust Collector (X-616)
F-605 thru F-612	HIPS 1 Holding Silos (8)	None
F-1600 thru F-1602	HIPS 2 Blending and Holding Silos (3)	Dust Collector (M-1680)
M-1691	HIPS 2 Elutriator	Dust Collector (M-1693)
M-3163A, B and C	HIPS 3 Pelletizers	None

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Emission Unit	Description	Emission Control Equipment
DR-3163A, B and C	HIPS 3 Pellet Dryers	None
F-3600 thru F-3602	HIPS 3 Blending and Holding Silos (3)	None
F-3613 thru F-3616	HIPS 3 Hopper Car Loading Bins (4)	None
F-3617	HIPS 3 Off-Spec Bin	None

7.2.3 Applicability Provisions and Applicable Regulations

- a. An "affected material handling unit" for the purpose of these unit-specific conditions is a unit handling, blending, or storing polystyrene pellets.
- b. Each affected material handling or storage unit is identified in Condition 7.3.2 and subject to the emission limits identified in Condition 5.2.2.
- c. Each affected material handling unit is subject to 35 IAC 212.321(a) which states that no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceed the allowable emission rates specified by using the equation:

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

Where:

- P = Process weight rate (tons/hr);
- E = Allowable emission rates (lbs/hr);
- A = 2.54; and
- B = 0.534

- d. Malfunction and Breakdown
  - i. The equipment vented to the following baghouses/dust collectors may continue to

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operate during malfunction or breakdown of the associated baghouse/dust collector as the PM emissions without the control device continue to remain in compliance with Condition 7.2.3(c).

M-694A	GPPS Dust Collector
M-695A	HIPS 1/GPPS Dust Collector
M-696X	LRCP Dust Collector
X-615	HIPS Hopper Car Loading Bin Dust Collector
X-616	GPPS Hopper Car Loading Bin Dust Collector
M-1680	Silo Dust Collectors
M-1693	Elutriator Dust Collector

ii. In the event of a malfunction or breakdown of baghouse/dust collectors M-693, M-693A or M-694, the Permittee is authorized to continue operation of the equipment vented to the above listed control devices in violation of the applicable requirement of 35 IAC 212.321, as necessary to prevent risk of injury to personnel or severe damage to equipment. This authorization is subject to the following requirements:

- A. The Permittee shall repair the damaged feature(s) of the baghouse/dust collectors or remove the equipment vented to them from active service as soon as practicable. This shall be accomplished within 24 hours or begin an orderly shutdown.
- B. The Permittee shall fulfill the applicable recordkeeping and reporting requirements of Conditions 7.1.9(b) and 7.1.10(a).

#### 7.2.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected material handling units not being subject to the New Source Performance Standards (NSPS) for polymer

manufacturing, 40 CFR 60, Subpart DDD, because the NSPS standard only applies to the material recovery section of the reactor which emits VOM, and not to up or downstream solids handling processes.

- b. This permit is issued based on the affected material handling units not being subject to 35 IAC Part 218 because Part 218 only applies to VOM emission units and these units only emit PM.

7.2.5 Control Requirements or Operational and Production Limits and Work Practices

The dust collector or filters shall be operated in accordance with the vendors recommended practices so as to reduce emissions to meet the limits in Condition 5.2.2 and 7.2.6.

7.2.6 Emission Limitations

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

Emissions of PM from each dust collector baghouse or uncontrolled unit listed in Condition 7.2.2 shall not exceed 0.44 ton/yr [T1R]. These limits are more stringent than allowed by Condition 7.2.3(c) but are more than allowed by some previous construction permits, e.g. permit 89040046. These past limits may vary, e.g. 0.10, 0.22 and 0.44 tons/yr and the Permittee would prefer a generic limit of 0.44 ton/yr for each unit. Compliance with 40 CFR 52.21 Prevention of Significant Deterioration (PSD) is not an issue at the low rate indicated. These limits continue to ensure that the construction and/or modification addressed in this construction permit does not constitute a new major source or major modification pursuant to these rules. These limits supersede the limitations established in various construction permits and the information in the CAAPP application contains the most current and accurate information for the source. These units would be

classified as insignificant if they were not process units and with control equipment.

