FINAL DRAFT/PROPSED CAAPP PERMIT
Koppers Industries, Inc.
I.D. No.: 031300AAJ
Permit Number: 96030134
June 2, 2000

217/782-2113

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

PERMITTEE

Koppers Industries, Inc.
Attn: Michael J. Mancione - Plant Manager
3900 South Laramie Avenue
Stickney, Illinois 60650

Application No.: 96030134 I.D. No.: 031300AAJ
Applicant's Designation: Date Received: March 7, 1996
Operation of: Chemical Oil, Coal Tar Distillates, Creosotes, Coal Tar Pitches, & Phthalic Anhydride Production
Date Issued: Expiration Date[2]:
Source Location: 3900 South Laramie Avenue, Stickney, Cook County, 60650
Responsible Official: Michael J. Mancione - Plant Manager

This permit is hereby granted to the above-designated Permittee to operate a Chemical Oil, Coal Tar Distillates, Creosotes, Coal Tar Pitches, and Phthalic Anhydride Manufacturing 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 Robert Bernoteit at 217/782-2113.

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

DES:RWB:psj

cc: Illinois EPA, FOS, Region 1
USEPA

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

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

TABLE OF CONTENTS

| | | PAGE |
|---|---|---|
| 1.0 | SOURCE IDENTIFICATION | 5 |
| | 1.1 Source | |
| | 1.2 Owner/Parent Company | |
| | 1.3 Operator | |
| | 1.4 General Source Description | |
| 2.0 | LIST OF ABBREVIATIONS/ACRONYMS USED IN THIS PERMIT | 6 |
| 3.0 | INSIGNIFICANT ACTIVITIES | 9 |
| | 3.1 Identification of Insignificant Activities | |
| | 3.2 Compliance with Applicable Requirements | |
| | 3.3 Addition of Insignificant Activities | |
| 4.0 | SIGNIFICANT EMISSION UNITS AT THIS SOURCE | 12 |
| 5.0 | OVERALL SOURCE CONDITIONS | 19 |
| | 5.1 Source Description | |
| | 5.2 Applicable Regulations | |
| | 5.3 Non-Applicability of Regulations of Concern | |
| | 5.4 Source-Wide Operational and Production Limits and Work Practices | |
| | 5.5 Source-Wide Emission Limitations | |
| | 5.6 General Recordkeeping Requirements | |
| | 5.7 General Reporting Requirements | |
| | 5.8 General Operational Flexibility/ Anticipated Operating Scenarios | |
| | 5.9 General Compliance Procedures | |
| | 5.10 Special Permit Shield (OPTIONAL) | |
| 6.0 | EMISSIONS REDUCTION MARKET SYSTEM (ERMS) | 164 |
| | 6.1 Description of ERMS | |
| | 6.2 Applicability | |
| | 6.3 Obligation to Hold Allotment Trading Units (ATUs) | |
| | 6.4 Market Transactions | |
| | 6.5 Emissions Excursion Compensation | |
| | 6.6 Quantification of Seasonal VOM Emissions | |
| | 6.7 Annual Account Reporting | |
| | 6.8 Allotment of ATUs to the Source | |

PAGE

6.9 Recordkeeping for ERMS
6.10 Federal Enforceability
6.11 Exclusions from Further Reductions

7.0 UNIT SPECIFIC CONDITIONS 172

7.1 Unit TPT-1 Tar Plant Tanks Group 1
Controls FS-1 - FS-5 Fume Systems
7.2 Units TPT-2 Tar Plant Tanks Group 2
Controls FS-2 & FS-5 Fume Systems
7.3 Unit TPT-3 Tar Plant Tanks Group 3
Control FS-2 Fume System
7.4 Units TPDS1 & TPDS2 Tar Plant Distillation Stills
Controls F101, F201, Flare, FS-2 Tube Heaters, Flare, and Fume System
7.5 Units PAA-UL Barge, Tank Car, and Tank Truck Unloading
Control SB-1 Sublimation Box
7.6 Units PAA-NT, PAA-OXT Naphthalene and O-Xylene Storage Tanks
Controls SB-2 and SB-3 Sublimation Boxes
7.7 Units A, B, C, & D-Trains Phthalic Anhydride Reactor Trains
Controls RTO1 - 4 and ES2 Regenerative Thermal Oxidizers and Entrainment System
7.8 Unit MF-106 Vaporizer Bottoms Tank
Control SB-4 Sublimitation Box
7.9 Units PAA-CST and PAA-RST Intermediate Crude and Refined Phthalic Anhydride Storage Tanks
Controls PAA-TFSC PAA Tank Farm Switch Condensers
7.10 Units MF-311 and MS-303 Refined Phthalic Anhydride Storage Tanks
Controls SB-14 and MSC Sublimation Box 14 and Mini-Switch Condenser System
7.11 Units PAA-R Phthalic Anhydride Refining
Controls PAA-FS Fume Scrubber
7.12 Units PAA-F Phthalic Anhydride Flaker
Control PAA-F-DC Flaker Dust Collector
7.13 Unit MS-414 Flaked Phthalic Anhydride Storage Remelt Tank
Control PAA-F-DC Flaker Dust Collector
7.14 Unit PAA-L Refined Phthalic Anhydride Tank Wagon and Railcar Loading
Control MSC Mini-Switch Condenser System
7.15 Unit WWTU Wastewater Treatment Unit
7.16 Unit SF Startup Furance
7.17 Units B1 - B4 & SH Boilers #1 - #4 and Super Heater
7.18 Units MHTS Marlotherm Heat Transfer System
7.19 Unit STT-1 Stickney Terminal Tanks-Group 1

PAGE

7.20 Unit OL-23 Stickney Terminal O-Xylene Tank
7.21 Units PAA-RE Phthalic Anhydride Recovery Exhausters
Controls RTO1 and RTO2 Regenerative Thermal Oxidizers

8.0 GENERAL PERMIT CONDITIONS 341

8.1 Permit Shield
8.2 Applicability of Title IV Requirements
8.3 Emissions Trading Programs
8.4 Operational Flexibility/Anticipated Operating Scenarios
8.5 Testing Procedures
8.6 Reporting Requirements
8.7 Obligation to Comply with Title I Requirements

9.0 STANDARD PERMIT CONDITIONS 346

9.1 Effect of Permit
9.2 General Obligations of Permittee
9.3 Obligation to Allow Illinois EPA Surveillance
9.4 Obligation to Comply with Other Requirements
9.5 Liability
9.6 Recordkeeping
9.7 Annual Emissions Report
9.8 Requirement for Compliance Certification
9.9 Certification
9.10 Defense to Enforcement Actions
9.11 Permanent Shutdown
9.12 Reopening And Reissuing Permit For Cause
9.13 Severability Clause
9.14 Permit Expiration and Renewal

10.0 ATTACHMENTS

10.1 Attachment 1 - Emissions of Particulate Matter from New Process Emission Units 1-1
10.2 Attachment 2 - Emissions of Particulate Matter from Existing Process Emission Units 2-1
10.3 Attachment 3 - Example Certification by a Responsible Official 3-1

# 1.0 SOURCE IDENTIFICATION

## 1.1 Source

Koppers Industries, Inc.
3900 South Laramie Avenue
Stickney, Illinois 60650
708/656-5900

I.D. No.: 031300AAJ
Standard Industrial Classification: 2865, Cyclic Crudes And Intermediates

## 1.2 Owner/Parent Company

Koppers Industries, Inc.
436 Seventh Avenue
Pittsburgh, Pennsylvania 15219-1800

## 1.3 Operator

Koppers Industries, Inc.
3900 South Laramie Avenue
Stickney, Illinois 60650

Michael J. Mancione - Plant Manager
708/656-5900

## 1.4 General Source Description

Koppers Industries, Inc. is located at 3900 South Laramie Avenue in Stickney, Illinois. The source includes a tar plant, phthalic anhydride plant, wastewater treatment plant, and the Stickney Oil Terminals. The source manufactures chemical oil products, creosotes, coal tar pitches, and phthalic anhydride from coal tar. Raw materials or products may be stored at the Stickney Oil Terminals.