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 each affected material handling unit to demonstrate compliance with Condition 5.5.1, pursuant to Section 39.5(7)(b) of the Act:

- a. Material throughput (ton/mo).
- b. Dust collector filter replacements.
- c. PM emissions (lb/mo).
- d. Records are not required to demonstrate compliance with Condition 7.2.3(c) since compliance is assured by the inherent nature of the operation.
- e. Records for Malfunctions and Breakdowns of Baghouses/Dust Collectors

The Permittee shall maintain records, pursuant to 35 IAC 201.263, of continued operation of equipment vented to baghouses/dust collectors during malfunctions and breakdown of the control features of the baghouses/dust collectors, which as a minimum, shall include:

- i. Date and duration of malfunction or breakdown;
- ii. A detailed explanation of the malfunction or breakdown;

- iii. An explanation why the damaged feature(s) could not be immediately repaired or the equipment vented to baghouses/dust collectors removed from service without risk of injury to personnel or severe damage to equipment;
- iv. The measures used to reduce the quantity of emissions and the duration of the event;
- v. The steps taken to prevent similar malfunctions or breakdowns or reduce their frequency and severity; and
- vi. The amount of release above typical emissions during malfunction/breakdown.

#### 7.2.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected material handling process 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:

##### Reporting of Malfunctions and Breakdowns for Baghouses/Dust Collectors

The Permittee shall provide the following notification and reports to the Illinois EPA, Compliance Section and Regional Field Office, pursuant to 35 IAC 201.263, concerning continued operation the baghouses/dust collectors of subject to Condition 7.1.3(c) during malfunction or breakdown of the control features of the baghouses/dust collectors.

- a. The Permittee shall notify the Illinois EPA's regional office by telephone as soon as possible during normal working hours, but no later than three (3) days, upon the occurrence of noncompliance due to malfunction, or breakdown.

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- b. Upon achievement of compliance, the Permittee shall give a written follow-up notice to the Illinois EPA, Compliance Section and Regional Field Office, providing a detailed explanation of the event, an explanation why continued operation of the equipment vented to a baghouse/dust collector was necessary, the length of time during which operation continued under such conditions, the measures taken by the Permittee to minimize and correct deficiencies with chronology.

Note that the reporting requirements only apply to the units that are out of compliance when the baghouses or dust collectors malfunction or breakdown. The requirements do not apply to the units that remain in compliance.

7.2.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.2.12 Compliance Procedures

Operation with a good filter is assumed to achieve compliance with applicable rule.

7.3 Unit Material Handling Processes  
 Control Various Dust Collectors

7.3.1 Description

This section includes equipment that is not a direct part of the polystyrene manufacturing process. For instance it includes equipment involved in pellet blending, flame retardant compounding, and hopper car washing. In the pellet blending unit various grades of polystyrene not manufactured at this site may be received in hopper cars, unloaded and stored in silos to be blended with product that is manufactured at this site. The blended product is then shipped out in hopper cars. The material is moved by air conveyors and dust collectors or filters remove fines before the conveying air is discharged to the atmosphere. PM is considered to be the only contaminant emitted; any VOM is considered negligible.

Off-site bins are where fines from hoppers are air conveyed prior to washing the hopper cars.

The terms filter, dust collector and baghouse are almost synonymous but there are slight distinctions.

7.3.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Pellet Blending Unit		
PB H/C	Hopper Car Unloading	Vacuum Unloading Receiver (F-856)
F-851 thru F-854	Holding, Storage and Blending Silos (4)	Dust Collector (M-896)
M-898	Elutriator	Dust Collector (M-897)
PB H/C Load	Pellet Blending Hopper Car Loading	PB H/C Filter
Hopper Car Wash		
F-881	HIPS/GPPS Heelback Off-Spec Bin	Dust Collector (M-895A)
F-885	Flame Retardant Heelback Off-Spec Bin	Dust Collector (M-895B)

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Emission Unit	Description	Emission Control Equipment
Flame Retardant Compounding		
F-810	Base Resin Feed Bin	Dust Collector (M-892)
F-811	Base Resin 2 Feed Bin	
F-812	Master Batch Feed Bin	
F-817	Blend Back Feed Tank	
F-872	Flame Retardant Polystyrene Blender	Baghouse (M-891)
F-871, F-873, F-874	Blended Product Storage (3)	Baghouse (M-891 or M-893)
H/C Load	Hopper Car Loading Station	H/C Filters

7.3.3 Applicability Provisions and Applicable Regulations

- a. An "affected material handling unit" for the purpose of these unit specific conditions is a unit in which solid polystyrene material is being handled, blended, or stored and listed in Condition 7.3.2. The only emissions are PM.
- b. Each process listed in Condition 7.3.2 is subject to 35 IAC 212.321 which states that no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceed the allowable emission rates specified by using the equation:

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

Where:

- P = Process weight rate (tons/hr);
- E = Allowable emission rates (lbs/hr);
- A = 2.54; and
- B = 0.534

- c. Malfunction and breakdown: Equipment vented to various dust collectors may continue to operate

during malfunction or breakdown of the dust collectors as the collectors are not necessary to comply with Condition 7.3.3(b). The dust collectors are installed to minimize emissions and not for compliance.

7.3.4 Non-Applicability of Regulations of Concern

These processes are not subject to NSPS for Polymer Manufacturing (40 CFR 60 Subpart DDD) because those rules are only for emissions of VOM or HAPs from equipment in which polystyrene is manufactured and not for handling of the final product which generate PM.

7.3.5 Control Requirements or Operational and Production Limits and Work Practices

The dust collector shall be operated to minimize visible emissions but the processes are in compliance with Condition 7.3.3 without the dust collectors.

7.3.6 Emission Limitations

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

Emissions of PM from each dust collector or filter listed in Condition 7.3.2 shall not exceed 0.44 ton/yr [T1R]. These limits are more stringent than allowed by Condition 7.3.3(b) but are more than allowed by some previous construction permits, e.g. permit 89040046. These past limits may vary, e.g. 0.10, 0.22 and 0.44 tons/yr and the Permittee would prefer a generic limit of 0.44 ton/yr for each unit. Compliance with 40 CFR 52.21 Prevention of Significant Deterioration (PSD) is not an issue at the low rate indicated. These limits continue to ensure that the construction and/or modification addressed in this construction permit does not constitute a new major source or major modification pursuant to these rules. These limits supersede the limitations established in various construction permits and the information in the CAAPP application

contains the most current and accurate information for the source. These units would be classified as insignificant if they were not process units and with control equipment.

7.3.7 Operating Requirements

The dust collectors shall be operated in accordance with manufacturer's recommended practices and filters/bags replaced as needed.

7.3.8 Inspection 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 material handling processes to demonstrate compliance with Condition 5.5.1, pursuant to Section 39.5(7)(b) of the Act:

- a. Material throughput (ton/mo);
- b. Dust collector filter replacements;
- c. PM emissions (lb/mo); and
- d. Records are not required to demonstrate compliance with Condition 7.3.3(b) since compliance is assured by the inherent nature of the operation.

7.3.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected material handling processes 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. Non-compliance with Condition 5.5.1.

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7.3.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to products 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:

Various grades or specifications of material stored or transferred may be changed provided it is polystyrene or a material used in making a polystyrene product (e.g., addition of a material to give it a color or flame retardant property).

7.3.12 Compliance Procedures

Operation with a good filter is assumed to achieve compliance with applicable rules.

7.4 Unit 01 Gas Fired Fuel Combustion Equipment and Emergency Generator

7.4.1 Description

The boilers combust natural gas to produce steam for process heat.

The hot oil furnaces heat a material other than water but the rules for fuel combustion equipment apply because it is indirect heat transfer.

The Emergency Generator is not classified as a fuel combustion unit.

7.4.2 List of emission equipment and pollution control equipment

Plant Emission Unit	Description	Emission Control
B-302	42.9 mmBtu/hr Gas-Fired Boiler	None
B-303	33.9 mmBtu/hr Gas-Fired Boiler	None
B-301A	11.0 mmBtu/hr Gas-Fired Hot Oil Furnace	None
B-301B	11.0 mmBtu/hr Gas-Fired Hot Oil Furnace	None
B-301C	11.0 mmBtu/hr Gas-Fired Hot Oil Furnace	None
B-301D	11.0 mmBtu/hr Gas-Fired Hot Oil Furnace	None
Emergency Generator	14.8 mmBtu/hr Fuel Oil Fired Emergency Generator	None

7.4.3 Applicable Regulations

- a. An "affected boiler or hot oil furnace" for the purpose of these unit-specific conditions, is each piece of equipment listed in condition 7.4.2.
- b. Emissions of carbon monoxide (CO) into the atmosphere from any fuel combustion emission unit with actual heat input greater than 2.9 MW (10 mmBtu/hr) shall

not exceed 200 ppm, corrected to 50 percent excess air [35 IAC 216.121].