## 2.0 LIST OF ABBREVIATIONS/ACRONYMS USED IN THIS PERMIT

| | |
|---|---|
| Act | Environmental Protection Act [415 ILCS 5/1 et seq.] |
| ACMA | Alternative Compliance Market Account |
| AP-42 | Compilation of Air Pollution Emission Factors, Volume 1, Stationary Point and Other Sources (and Supplements A through F), USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27717 |
| APTI | Air Pollution Training Institute |
| ASTM | American Society for Testing and Materials |
| ATU | Allotment Trading Unit |
| BACT | Best Available Control Technology |
| BAT | Best Available Technology |
| Btu | British thermal unit |
| CAA | Clean Air Act [42 U.S.C. Section 7401 et seq.] |
| CAAPP | Clean Air Act Permit Program |
| CEMS | Continuous Emissions Monitoring System |
| cfm | cubic feet per minute |
| CFR | Code of Federal Regulations |
| CO | Carbon Monoxide |
| ERMS | Emissions Reduction Market System |
| $^{o}$F | degrees Fahrenheit |
| FIRE | Factor Information Retrieval System, Version 5.0, Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants (EPA-454/R-95-012), USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27717 |
| $ft^3$ | cubic foot |
| gal | gallon |
| gr | grains |
| HAP | Hazardous Air Pollutants |
| hr | hour |
| IAC | Illinois Administrative Code |
| I.D. No. | Identification Number of Source, assigned by Illinois EPA |
| Illinois EPA | Illinois Environmental Protection Agency |
| $in^3$ | cubic inch |
| kg | kilogram |
| kPa | kilopascal |
| kW | kilowatt |
| l | liter |
| LAER | Lowest Achievable Emission Rate |
| lb | pound |
| $m^3$ | cubic meter |

| | |
|---|---|
| MACT | Maximum Achievable Control Technology |
| $Mft^3$ | Million cubic feet |
| Mg | Metric Tonne or Megagram |
| min | minute |
| MJ | Megajoule |
| ml | milliliter |
| mmBtu | Million Btus |
| mmHg | millimeters of Mercury |
| mo | month |
| MW | Megawatts |
| NESHAP | National Emission Standards for Hazardous Air Pollutants |
| $NO_x$ | Nitrogen Oxides |
| NPDES | National Pollutant Discharge Elimination System |
| NSPS | New Source Performance Standards |
| pH | Measure of hydronium ion concentration |
| PM | Particulate Matter |
| $PM_{10}$ | Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 microns as measured by applicable test or monitoring methods |
| ppm | parts per million |
| ppmv | parts per million by volume |
| PSD | Prevention of Significant Deterioration |
| psi | pound per square inch |
| RMP | Risk Management Plan |
| SCC | Source Classification Code |
| scf | standard cubic feet |
| scm | standard cubic meters |
| SIC | Standard Industrial Classification |
| SIP | State Implementation Plan |
| $SO_2$ | Sulfur Dioxide |
| T | Ton |
| T1 | Title I – identifies Title I conditions that have been carried over from an existing permit |
| T1N | Title I New – identifies Title I conditions that are being established in this permit |
| T1R | Title I Revised – identifies Title I conditions that have been carried over from an existing permit and subsequently revised in this permit |
| TANKS | USEPA Emission Estimating Program for Storage Tanks |
| tpy | tons per year |
| TOC | Total Organic Compounds |
| TRE | Total Resource Effectiveness Index |
| USEPA | United States Environmental Protection Agency |
| VOC | Volatile Organic Compound |

| | |
|---|---|
| VOL | Volatile Organic Liquid |
| VOM | Volatile Organic Material |
| VPL | Volatile Petroleum Liquid |
| Wt | Weight |
| yr | year |

# 3.0 INSIGNIFICANT ACTIVITIES

## 3.1 Identification of Insignificant Activities

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

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

Wastewater Treatment Plant sulfuric acid tanks
Wastewater Treatment Plant phosphoric acid tank
Wastewater Treatment Plant sump pumps
Marlotherm heat transfer system
Mobiltherm heat transfer system
Tank #28 (condensate and stormwater storage tank)
Unleaded gasoline tank
Diesel Fuel Tanks
Phthalic Anhydride Plant sulfuric acid 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:

None

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

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)].

Storage tanks of organic liquids with a capacity of less than 10,000 gallons and an annual throughput of

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

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

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

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

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

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

3.2 Compliance with Applicable Requirements

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

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

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

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

3.3 Addition of Insignificant Activities

3.3.1 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type that is identified in Condition 3.1, until the renewal application for this permit is submitted, pursuant to 35 IAC 201.212(a).

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

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

## 4.0 SIGNIFICANT EMISSION UNITS AT THIS SOURCE

| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|---|---|---|---|
| 1 | 522,000 Gallon Raw Material/Distillate Oil/Carbon Black Storage Tank (Tank 1) | 1922 | Fume System #2 |
| 2 | 522,000 Gallon Raw Material/Distillate Oil/Carbon Black/Refined Chemical Oil Storage Tank (Tank 2) | 1922 | Fume System #2 |
| 4 | 522,000 Gallon Raw Material Storage Tank (Tank 4) | 1922 | None |
| 5 | 522,000 Gallon Raw Material Storage Tank (Tank 5) | 1922 | None |
| 6 | 522,000 Gallon Raw Material Storage Tank (Tank 6) | 1922 | None |
| 7 | 522,000 Gallon Naphthalene Storage Tank (Tank 7) | December, 1978 | Sublimation Box No. 3 |
| 12 | 316,000 Gallon Refined Chemical Oil Storage Tank (Tank 12) | 1922 | Fume System #2 |
| 13 | 316,000 Gallon Tar/Water Storage Tank (Tank 13) | 1922 | Fume System #2 |
| 21 | 158,000 Gallon Distillate Oil Storage Tank (Tank 21) | 1922 | Fume System #2 |
| 22 | 158,000 Gallon Distillate Oil Storage Tank (Tank 22) | 1922 | Fume System #2 |
| 23 | 158,000 Gallon Distillate Oil Storage Tank (Tank 23) | 1970 | Fume System #2 |
| 24 | 158,000 Gallon Distillate Oil Storage Tank (Tank 24) | 1922 | Fume System #2 |
| 25 | 158,000 Gallon Distillate Oil/Refined Chemical Oil Storage Tank (Tank 25) | 1988 | Fume System #2 |
| 26 | 155,000 Gallon Light/Light Blend/Heavy Distillate Oil Storage Tank (Tank 26) | 1957 | Fume System #2 |
| 27 | 155,000 Gallon Light/Light Blend/Heavy Distillate Oil Storage Tank (Tank 27) | 1957 | Fume System #2 |

| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|---|---|---|---|
| 31 | 109,000 Gallon Heavy Distillate Oil Storage Tank (Tank 31) | 1955 | Fume System #1 |
| 32 | 109,000 Gallon Heavy Distillate Oil Storage Tank (Tank 32) | 1955 | Fume System #1 |
| 33 | 106,000 Gallon Pitch/Old Style Pitch/Bitumen Storage Tank (Tank 33) | 1957 | Fume System #4 |
| 40 | 44,000 Gallon Distillate Oil Storage Tank (Tank 40) | 1960 | Fume System #1 |
| 41 | 55,000 Gallon Carbon Pitch Storage Tank (Tank 41) | 1980 | Fume System #5 |
| 42 | 58,000 Gallon Raw Material/Crude Tar/Pitch Storage Tank (Tank 42) | 1980 | Fume System #2 |
| 43 | 37,000 Gallon Raw Material/Pitch/Crude Tar Storage Tank (Tank 43) | 1980 | Fume System #2 |
| 44 | 63,000 Gallon Carbon Pitch Storage Tank (Tank 44) | 1960 | Fume System #5 |
| 45 | 56,000 Gallon Pitch/Bitumen/PSB Storage Tank (Tank 45) | 1960 | Fume System #1 |
| 46 | 52,000 Gallon Carbon Pitch Storage Tank (Tank 46) | 1965 | Fume System #5 |
| 47 | 55,000 Gallon Carbon Pitch Storage Tank (Tank 47) | 1970 | Fume System #5 |
| 48 | 56,000 Gallon Carbon Pitch Storage Tank (Tank 48) | 1970 | Fume System #5 |
| 49 | 50,000 Gallon Carbon Pitch/Petroleum Pitch Storage Tank (Tank 49) | 1980 | Fume System #5 |
| 62 | 25,000 Gallon Pitch Storage Tank (Tank 62) | 1960 | Fume System #1 |
| 63 | 25,000 Gallon Pitch Storage Tank (Tank 63) | 1960 | Fume System #1 |
| 64 | 25,000 Gallon Pitch Storage Tank (Tank 64) | 1960 | Fume System #1 |
| 77 | Wastewater Storage Tank (Tank 77) | Unknown | None |

| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|---|---|---|---|
| 78 | Wastewater Storage Tank (Tank 78) | Unknown | None |
| 100 | 1,040,000 Gallon Raw Material Storage Tank (Tank 100) | 1957 | None |
| 101 | 1,040,000 Gallon Raw Material Storage Tank (Tank 101) | 1957 | None |
| 102 | 1,000,000 Gallon Raw Material/Crude Tar Storage Tank (Tank 102) | 1999 | None |
| 300 | 827,000 Gallon O-Xylene Storage Tank (Tank 300) | October, 1973 | None |
| 301 | 376,000 Gallon Distillate Oil/P1/P13/P2-88 Storage Tank (Tank 301) | 1979 | None |
| 302 | 376,000 Gallon Distillate Oil/P1/P13/P2-88 Storage Tank (Tank 301) | 1979 | None |
| 303-PAA | 826,000 Gallon O-Xylene Storage Tank (PAA Plant Tank 303) | December, 1970 | None |
| 303-TP | 350,000 Gallon Distillate Oil/P2/P88 Storage Tank (Tar Plant Tank 303) | 1979 | None |
| 304A | 84,000 Gallon O-Xylene Storage Tank (Tank 304A) | June, 1970 | None |
| 304B | 84,000 Gallon O-Xylene Storage Tank (Tank 304B) | June, 1970 | None |
| 305 | 822,000 Gallon Naphthalene Storage Tank (Tank 305) | June, 1970 | Sublimation Box No. 2 |
| API | Five API Wastewater Separators | Unknown | None |
| A-Train | Phthalic Anhydride Reactor Train (A-Train) | December, 1972 | Regenerative Thermal Oxidizer No. 1 |
| B1 | Cleaver Brooks Model DL-76 Natural Gas-Fired Boiler (Boiler #1, 85.0 mmBtu/hr) | Prior to February, 1973 | None |
| B2 | Cleaver Brooks Model D-42 Natural Gas-Fired Boiler (Boiler #2, 32.850 mmBtu/hr) | Prior to February, 1973 | None |

| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|---|---|---|---|
| B3 | Cleaver Brooks Model D-42 Natural Gas-Fired Boiler (Boiler #3, 32.850 mmBtu/hr) | Prior to February, 1973 | None |
| B4 | Natural Gas-Fired Boiler (Boiler #4, 99.0 mmBtu/hr) | 1979 | None |
| Bertram | Marlotherm Heat Transfer System Natural Gas-Fired Heater (Bertram Heater, 19 mmBtu/hr) | October, 1976 | None |
| Born | Marlotherm Heat Transfer System Natural Gas-Fired Heater (Born Heater, 14.5 mmBtu/hr) | October, 1970 | None |
| B-Train | Phthalic Anhydride Reactor Train (B-Train) | December, 1972 | Regenerative Thermal Oxidizer No. 2 |
| C-Train | Phthalic Anhydride Reactor Train (C-Train) | December, 1972 | Regenerative Thermal Oxidizer No. 3 and Entrainment System No. 2 |
| D-5 | 36,000 Gallon Pitch/Old Style Pitch/Bitumen Storage Tank (Tank D-5) | 1966 | Fume System #4 |
| DAF | 2 Dissolved Air Flotation (DAF) Wastewater Tanks | Unknown | None |
| D-Train | Phthalic Anhydride Reactor Train (D-Train) | December, 1972 | Regenerative Thermal Oxidizer No. 4 and Entrainment System No. 2 |
| MF-106 | 5,100 Gallon Napthalene Vaporizer Oil Tank (Tank MF-106) | Prior to April, 1978 | Sublimation Box No. 4 |
| MF301A | 202,000 Gallon Refined Phthalic Anhydride Storage Tank (Tank 301A) | June, 1970 | PAA Tank Farm Switch Condensers |
| MF301B | 202,000 Gallon Intermediate Crude Phthalic Anhydride Storage Tank (Tank 301B) | June, 1970 | PAA Tank Farm Switch Condensers |
| MF302A | 54,000 Gallon Refined Phthalic Anhydride Storage Tank (Tank 302A) | June, 1970 | PAA Tank Farm Switch Condensers |

| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|---|---|---|---|
| MF302B | 54,000 Gallon Refined Phthalic Anhydride Storage Tank (Tank 302B) | June, 1970 | PAA Tank Farm Switch Condensers |
| MF-311 | 10,000 Gallon Refined Phthalic Anhydride Storage Tank (Tank MF-311) | Prior to April, 1978 | Mini-Switch Condenser System |
| MF-4150 | 240,000 Gallon Intermediate Crude Phthalic Anhydride Storage Tank (Tank MF-4150) | November, 1975 | PAA Tank Farm Switch Condensers |
| MS-308 | 10,000 Gallon Refined Phthalic Anhydride Flaker Feed Storage Tank (Tank MS-308) | Prior to April, 1978 | Sublimation Box No. 14 |
| MS-414 | 10,000 Gallon Flaked Phthalic Anhydride Storage Remelt Tank (Tank MS-414) | Unknown | Flaker Dust Collector |
| OL12 | 2,284,000 Gallon Raw Material/Crude Tar Storage Tank (Tank OL12) | 1956 | None |
| OL13 | 424,000 Gallon Raw Material/Carbon Black/Crude Tar Storage Tank (Tank OL13) | 1956 | None |
| OL14 | 424,000 Gallon Raw Material/Crude Tar Storage Tank (Tank OL14) | 1956 | None |
| OL15 | 2,286,000 Gallon Raw Material/Crude Tar Storage Tank (Tank OL15) | 1956 | None |
| OL19 | 418,000 Gallon Raw Material/Crude Tar Storage Tank (Tank OL19) | 1949 | None |
| OL20 | 969,000 Gallon Raw Material/Crude Tar Storage Tank (Tank OL20) | 1949 | None |
| OL21 | 969,000 Gallon Raw Material/Crude Tar Storage Tank (Tank OL21) | 1949 | None |
| OL22 | 2,284,000 Gallon Raw Material/Crude Tar Storage Tank (Tank OL22) | 1949 | None |

| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|---|---|---|---|
| OL-23 | 2,280,000 Gallon O-Xylene Storage Tank (Tank OL-23) | 1949 | None |
| OL24 | 2,283,000 Gallon Carbon Black Storage Tank (Tank OL24) | 1950 | None |
| OL25 | 2,284,000 Gallon Raw Material/Crude Tar Storage Tank (Tank OL25) | 1950 | None |
| OL27 | 2,351,000 Gallon Refined Chemical Oil Storage Tank (Tank OL27) | 1952 | None |
| P8 | 55,000 Gallon Pitch Storage Tank (Tank P8) | 1953 | Fume System #1 |
| P9 | 55,000 Gallon Pitch Storage Tank (Tank P9) | 1953 | Fume System #1 |
| PAA-BU | Barge Unloading of Naphthalene to Tanks | April, 1978 | None |
| PAA-F | Phthalic Anhydride Flaker | Prior to April 14, 1972 | Dust Collector |
| PAA-R | Phthalic Anhydride Refining (Heat Treaters, Preflash, Strippers, and Residue Still) | October, 1970 | Fume Scrubber |
| PAA-RE | Phthalic Anhydride Recovery Exhausters | November, 1999 | Regenerative Thermal Oxidizers No. 1 and 2 |
| PAA-RRTCU | Railroad Tank Car Unloading of Naphthalene to Tanks | April, 1978 | Sublimation Box No. 1 |
| PAA-TTU | Tank Truck Unloading of Naphthalene to Tanks | April, 1978 | None |
| RCL-1 | Rail Car Loading Station No.1 | Prior to April, 1978 | Mini-Switch Condenser System |
| RCL-2 | Rail Car Loading Station No.2 | Prior to April, 1978 | Mini-Switch Condenser System |
| RCL-3 | Rail Car Loading Station No.3 | Prior to April, 1978 | Mini-Switch Condenser System |
| RCL-4 | Rail Car Loading Station No.4 | Prior to April, 1978 | Mini-Switch Condenser System |
| RCL-5 | Rail Car Loading Station No.5 | Prior to April, 1978 | Mini-Switch Condenser System |

| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|---|---|---|---|
| SF | Natural Gas-Fired Startup Furnace (Startup Furnace, 20 mmBtu/hr) | Unknown | None |
| SH | RADCO Natural Gas-Fired Super Heater (Super Heater, 25.4 mmBtu/hr) | 1988 | None |
| T-305 | 158,000 Gallon Raw Material Storage Tank (Tank T-305) | 1977 | None |
| T-306 | 200,000 Gallon Raw Material Storage Tank (Tank T-306) | 1977 | None |
| T-8102 | Wastewater Equalization Tank (Tank T-8102) | Unknown | None |
| T-8200 | Stormwater Surge Tank (Tank T-8200) | Unknown | None |
| T-8400 | Wastewater Biological/Aeration Tank (Tank T-8400) | 1990 | None |
| T-8450 | Wastewater Clarifier Tank (Tank T-8450) | Unknown | None |
| TP-701 | 526,000 Gallon Raw Material Storage Tank (Tank TP-701) | 1977 | None |
| TPDS1 | Tar Plant Distillation Still #1 (Dehydrator, Fractionators, Flash, and Decanter) | December, 1972 | Tube Heaters F101 and F201, Flare, and Fume System #2 |
| TPDS2 | Tar Plant Distillation Still #2 (Dehydrator, Fractionators, Flash, and Decanter) | December, 1972 | Tube Heaters F101 and F201, Flare, and Fume System #2 |
| TWL | Tank Wagon Loading | Prior to April, 1978 | Mini-Switch Condenser System |
| Fugitive PM Emissions | Paved/Unpaved Traffic Areas, Parking Lots, and Roadways | -- | None |
| Fugitive VOM/HAP Emissions | Equipment Leaks, Loading/Unloading Operations, and Cleanup Operations | -- | None |

# 5.0 OVERALL SOURCE CONDITIONS

## 5.1 Source Description

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

5.1.2 For purposes of the CAAPP and Title I of the Clean Air Act, Koppers Industries, Inc. is considered a single source with Stickney Terminal, I.D. No. 031300ABE, located at 4100 South Laramie Avenue. The source has elected to obtain one CAAPP permit for these locations.

## 5.2 Applicable Regulations

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

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

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

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

b. The emission of smoke or other particulate matter from any emission unit shall not exceed an opacity of greater than 30 percent, except that an opacity of greater than 30 percent but less than 60 percent shall be allowed for a period or periods aggregating 8 minutes in any 60 minute period provided that such opaque emissions permitted during any 60 minute period shall occur from only one such emission unit located within a 305 meter (1000 feet) radius from the center point of any other such emission unit

owned or operated by the Permittee, and provided further that such opaque emissions permitted from each such emission unit shall be limited to 3 times in any 24 hour period, pursuant to 35 IAC 212.123 and 212.124.

5.2.3 Operating Program for Particulate Matter

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

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

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

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

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

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

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

5.2.5 Risk Management Plan

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

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

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

5.2.6 a. Should this stationary source become subject to a regulation under 40 CFR Parts 60, 61, or 63, or 35 IAC after the date issued of this permit, then the owner or operator shall, in accordance with the applicable regulation(s), comply with the applicable requirements by the date(s) specified and shall certify compliance with the applicable requirements of such regulation(s) as part of the annual compliance certification, as required by 40 CFR Part 70 or 71.

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

c. The Phthalic Anhydride Plant located at this source is subject to the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry; the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater; and the NESHAP for Equipment Leaks; 40 CFR 63 Subparts A, F, G and H because, pursuant to 40 CFR 63.100(b), the chemical manufacturing process units at this source meet all of the criteria specified in 40 CFR 63.100(b)(1), (b)(2), and (b)(3). The Illinois EPA is administering NESHAP in Illinois on behalf of the USEPA under a delegation agreement. Pursuant to 40 CFR 63.102, owners and operators of sources subject to 40 CFR 63 Subpart F shall comply with the requirements of 40 CFR 63 Subparts G and H.

i. The provisions set forth in this Condition (see also 40 CFR 63 Subpart F) and 40 CFR 63 Subpart G shall apply at all times except during periods of start-up or shutdown (as defined in 40 CFR 63.101), malfunction, or non-operation of the chemical manufacturing process unit (or specific portion thereof) resulting in cessation of the emissions to which this Condition (see also 40 CFR 63 Subpart F) and 40 CFR 63 Subpart G apply. However, if a start-up, shutdown, malfunction or period of non-operation of one portion of a chemical manufacturing process unit does not affect the ability of a particular emission point to comply with the specific provisions to which it is subject, then that emission point shall still be required to comply with the applicable provisions of this Condition (see also 40 CFR 63 Subpart F) and 40 CFR 63 Subpart G during the start-up, shutdown, malfunction or period of non-operation. For example, if there is an overpressure in the reactor area, a storage vessel in the chemical manufacturing process unit would still be required to be controlled in accordance with 40 CFR 63.119. Similarly, the degassing of a storage vessel would not affect the ability of

a process vent to meet the requirements of 40 CFR 63.113 [40 CFR 63.102(a)(1)].

ii. The provisions set forth in 40 CFR 63 Subpart H shall apply at all times except during periods of start-up or shutdown, as defined in 40 CFR 63.101(b), malfunction, process unit shutdown (as defined in 40 CFR 63.161), or non-operation of the chemical manufacturing process unit (or specific portion thereof) in which the lines are drained and depressurized resulting in cessation of the emissions to which 40 CFR 63 Subpart H [40 CFR 63.102(a)(2)].

iii. The owner or operator shall not shut down items of equipment that are required or utilized for compliance with the provisions of this Condition (see also 40 CFR 63 Subpart F), 40 CFR 63 Subparts G or H during times when emissions (or, where applicable, wastewater streams or residuals) are being routed to such items of equipment, if the shutdown would contravene requirements of this Condition (see also 40 CFR 63 Subpart F), 40 CFR 63 Subparts G or H applicable to such items of equipment. This Condition does not apply if the item of equipment is malfunctioning, or if the owner or operator must shut down the equipment to avoid damage due to a contemporaneous start-up, shutdown, or malfunction of the chemical manufacturing process unit or portion thereof [40 CFR 63.102(a)(3)].