- c. Hot oil furnace B-301D is subject to the New Source Performance Standard (NSPS) for small industrial steam generating units, 40 CFR 60, Subpart Dc. Since it is only gas-fired the only standard it is subject to is recordkeeping to verify that no fuel oil was combusted in the unit.
- d. An "affected emergency generator" for the purpose of these unit-specific conditions is a generator listed in Condition 7.4.2 and used to generate electricity during power outages.
- e. Emissions of sulfur dioxide (SO<sub>2</sub>) into the atmosphere from the emergency generator shall not exceed 2000 ppm.

#### 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. All of the boilers and three of the Dowtherm furnaces were constructed prior to June 9, 1989, therefore, these rules do not apply.
- b. Pursuant to 35 IAC 218.303, fuel combustion emission units are not subject to 35 IAC 218.301, "Use of Organic Material".
- c. The emergency generator is not subject to 35 IAC 216.121 since it is not a fuel combustion unit.

#### 7.4.5 Operational and Production Limits and Work Practices

- a. Natural gas shall be the only fuel burned in the boilers or heaters.
- b. The operation and fuel consumption of the emergency generator shall not exceed the following limits:

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Operating Hours (Hours/Yr)	Fuel Consumption (Diesel Oil) (10 <sup>3</sup> Gal/Mo)      (10 <sup>3</sup> Gal/Yr)	
1,000	77.98	108.3

7.4.6 Emission Limitations

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

Emissions of nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), particulate matter (PM) and volatile organic material (VOM) from the emergency generator shall not exceed the following limits [T1]:

	Emissions (Lb/Hr)      (Ton/Yr)	
Nitrogen Oxides	47.5	23.75
Carbon Monoxide	12.6	6.3
Sulfur Dioxide	6.0	3.0
Particulate Matter	1.5	0.75
Volatile Organic Material	1.5	0.75

The emission limits are based on the maximum capacity of the engine and using standard emission factors from USEPA's AP-42 Table 3.4-1. The annual limits are based on the engine operating a maximum of 1,000 hours per year. Compliance with annual limits shall be determined from a running total of 12 months of data.

The above limits were originally in Construction Permit 97080036 but were not needed.

7.4.7 Testing Requirements

None

7.4.8 Monitoring Requirements

None

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7.4.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items which allow to demonstrate compliance with Condition 5.5.1 and 7.1.5 pursuant to Section 39.5 (7) (b) of the Act:

- a. Total natural gas usage for the boilers and heaters (Mcf/year).
- b. Fuel oil (#2) usage in the emergency generator (gal/mo) and hours of operation (hr/year).
- c. Annual aggregate NO<sub>x</sub>, PM, SO<sub>2</sub>, and VOM emissions from the boilers, based on fuel consumption and the applicable emission factors, with supporting calculations.

7.4.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance with applicable requirements within 30 days pursuant to Section 39.5 (7) (f) (ii) of the Act.

7.4.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.4.12 Compliance Procedures

- a. Compliance provisions addressing Condition 7.1.3(b) are not set by this permit as compliance is assumed to be achieved by the normal work practices and maintenance activities inherent in operation of natural gas fired boilers.
- b. Compliance with the emission limits in condition 5.5 shall be based on the recordkeeping requirements in Condition 7.1.9 and the emission factors and formulas listed below:

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<u>Pollutant</u>	<u>Gas-Fired Boiler Emission Factor (lb/10<sup>6</sup> ft<sup>3</sup>)</u>	<u>Emergency Generator Emission Factor (lb/mmBtu)</u>
NO <sub>x</sub>	100.0	4.41
PM	7.6	0.31
SO <sub>2</sub>	0.6	0.29
VOM	5.5	0.35
CO	84.0	0.95

These are the emission factors for uncontrolled natural gas combustion in small industrial boilers (<100 mmBtu/hr), Tables 1.4.1 and 1.4.2, AP-42, Volume I, 5th Edition, March 1998 Revision.

Boiler emissions (lb) = natural gas consumed multiplied by the appropriate emission factor.

## 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 without applying for or obtaining an amendment to this permit, provided that the changes do not constitute a modification under Title I of the CAA, emissions will not exceed the emissions allowed under this permit following implementation of the physical or operational change, and the Permittee provides written notice to the Illinois EPA, Division of Air Pollution Control, Permit Section, at least 7 days before commencement of the change [Section 39.5(12)(a) of the Act]. This notice shall:

- a. Describe the physical or operational change;
- b. Identify the schedule for implementing the physical or operational change;
- c. Provide a statement of whether or not any New Source Performance Standard (NSPS) is applicable to the physical or operational change and the reason why the NSPS does or does not apply;
- d. Provide emission calculations which demonstrate that the physical or operational change will not result in a modification; and
- e. Provide a certification that the physical or operational change will not result in emissions greater than authorized under the Conditions of this permit.

#### 8.5 Testing Procedures

Tests conducted to measure composition of materials, efficiency of pollution control devices, emissions from process or control equipment, or other parameters shall be conducted using standard test methods. Documentation of the test date, conditions, methodologies, calculations, and test results shall be retained pursuant to the recordkeeping procedures of this permit. Reports of any tests conducted as required by this permit or as the result of a request by the Illinois EPA shall be submitted as specified in Condition 8.6.

## 8.6 Reporting Requirements

### 8.6.1 Monitoring Reports

A report summarizing required monitoring as specified in the conditions of this permit shall be submitted to the Air Compliance Section of the Illinois EPA every six months as follows [Section 39.5(7)(f) of the Act]:

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

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

### 8.6.2 Test Notifications

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

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

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- 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.

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#### 8.6.4 Reporting Addresses

- a. The following addresses should be utilized for the submittal of reports, notifications, and renewals:
- i. Illinois EPA - Air Compliance Section  
  
Illinois Environmental Protection Agency  
Bureau of Air  
Compliance Section (MC 40)  
P.O. Box 19276  
Springfield, Illinois 62794-9276
  - ii. Illinois EPA - Air Regional Field Office  
  
Illinois Environmental Protection Agency  
Division of Air Pollution Control  
Eisenhower Tower  
1701 South First Avenue  
Maywood, Illinois 60153
  - iii. Illinois EPA - Air Permit Section (MC 11)  
  
Illinois Environmental Protection Agency  
Division of Air Pollution Control  
Permit Section  
P.O. Box 19506  
Springfield, Illinois 62794-9506
  - iv. USEPA Region 5 - Air Branch  
  
USEPA (AR - 17J)  
Air & Radiation Division  
77 West Jackson Boulevard  
Chicago, Illinois 60604
- b. Unless otherwise specified in the particular provision of this permit, reports shall be sent to the Illinois EPA - Air Compliance Section with a copy sent to the Illinois EPA - Air Regional Field Office.

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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

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Protection Agency, P.O. Box 19276, Springfield, Illinois  
62794-9276.

### 9.3 Obligation to Allow Illinois EPA Surveillance

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

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

### 9.4 Obligation to Comply With Other Requirements

The issuance of this permit does not release the Permittee from applicable State and Federal laws and regulations, and applicable

local ordinances addressing subjects other than air pollution control.

9.5 Liability

9.5.1 Title

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

9.5.2 Liability of Permittee

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

9.5.3 Structural Stability

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

9.5.4 Illinois EPA Liability

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

9.5.5 Property Rights

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

9.6 Recordkeeping

9.6.1 Control Equipment Maintenance Records

A maintenance record shall be kept on the premises for each item of air pollution control equipment. As a

minimum, this record shall show the dates of performance and nature of preventative maintenance activities.

9.6.2 Records of Changes in Operation

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

9.6.3 Retention of Records

- a. Records of all monitoring data and support information shall be retained for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit [Section 39.5(7)(e)(ii) of the Act].
- b. Other records required by this permit shall be retained for a period of at least 5 years from the date of entry unless a longer period is specified by a particular permit provision.

9.7 Annual Emissions Report

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

9.8 Requirements for Compliance Certification

Pursuant to Section 39.5(7)(p)(v) of the Act, the Permittee shall submit 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. This condition does not apply to the temporary removal of equipment for maintenance or repair.

## 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.

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#### 9.12.4 Duty to Provide Information