iv. During start-ups, shutdowns, and malfunctions when the requirements of this Condition (see also 40 CFR 63 Subpart F), 40 CFR 63 Subparts G and/or H do not apply pursuant to Conditions 5.2.6(c)(i) through (c)(iii) (see also 40 CFR 63.102(a)(1) through (a)(3)), the owner or operator shall implement, to the extent reasonably available, measures to prevent or minimize excess emissions to the extent practical. For purposes of this Condition, the term "excess emissions" means emissions in excess of those that would have occurred if

there were no start-up, shutdown, or malfunction and the owner or operator complied with the relevant provisions of this Condition (see also 40 CFR 63 Subpart F), 40 CFR 63 Subparts G and/or H. The measures to be taken shall be identified in the applicable start-up, shutdown, and malfunction plan, and may include, but are not limited to, air pollution control technologies, recovery technologies, work practices, pollution prevention, monitoring, and/or changes in the manner of operation of the source. Back-up control devices are not required, but may be used if available [40 CFR 63.102(a)(4)].

d. The Phthalic Anhydride Plant located at this source is subject to the NSPS for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry, 40 CFR 60 Subparts A and VV. The Illinois EPA is administering the NSPS in Illinois under a delegation agreement. Pursuant to 40 CFR 63.160(c), if a process unit is subject to the provisions of 40 CFR 63 Subpart H has equipment subject to 40 CFR 60 Subpart VV, the owner or operator may elect to apply 40 CFR 63 Subpart to all such equipment in the process unit. If the owner or operator elects to this method of compliance, all VOC in such equipment shall be considered, for purposes of applicability and compliance with 40 CFR 63 Subpart H as if it were organic hazardous air pollutant (HAP). Compliance with the provisions of 40 CFR 63 Subpart H, in the manner described in this Condition, shall be deemed compliance with 40 CFR 60 Subpart VV.

5.2.7 Episode Action Plan

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

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

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

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

i. Illinois EPA, Compliance Section; and

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

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

5.2.8 Leaks from Synthetic Organic Chemical and Polymer Manufacturing Plant

The owner or operator of a plant which processes more than 3660 Mg/yr (4033 tons/year) gaseous and light liquid VOM, and whose components are used to manufacture the synthetic organic chemicals or polymers listed in 35 IAC Part 218 Appendix A, shall comply with 35 IAC 218 Subpart Q. The provisions of 35 IAC 218 Subpart Q are applicable to components containing 10 percent or more by weight VOM as determined by ASTM method E-168, E-169 and E-260. Those components that are not process unit components are exempt from 35 IAC 218 Subpart Q. A component shall be considered to be leaking if the VOM is equal to, or is greater than 10,000 ppmv as methane or hexane as determined by USEPA Reference Method 21, as specified at 40 CFR 60, Appendix A, indication of liquids dripping, or indication by a sensor that a seal or barrier fluid system has failed. The provisions of 35 IAC 218 Subpart Q are not applicable if the equipment components are used to

produce heavy liquid chemicals only from heavy liquid feed or raw materials [35 IAC 218.421].

5.3 Non-Applicability of Regulations of Concern

None

5.4 Source-Wide Operational and Production Limits and Work Practices

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

5.4.1 Emissions Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater

a. Pursuant to 40 CFR 63.112(a), the owner or operator of an existing source subject to the requirements of 40 CFR 63 Subpart G shall control emissions of organic HAP's to the level represented by the following equation:

$$E_A = 0.02SEPV_1 + SEPV_2 + 0.05SES_1 + SES_2 + 0.02SETR_1 + SETR_2 + SEWW_{1C} + SEWW_2$$

where:

$E_A$ = Emission rate, megagrams per year, allowed for the source.

$0.02SEPV_1$ = Sum of the residual emissions, megagrams per year, from all Group 1 process vents, as defined in 40 CFR 63.111.

$SEPV_2$ = Sum of the emissions, megagrams per year, from all Group 2 process vents as defined in 40 CFR 63.111.

$0.05SES_1$ = Sum of the residual emissions, megagrams per year, from all Group 1 storage vessels, as defined in 40 CFR 63.111.

$SES_2$ = Sum of the emissions, megagrams per year, from all Group 2 storage vessels, as defined in 40 CFR 63.111.

$0.02SETR_1$ = Sum of the residual emissions, megagrams per year, from all Group 1 transfer racks, as defined in 40 CFR 63.111.

$SETR_2$ = Sum of the emissions, megagrams per year, from all Group 2 transfer racks, as defined in 40 CFR 63.111.

$SEWW_{1C}$ = Sum of the residual emissions from all Group 1 wastewater streams, as defined in 40 CFR 63.111. This term is calculated for each Group 1 stream according to the equation for EWW1C in 40 CFR 63.150(g)(5)(i).

$SEWW_2$ = Sum of emissions from all Group 2 wastewater streams, as defined in 40 CFR 63.111.

The emissions level represented by this equation is dependent on the collection of emission points in the source. The level is not fixed and can change as the emissions from each emission point change or as the number of emission points in the source changes.

b. The owner or operator of a new source subject to the requirements of 40 CFR 63 Subpart G shall control emissions of organic HAP's to the level represented by the equation in Condition 5.4.1(a) (see also 40 CFR 63.112(a)) [40 CFR 63.112(b)].

c. The owner or operator of an existing source shall demonstrate compliance with the emission standard in Condition 5.4.1(a) (see also 40 CFR 63.112(a)) by following the procedures specified in Condition 5.4.1(e) (see also 40 CFR 63.112(e)) for all emission points, or by following the emissions averaging compliance approach specified in Condition 5.4.1(f) (see also 40 CFR 63.112(f)) for some emission points and the procedures specified in Condition 5.4.1(e) (see also 40 CFR 63.112(e)) for all other emission points within the source [40 CFR 63.112(c)].

d. The owner or operator of a new source shall demonstrate compliance with the emission standard in Condition 5.4.1(b) (see also 40 CFR 63.112(b)) only by following the procedures in Condition 5.4.1(e) (see also 40 CFR 63.112(e)). The owner or operator of a new source may not use the emissions averaging compliance approach [40 CFR 63.112(d)].

e. Pursuant to 40 CFR 63.112(e), the owner or operator of an existing or new source may comply with the process vent provisions in 40 CFR 63.113 through 63., the storage vessel provisions in 40 CFR 63.119 through 63.123, the transfer operation provisions in 40 CFR 63.126 through 63.130, the wastewater provisions in 40 CFR 63.131 through 63.147, the leak inspection provisions in 40 CFR 63.148, and the provisions in 40 CFR 63.149.

i. The owner or operator using this compliance approach shall also comply with the requirements of 40 CFR 63.151 and Conditions 5.6.4 and 5.7.4 (see also 40 CFR 63.152), as applicable [40 CFR 63.112(e)(1)].

ii. The owner or operator using this compliance approach is not required to calculate the annual emission rate specified in Condition 5.4.1(a) (see also 40 CFR 63.112(a)) [40 CFR 63.112(e)(2)].

iii. Pursuant to 40 CFR 63.112(e)(3), when emissions of different kinds (e.g., emissions from process vents, transfer operations, storage vessels, process wastewater, and/or in-process equipment subject to 40 CFR 63.149) are combined, and at least one of the emission streams would be classified as Group 1 in the absence of combination with other emission streams, the owner or operator shall comply with the requirements of either Condition 5.4.1 (e)(iii)(A) or (e)(iii)(B) (see also 40 CFR 63.112(e)(3)(i) or (e)(3)(ii).