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

#### 9.13 Severability Clause

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

#### 9.14 Permit Expiration and Renewal

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

10.0 ATTACHMENTS

10.1 Attachment 1 - Summary of Storage Tanks

STORAGE TANKS<sup>a</sup>

Tank Identification	Material Stored/Function	HAP <sup>b</sup>	Volume (gal)	Vapor Pressure (psia) <sup>c</sup>	Year Built	Submerged Loading Pipe/Spec Features
F-701 <sup>d</sup>	Styrene Storage Tank	Yes	4,600,000	0.1	1983	Yes <sup>e</sup>
F-708 <sup>a</sup>	Styrene Storage Tank	Yes	1,380,000	0.1	1972	Yes <sup>e</sup>
F-703 <sup>d</sup>	Styrene Storage Tank	Yes	126,000	0.1	1965	Yes <sup>f</sup>
F-704	Ethylbenzene Storage Tank	Yes	5,700	0.15	1966	Yes
F-125	Recycle Solvent Hold Tank	Yes <sup>b</sup>	19,400	0.1	1982	Yes
F-706	Oligomer Tank	Yes <sup>c</sup>	7,900	0.01	Before 1982	No
F-212	GPPS Recycle Solvent Hold Tank	Yes <sup>b</sup>	60,000	0.11	Before 1980	Yes
F-707	Ethylbenzene Purge Tank	Yes	10,000	0.1	1965	Yes
F-121, F-123	Rubber Solution Feed Tanks (HIPS 1)	Yes <sup>b</sup>	13,100	0.1	1982	Yes
F-1123 A, B, and C	Rubber Solution Feed Tanks (HIPS 2)	Yes <sup>b</sup>	13,100	0.1	1990	Yes
F-1125	Recycle Solvent Hold Tank (HIPS 2)	Yes <sup>b</sup>	19,400	0.1	1990	Yes
F-3123 A, B, and C	Rubber Solution Feed Tanks (HIPS 3)	Yes <sup>b</sup>	40,000	0.1	1997	Yes

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Tank Identification	Material Stored/Function	HAP <sup>b</sup>	Volume (gal)	Vapor Pressure (psia) <sup>c</sup>	Year Built	Submerged Loading Pipe/Spec Features
F-3125	Recycle Solvent Hold Tank (HIPS 3)	Yes <sup>b</sup>	20,000	0.1	1997	Yes

- <sup>a</sup> This list includes feed tanks, that is vessels which hold material that is fed into the process, but not "mix tanks" in which two materials are mixed together. Storage and feed tanks are subject to 35 IAC 218 Subpart B, while mix tanks are process vessels.
- <sup>b</sup> Styrene and ethylbenzene are both HAPs. Tanks which are not pure compounds are a mixture of the two. Oligomers are not HAPs but tanks have sufficient HAP contamination to classify entire contents as a HAP.
- <sup>c</sup> Vapor pressure at 70°F. Except for refrigerated tanks the vapor pressure is higher at maximum temperature but not high enough to activate additional requirements.
- <sup>d</sup> Unloading of barges and railcars is considered a process but the VOM emissions actually occur at these storage tanks as they are being filled. Pipelines from the barge unloading area and railcar unloading area must be included in the Leak Detection and Repair requirements of Condition 7.1.3.
- <sup>e</sup> Refrigerated temperature 69°F or less, also insulated.
- <sup>f</sup> This tank is kept at a constant level which effectively eliminates expansion and working losses.

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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: \_\_\_\_\_

DGP:jar\8

I. INTRODUCTION

This source has applied for a Clean Air Act Permit Program (CAAPP) operating permit for its existing operation. The CAAPP is the program established in Illinois for the operating permits for significant stationary sources required by the federal Clean Air Act, as amended in 1990. The conditions in a CAAPP permit are enforceable by both the Illinois Environmental Protection Agency (Illinois EPA) and the USEPA.

The BASF Joliet Polystyrene Plant is located on the West Service Road, of I-55, South of Arsenal Road in Channahon, Will County. The source manufactures several grades of polystyrene pellets. In addition, BASF operates several boilers and oil heaters to provide steam/heat for the processes.

II. EMISSION UNITS

Significant emission units at this source are as follows:

Emission Unit	Description	Date Constructed	Emission Control Equipment
F-111	HIPS Rubber Dissolver	1982	None
F-113, F-115	HIPS 1 Additive Tanks	1982	None
F-127	HIPS/GPPS Solution Feed Tank	1982	Carbon Absorber (EF-7)
M-161 A and B	HIPS 1 Dies	1982	Smog Hog (M-301 and M-303)
M-234 A, B, and C; M-266R and M-276	GPPS Dies	1982, 1988, and 1993	Smog Hog (M-301 and M-303)
F-246 A	GPPS Solvent Separator Knock-Out Pot	1985	Vent Chiller (M-284 A and B)
F-211	GPPS Additive Distribution Tank	1982	None
F-1111	HIPS 2 Rubber Dissolver	1990	None
M-1161A and B	HIPS 2 Dies	1990	Smog Hog (M-1301 A and B)
F-1246	Liquid Ring Separator	1991	Vent Chiller (M-1248 A and B)
F-1248	Recycle Solvent Surge Tank	1991	Vent Chiller (M-1248 A and B)
F-3111	HIPS 3 Rubber Dissolver	1997	None
M-3161 A and B	HIPS 3 Dies	1997	Smog Hog (M-1301 and 1303)
F-3246	Liquid Ring Separator	1997	Vent Chiller (M-3248 A and B)

Emission Unit	Description	Date Constructed	Emission Control Equipment
	Fugitive Emissions		LDAR Program
F-625	HIPS 1 Surge Bin	1982	Dust Collector (M-693A)
F-600 thru F-602	HIPS 1 Blending and Holding Silos (3)	1982	Dust Collector (M-695A)
F-650 thru F-652	GPPS Blending and Holding Silos (3)	1982	Dust Collector (M-695A)
M-691	HIPS 1 Fines Separator	1982	Baghouse (M-693)
F-661	GPPS Surge Bin	1982	Dust Collector (M-694A)
M-692	GPPS Fines Separator	1982	Baghouse (M-694)
F-655 and F-664	GPPS Blending Silos (2)	1990	Dust Collector (X-696X)
F-613 thru F-616	HIPS Hopper Car Loading Bins (4)	1982	Dust Collector (X-615)
F-656 thru F-659	GPPS Hopper Car Loading Bins (4)	1982	Dust Collector (X-616)
F-605 thru F-612	HIPS 1 Holding Silos (8)	1982	None
F-1600 thru F-1602	HIPS 2 Blending and Holding Silos (3)	1990	Dust Collector (M-1680)
M-1691	HIPS 2 Elutriator	1990	Dust Collector (M-1693)
M-3163A, B, and C	HIPS 3 Pelletizers	1997	None
DR-3163A, B, and C	HIPS 3 Pellet Dryers	1997	None
F-3600 thru F-3602	HIPS 3 Blending and Holding Silos (3)	1997	None
F-3613 thru F-3616	HIPS 3 Hopper Car Loading Bins (4)	1997	None
F-3617	HIPS 3 Off-Spec Bin	1997	None
UB H/C	Hopper Car Unloading	1992	Vacuum Unloading Receiver (F-856)
F-851 thru F-854	Holding, Storage, and Blending Silos (4)	1992	Dust Collector (M-896)
M-898	Elutriator	1992	Dust Collector (M-897)
PB H/C Load	Pellet Blending Hopper Car Loading	1992	PB H/C Filter
F-881	HIPS/GPPS Heelback Off-Spec Bin	1989	Dust Collector (M-895A)

Emission Unit	Description	Date Constructed	Emission Control Equipment
F-885	Flame Retardant Heelback Off-Spec Bin	1989	Dust Collector (M-895B)
F-810 F-811 F-812 F-817	Base Resin Feed Bin Base Resin 2 Feed Bin Master Batch Feed Bin Blend Back Feed Tank	1989	Dust Collector (M-892)
F-872	Flame Retardant Polyester Blender	1989	Baghouse (M-891)
F-871, F-873, F-874	Blended Product Storage (3)	1989	Baghouse (M-891 or M-893)
H/C Load	Hopper Car Loading Station	1989	H/C Filters
B-302	42.9 mmBtu/hr Gas-Fired Boiler	1972	None
B-303	33.9 mmBtu/hr Gas-Fired Boiler	1983	None
B-301A	11.0 mmBtu Gas-Fired Hot Oil Furnace	1982	None
B-301B	11.0 mmBtu Gas-Fired Hot Oil Furnace	1982	None
B-301C	11.0 mmBtu Gas-Fired Hot Oil Furnace	1988	None
B-301D	11.0 mmBtu Gas-Fired Hot Oil Furnace	1997	None
Emergency Generator	14.8 mmBtu/hr Fuel Oil Fired Emergency Generator	1997	None
S R/C	Styrene Rail Car Unloading	1990	None
F-701	Styrene Storage Tank	1983	Submerged Loading Pipe
F-708	Styrene Storage Tank	1972	Submerged Loading Pipe
F-703	Styrene Storage Tank	1965	Submerged Loading Pipe
F-704	Ethylbenzene Storage Tank	1966	Submerged Loading Pipe
F-125	Recycle Solvent Hold Tank	1982	Submerged Loading Pipe
F-706	Oligomer Tank	Before 1982	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
F-212	GPPS Recycle Solvent Hold Tank	Before 1980	Submerged Loading Pipe
F-707	Ethylbenzene Purge Tank	1965	Submerged Loading Pipe
F-121, F-123	Rubber Solution Feed Tanks (HIPS 1)	1982	Submerged Loading Pipe
F-1123 A, B, and C	Rubber Solution Feed Tanks (HIPS 2)	1990	Submerged Loading Pipe
F-1125	Recycle Solvent Hold Tank (HIPS 2)	1990	Submerged Loading Pipe
F-3123 A, B, and C	Rubber Solution Feed Tanks (HIPS 3)	1997	Submerged Loading Pipe
F-3125	Recycle Solvent Hold Tank (HIPS 3)	1997	Submerged Loading Pipe