A. Comply with the applicable requirements of 40 CFR 63 Subpart G for each kind of emissions in the stream (e.g., the

requirements in 40 CFR 63.113 through 63.118 for process vents, and the requirements of 40 CFR 63.126 through 63.130 for transfer operations) [40 CFR 63.112(e)(3)(i)]; or

B. Pursuant to 40 CFR 63.112(e)(3)(ii), comply with the first set of requirements identified in Conditions 5.4.1 (e)(iii)(B)(I) through (e)(iii)(B)(V) (see also 40 CFR 63.112(e)(3)(ii)(A) through (e)(3)(ii)(E)) which applies to any individual emission stream that is included in the combined stream, where either that emission stream would be classified as Group 1 in the absence of combination with other emission streams, or the owner chooses to consider that emission stream to be Group 1 for purposes of this Condition. Compliance with the first applicable set of requirements identified in Conditions 5.4.1 (e)(iii)(B)(I) through (e)(iii)(B)(V) (see also 40 CFR 63.112(e)(3)(ii)(A) through (e)(3)(ii)(E)) constitutes compliance with all other requirements in Conditions 5.4.1 (e)(iii)(B)(I) through (e)(iii)(B)(V) (see also 40 CFR 63.112(e)(3)(ii)(A) through (e)(3)(ii)(E)) applicable to other types of emissions in the combined stream.

I. The requirements of 40 CFR 63 Subpart G for Group 1 process vents, including applicable monitoring, recordkeeping, and reporting [40 CFR 63.112(e)(3)(ii)(A)];

II. The requirements of 40 CFR 63 Subpart G for Group 1 transfer racks, including applicable monitoring, recordkeeping, and reporting [40 CFR 63.112 (e)(3)(ii)(B)];

III. The requirements of 40 CFR 63.119(e) for control of emissions from Group

1 storage vessels, including monitoring, recordkeeping, and reporting [40 CFR 63.112 (e)(3)(ii)(C)];

IV. The requirements of 40 CFR 63.139 for control devices used to control emissions from waste management units, including applicable monitoring, recordkeeping, and reporting [40 CFR 63.112 (e)(3)(ii)(D)]; or

V. The requirements of 40 CFR 63.139 for closed vent systems for control of emissions from in-process equipment subject to 40 CFR 63.149, including applicable monitoring, recordkeeping, and reporting [40 CFR 63.112(e)(3)(ii)(E)].

f. Pursuant to 40 CFR 63.112(f), the owner or operator of an existing source may elect to control some of the emission points within the source to different levels than specified under 40 CFR 63.113 through 63.148 by using an emissions averaging compliance approach as long as the overall emissions for the source do not exceed the emission level specified in Condition 5.4.1(a) (see also 40 CFR 63.112(a)). The owner or operator using emissions averaging must meet the requirements in Conditions 5.4.1(f)(i) and (f)(ii) (see also 40 CFR 63.112(f)(1) and (f)(2)).

i. Calculate emission debits and credits for those emission points involved in the emissions average as specified in 40 CFR 63.150 [40 CFR 63.112(f)(1)]; and

ii. Comply with the requirements of 40 CFR 63.151 and Conditions 5.6.4 and 5.7.4 (see also 40 CFR 63.152), as applicable [40 CFR 63.112(f)(2)].

g. A State may restrict the owner or operator of an existing source to using only the procedures in Condition 5.4.1(e) (see also 40 CFR 63.112(e)) to

comply with the emission standard in Condition 5.4.1(a) (see also 40 CFR 63.112(a)) [40 CFR 63.112(g)].

h. Where the provisions of 40 CFR 63 Subpart G require a performance test, waiver of that requirement shall be addressed only as provided in 40 CFR 63.103(b)(5) [40 CFR 63.112(h)].

5.4.2 General Standards for Organic Hazardous Air Pollutant Equipment Leaks

a. Compliance with 40 CFR 63 Subpart H will be determined by review of the records required by Condition 5.6.5 (see also 40 CFR 63.181) and the reports required by Condition 5.7.5 (see also 40 CFR 63.182), review of performance test results, and by inspections [40 CFR 63.162(a)].

b. i. An owner or operator may request a determination of alternative means of emission limitation to the requirements of Conditions 5.4.3 through 5.4.10 (see also 40 CFR 63.163 through 63.170), and Conditions 5.4.12 through 5.4.14 (see also 40 CFR 63.172 through 63.174) as provided in 40 CFR 63.177 [40 CFR 63.162(b)(1)].

ii. If the Illinois EPA or USEPA makes a determination that a means of emission limitation is a permissible alternative to the requirements of Conditions 5.4.3 through 5.4.10 (see also 40 CFR 63.163 through 63.170), and Conditions 5.4.12 through 5.4.14 (see also 40 CFR 63.172 through 63.174), the owner or operator shall comply with the alternative [40 CFR 63.162(b)(2)].

c. Each piece of equipment in a process unit to which 40 CFR 63 Subpart H applies shall be identified such that it can be distinguished readily from equipment that is not subject to 40 CFR 63 Subpart H. Identification of the equipment does not require physical tagging of the equipment. For example, the equipment may be identified on a plant site plan, in log entries, or by designation of process unit

boundaries by some form of weatherproof identification [40 CFR 63.162(c)].

d. Equipment that is in vacuum service is excluded from the requirements of 40 CFR 63 Subpart H [40 CFR 63.162(d)].

e. Equipment that is in organic HAP service less than 300 hours per calendar year is excluded from the requirements of Conditions 5.4.3 through 5.4.14 (see also 40 CFR 63.163 through 63.174) and 40 CFR 63.178 if it is identified as required in Condition 5.6.5(j) (see also 40 CFR 63.181(j)) [40 CFR 63.162(e)].

f. Pursuant to 40 CFR 63.162(f), when each leak is detected as specified in Conditions 5.4.3 and 5.4.4 (see also 40 CFR 63.163 and 63.164); Conditions 5.4.8 and 5.4.9 (see also 40 CFR 63.168 and 63.169); and Conditions 5.4.12 through 5.4.14 (see also 40 CFR 63.172 through 63.174), the following requirements apply:

i. A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment [40 CFR 63.162(f)(1)].

ii. The identification on a valve may be removed after it has been monitored as specified in Conditions 5.4.8(e)(iii) and 5.4.15 (e)(vii)(A)(IV) (see also 40 CFR 63.168(f)(3) and 63.175(e)(7)(i)(D)), and no leak has been detected during the follow-up monitoring. If the owner or operator elects to comply using the provisions of Condition 5.4.14(c)(i)(A) (see also 40 CFR 63.174(c)(1)(i)), the identification on a connector may be removed after it is monitored as specified in Condition 5.4.14 (c)(i)(A) (see also 40 CFR 63.174(c)(1)(i)) and no leak is detected during that monitoring [40 CFR 63.162(f)(2)].

iii. The identification which has been placed on equipment determined to have a leak, except for a valve or for a connector that is subject to the provisions of Condition 5.4.

14(c)(i)(A) (see also 40 CFR 63.174(c)(1)(i)), may be removed after it is repaired [40 CFR 63.162(f)(3)].

g. Pursuant to 40 CFR 63.162(g), except as provided in Condition 5.4.2(g)(i) (see also 40 CFR 63.162(g)(1)), all terms in 40 CFR 63 Subpart H that define a period of time for completion of required tasks (e.g., weekly, monthly, quarterly, annual), refer to the standard calendar periods unless specified otherwise in the section or subsection that imposes the requirement.

i. If the initial compliance date does not coincide with the beginning of the standard calendar period, an owner or operator may elect to utilize a period beginning on the compliance date, or may elect to comply in accordance with the provisions of Conditions 5.4.2(g)(ii) or (g)(iii) (see also 40 CFR 63.162(g)(2) or (g)(3)) [40 CFR 63.162(g)(1)].

ii. Time periods specified in 40 CFR 63 Subpart H for completion of required tasks may be changed by mutual agreement between the owner or operator and the Illinois EPA or USEPA, as specified in 40 CFR 63 Subpart A. For each time period that is changed by agreement, the revised period shall remain in effect until it is changed. A new request is not necessary for each recurring period [40 CFR 63.162(g)(2)].

iii. Pursuant to 40 CFR 63.162(g)(3), except as provided in Condition 5.4.2(g)(i) or (g)(ii) (see also 40 CFR 63.162(g)(1) or (g)(2)), where the period specified for compliance is a standard calendar period, if the initial compliance date does not coincide with the beginning of the calendar period, compliance shall be required according to the schedule specified in Conditions 5.4.2(g)(iii)(A) or (g)(iii)(B) (see also 40 CFR 63.162(g)(3)(i) or (g)(3)(ii)), as appropriate.