### III. EMISSIONS

This source is required to have a CAAPP permit since it is a major source of emissions. The proposed permit limits the maximum annual emissions from significant emission units at the source for fee purposes. Emissions from insignificant activities at this source are not accounted for in this limit.

For purposes of fees, the source is allowed the following emissions:

#### Permitted Emissions of Regulated Pollutants

Pollutant	Tons/Year
Volatile Organic Material (VOM)	77.24
Sulfur Dioxide (SO <sub>2</sub> )	3.60
Particulate Matter (PM)	19.74
Nitrogen Oxides (NO <sub>x</sub> )	121.04
HAP, not included in VOM or PM	0.0
TOTAL	221.62

This permit may contain terms and conditions which address the applicability, and compliance if determined applicable, of Title I of the Clean Air Act and regulations promulgated thereunder, including 40 CFR 52.21 - federal Prevention of Significant Deterioration (PSD) and 35 IAC Part 203 - Major Stationary Sources Construction and Modification. Any such terms and conditions are identified within the permit. The Source has requested that the Illinois EPA establish or revise such conditions in a Title I permit, consistent with the information provided in the CAAPP application.

IV. APPLICABLE EMISSION STANDARDS

All emission sources in Illinois must comply with the Illinois Pollution Control Board's emission standards. The Board's emission standards represent the basic requirements for sources in Illinois.

All emission sources in Illinois must comply with the federal New Source Performance Standards (NSPS). The Illinois EPA is administering NSPS in Illinois on behalf of the United States EPA under a delegation agreement.

All emission sources in Illinois must comply with the federal National Emission Standards for Hazardous Air Pollutants (NESHAP). The Illinois EPA is administering NESHAP in Illinois on behalf of the United States EPA under a delegation agreement.

V. PROPOSED PERMIT

A CAAPP permit contains conditions listing the applicable state and federal air pollution control regulations that apply to a source. The permit conditions also establish emission limits and appropriate compliance procedures. The appropriate compliance procedures may include inspections, work practices, monitoring, record keeping, and reporting to show compliance with these requirements. The Permittee must carry out these procedures on an on-going basis to demonstrate that the source is operating in accordance with the requirements of the permit.

Because this source is located in the Chicago ozone nonattainment area and emits volatile organic material, the permit includes conditions to implement the Emission Reduction Market System (ERMS). The ERMS is a market-based program designed to reduce emissions from stationary sources to contribute to further reasonable progress toward attainment, as further described in section 6 of the permit. The permit contains the Illinois EPA's determination of the source's baseline emissions and allotment of trading units under the ERMS, and identifies units not subject to further reductions. The permit also provides that the source must begin to operate under the ERMS following the initial issuance of trading units to the source. This will occur for the 2000 seasonal allotment period (rather than the 1999 season as originally intended by the ERMS) due in part to delays in the initial issuance of CAAPP Permits. These delays, which have occurred nationally, are attributable to a variety of causes including the unforeseen complexity of processing these permits and gaps in national guidance. Even though operation under the ERMS will not officially start until the 2000 seasonal allotment period, detailed recordkeeping and reporting of seasonal

emissions was required beginning in 1998, which will document emission reductions achieved by sources in 1999 in preparation for the ERMS.

VI. REQUEST FOR COMMENTS

It is the Illinois EPA's preliminary determination that this source's permit application meets the standards for issuance of a CAAPP permit. The Illinois EPA is therefore proposing to issue a CAAPP permit, subject to the conditions proposed in the draft permit.

Comments are requested on this proposed action by the Illinois EPA and the proposed conditions on the draft permit. If substantial public interest is shown in this matter, the Illinois EPA will consider holding a public hearing in accordance with 35 Ill. Adm. Code Part 164.

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