A. Compliance shall be required before the end of the standard calendar period within

which the compliance deadline occurs, if there remain at least 3 days for tasks that must be performed weekly, at least 2 weeks for tasks that must be performed monthly, at least 1 month for tasks that must be performed each quarter, or at least 3 months for tasks that must be performed annually [40 CFR 63.162 (g)(3)(i)]; or

B. In all other cases, compliance shall be required before the end of the first full standard calendar period after the period within which the initial compliance deadline occurs [40 CFR 63.162(g)(3)(ii)].

iv. In all instances where a provision of 40 CFR 63 Subpart H requires completion of a task during each of multiple successive periods, an owner or operator may perform the required task at any time during each period, provided the task is conducted at a reasonable interval after completion of the task during the previous period [40 CFR 63.162(g)(4)].

h. In all cases where the provisions of 40 CFR 63 Subpart H require an owner or operator to repair leaks by a specified time after the leak is detected, it is a violation of 40 CFR 63 Subpart H to fail to take action to repair the leaks within the specified time. If action is taken to repair the leaks within the specified time, failure of that action to successfully repair the leak is not a violation of 40 CFR 63 Subpart H. However, if the repairs are unsuccessful, a leak is detected and the owner or operator shall take further action as required by applicable provisions of 40 CFR 63 Subpart H [40 CFR 63.162(h)].

5.4.3 Pumps in Light Liquid Service

a. Pursuant to 40 CFR 63.163(a), the provisions of this Condition (see also 40 CFR 63.163) apply to each pump that is in light liquid service.

i. Pursuant to 40 CFR 63.163(a)(1)(i), the provisions are to be implemented on the dates specified in 40 CFR 63 Subpart F for each group of existing process units at existing sources subject to the provisions of 40 CFR 63 Subpart F, the phases of the standard are:

A. Phase I, beginning on the compliance date [40 CFR 63.163(a)(1)(i)(A)];

B. Phase II, beginning no later than 1 year after the compliance date [40 CFR 63.163(a)(1)(i)(B)]; and

C. Phase III, beginning no later than 2½ years after the compliance date [40 CFR 63.163(a)(1)(i)(C)].

ii. The owner or operator of a source subject to the provisions of 40 CFR 63 Subpart F may elect to meet the requirements of a later phase during the time period specified for an earlier phase [40 CFR 63.163(a)(2)].

iii. Sources subject to other subparts in 40 CFR part 63 that reference 40 CFR 63 Subpart H shall comply on the dates specified in the applicable subpart [40 CFR 63.163(a)(3)].

b. i. The owner or operator of a process unit subject to 40 CFR 63 Subpart H shall monitor each pump monthly to detect leaks by the method specified in Condition 5.9.6(b) (see also 40 CFR 63.180(b)) and shall comply with the requirements of Conditions 5.4.3(a) through (c) and 5.9.2 (see also 40 CFR 63.163(a) through (d)), except as provided in Condition 5.4.1(b) (see also 40 CFR 63.162(b)) and Conditions 5.4.3 (d) through (i) (see also 40 CFR 63.163(e) through (j)) [40 CFR 63.163(b)(1)].

ii. Pursuant to 40 CFR 63.163(b)(2), the instrument reading, as determined by the method as specified in Condition 5.9.6(b) (see

also 40 CFR 63.180(b)), that defines a leak in each phase of the standard is:

A. For Phase I, an instrument reading of 10,000 parts per million or greater [40 CFR 63.163(b)(2)(i)].

B. For Phase II, an instrument reading of 5,000 parts per million or greater [40 CFR 63.163(b)(2)(ii)].

C. Pursuant to 40 CFR 63.163(b)(2)(iii), For Phase III, an instrument reading of:

I. 5,000 parts per million or greater for pumps handling polymerizing monomers [40 CFR 63.163 (b)(2)(iii)(A)];

II. 2,000 parts per million or greater for pumps in food/medical service [40 CFR 63.163(b)(2)(iii)(B)]; and

III. 1,000 parts per million or greater for all other pumps [40 CFR 63.163(b)(2)(iii)(C)].

iii. Each pump shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. If there are indications of liquids dripping from the pump seal, a leak is detected [40 CFR 63.163(b)(3)].

c. i. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in Condition 5.4.3(c)(iii) (see also 40 CFR 63.163(c)(3) or Condition 5.4.11 (see also 40 CFR 63.171) [40 CFR 63.163(c)(1)].

ii. Pursuant to 40 CFR 63.163(c)(2), a first attempt at repair shall be made no later than 5 calendar days after the leak is detected. First attempts at repair include, but are not

limited to, the following practices where practicable:

A. Tightening of packing gland nuts [40 CFR 63.163(c)(2)(i)].

B. Ensuring that the seal flush is operating at design pressure and temperature [40 CFR 63.163(c)(2)(ii)].

C. For pumps in Phase III to which a 1,000 parts per million leak definition applies, repair is not required unless an instrument reading of 2,000 parts per million or greater is detected [40 CFR 63.163(c)(2)(iii)].

d. Pursuant to 40 CFR 63.163(e), each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of Conditions 5.4.3(a) through (c) and 5.9.2 (see also 40 CFR 63.163(a) through (d)), provided the following requirements are met:

i. Pursuant to 40 CFR 63.163(e)(1), each dual mechanical seal system is:

A. Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure [40 CFR 63.163(e)(1)(i)]; or

B. Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that complies with the requirements of Condition 5.4.12 (see also 40 CFR 63.172) [40 CFR 63.163(e)(1)(ii)]; or

C. Equipped with a closed-loop system that purges the barrier fluid into a process stream [40 CFR 63.163(e)(1)(iii)].

ii. The barrier fluid is not in light liquid service [40 CFR 63.163(e)(2)].

iii. Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both [40 CFR 63.163(e)(3)].

iv. Pursuant to 40 CFR 63.163(e)(4), each pump is checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

A. If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the pump shall be monitored as specified in Condition 5.9.6(b) (see also 40 CFR 63.180(b)) to determine if there is a leak of organic HAP in the barrier fluid [40 CFR 63.163(e)(4)(i)].

B. If an instrument reading of 1,000 parts per million or greater is measured, a leak is detected [40 CFR 63.163(e)(4)(ii)].

v. Each sensor as described in Condition 5.4.3 (d)(iii) (see also 40 CFR 63.163(e)(3)) is observed daily or is equipped with an alarm unless the pump is located within the boundary of an unmanned plant site [40 CFR 63.163(e)(5)].

vi. A. The owner or operator determines, based on design considerations and operating experience, criteria applicable to the presence and frequency of drips and to the sensor that indicates failure of the seal system, the barrier fluid system, or both [40 CFR 63.163(e)(6)(i)].

B. If indications of liquids dripping from the pump seal exceed the criteria established in Condition 5.4.3(d)(vi)(A) (see also 40 CFR 63.163(e)(6)(i)), or if, based on the criteria established in Condition 5.4.3(d)(vi)(A) (see also 40 CFR 63.163(e)(6)(i)), the sensor indicates

failure of the seal system, the barrier fluid system, or both, a leak is detected [40 CFR 63.163(e)(6)(ii)].

C. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in Condition 5.4.11 (see also 40 CFR 63.171) [40 CFR 63.163(e)(6)(iii)].

D. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected [40 CFR 63.163(e)(6)(iv)].

e. Any pump that is designed with no externally actuated shaft penetrating the pump housing is exempt from the requirements of Conditions 5.4.3(a) through (c) (see also 40 CFR 63.163(a) through (c)) [40 CFR 63.163(f)].

f. Any pump equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a process or to a fuel gas system or to a control device that complies with the requirements of Condition 5.4.12 (see also 40 CFR 63.172) is exempt from the requirements of Conditions 5.4.3(b) through (d) and 5.9.2 (see also 40 CFR 63.163(b) through (e)) [40 CFR 63.163(g)].

g. Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of Conditions 5.4.3(b)(iii) and (d)(iv) (see also 40 CFR 63.163(b)(3) and (e)(4)), and the daily requirements of Condition 5.4.3(d)(v) (see also 40 CFR 63.163(e)(5)), provided that each pump is visually inspected as often as practicable and at least monthly [40 CFR 63.163(h)].

h. If more than 90 percent of the pumps at a process unit meet the criteria in either Condition 5.4.3(d) or (e) (see also 40 CFR 63.163(e) or (f)), the process unit is exempt from the requirements of Condition 5.9.2 (see also 40 CFR 63.163(d)) [40 CFR 63.163(i)].

i. Pursuant to 40 CFR 63.163(j), any pump that is designated, as described in Condition 5.6.5(b)(vii)(A) (see also 40 CFR 63.181(b)(7)(i)), as an unsafe-to-monitor pump is exempt from the requirements of Conditions 5.4.3(b) through (d) and 5.9.2 (see also 40 CFR 63.163(b) through (e)) if:

i. The owner or operator of the pump determines that the pump is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with Conditions 5.4.3(b) through (c) and 5.9.2 (see also 40 CFR 63.163(b) through (d)) [40 CFR 63.163(j)(1)]; and

ii. The owner or operator of the pump has a written plan that requires monitoring of the pump as frequently as practical during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable [40 CFR 63.163(j)(2)].

5.4.4 Compressors

a. Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of process fluid to the atmosphere, except as provided in Condition 5.4.2(b) (see also 40 CFR 63.162(b)) and Conditions 5.4.4(h) and (i) (see also 40 CFR 63.164(h) and (i)) [40 CFR 63.164(a)].

b. Pursuant to 40 CFR 63.164(b), each compressor seal system as required in Condition 5.4.4(a) (see also 40 CFR 63.164(a)) shall be:

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

ii. Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that complies with the requirements of Condition 5.4.12 (see also 40 CFR 63.172) [40 CFR 63.164(b)(2)]; or

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

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

d. Each barrier fluid system as described in Conditions 5.4.4(a) through (c) (see also 40 CFR 63.164(a) through (c)) shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both [40 CFR 63.164(d)].

e. i. Each sensor as required in Condition 5.4.4(d) (see also 40 CFR 63.164(d)) shall be observed daily or shall be equipped with an alarm unless the compressor is located within the boundary of an unmanned plant site [40 CFR 63.164(e)(1)].

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

f. If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined under Condition 5.4.4(e)(ii) (see also 40 CFR 63.164(e)(2)), a leak is detected [40 CFR 63.164(f)].

g. i. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in Condition 5.4.11 (see also 40 CFR 63.171) [40 CFR 63.164(g)(1)].

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

h. A compressor is exempt from the requirements of Conditions 5.4.4(a) through (g) (see also 40 CFR 63.164(a) through (g)) if it is equipped with a closed-vent system to capture and transport leakage

from the compressor drive shaft seal back to a process or a fuel gas system or to a control device that complies with the requirements of Condition 5.4.12 (see also 40 CFR 63.172) [40 CFR 63.164(h)].

i. Pursuant to 40 CFR 63.164(i), any compressor that is designated, as described in Condition 5.6.5(b)(ii)(B) (see also 40 CFR 63.181(b)(2)(ii)), to operate with an instrument reading of less than 500 parts per million above background, is exempt from the requirements of Conditions 5.4.4(a) through (h) (see also 40 CFR 63.164(a) through (h)) if the compressor:

i. Is demonstrated to be operating with an instrument reading of less than 500 parts per million above background, as measured by the method specified in Condition 5.9.6(c) (see also 40 CFR 63.180(c)) [40 CFR 63.164(i)(1)]; and

ii. Is tested for compliance with Condition 5.4.4 (i)(i) (see also 40 CFR 63.164(i)(1)) initially upon designation, annually, and at other times requested by the Illinois EPA or USEPA [40 CFR 63.164(i)(2)].

5.4.5 Pressure Relief Devices in Gas/Vapor Service.

a. Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with an instrument reading of less than 500 parts per million above background except as provided in Condition 5.4.5(b) (see also 40 CFR 63.165(b)), as measured by the method specified in Condition 5.9.6(c) (see also 40 CFR 63.180(c)) [40 CFR 63.165(a)].

b. i. After each pressure release, the pressure relief device shall be returned to a condition indicated by an instrument reading of less than 500 parts per million above background, as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in Condition 5.4.11 (see also 40 CFR 63.171) [40 CFR 63.165(b)(1)].

ii. No later than 5 calendar days after the pressure release and being returned to organic HAP service, the pressure relief device shall be monitored to confirm the condition indicated by an instrument reading of less than 500 parts per million above background, as measured by the method specified in Condition 5.9.6(c) (see also 40 CFR 63.180(c)) [40 CFR 63.165(b)(2)].

c. Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device as described in Condition 5.4.12 (see also 40 CFR 63.172) is exempt from the requirements of Conditions 5.4.5(a) and (b) (see also 40 CFR 63.165(a) and (b)) [40 CFR 63.165(c)].

d. i. Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of Conditions 5.4.5(a) and (b) (see also 40 CFR 63.165(a) and (b)), provided the owner or operator complies with the requirements in Condition 5.4.5(d)(ii) (see also 40 CFR 63.165 (d)(2)) [40 CFR 63.165(d)(1)].

ii. After each pressure release, a rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in Condition 5.4.11 (see also 40 CFR 63.171) [40 CFR 63.165(d)(2)].

5.4.6 Sampling Connection Systems

a. Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system, except as provided in Condition 5.4.2(b) (see also 40 CFR 63.162(b)). Gases displaced during filling of the sample container are not required to be collected or captured [40 CFR 63.166(a)].

b. Pursuant to 40 CFR 63.166(b), each closed-purge, closed-loop, or closed-vent system as required in Condition 5.4.6(a) (see also 40 CFR 63.166(a)) shall:

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

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

iii. Be designed and operated to capture and transport the purged process fluid to a control device that complies with the requirements of Condition 5.4.12 (see also 40 CFR 63.172) [40 CFR 63.166(b)(3)]; or

iv. Pursuant to 40 CFR 63.166(b)(4), Collect, store, and transport the purged process fluid to a system or facility identified in Condition 5.4.6 (b)(iv)(A), (B), or (C) (see also 40 CFR 63.166 (b)(4)(i), (ii), or (iii)).

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

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

C. A facility permitted, licensed, or registered by a State to manage municipal

or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261 266 [40 CFR 63.166 (b)(4)(iii)].

c. In-situ sampling systems and sampling systems without purges are exempt from the requirements of Conditions 5.4.6(a) and (b) (see also 40 CFR 63.166(a) and (b)) [40 CFR 63.166(c)].

5.4.7 Open-Ended Valves or Lines

a. i. Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in Condition 5.4.2(b) (see also 40 CFR 63.162(b)) and Conditions 5.4.7(d) and (e) (see also 40 CFR 63.167(d) and (e)) [40 CFR 63.167(a)(1)].

ii. The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line, or during maintenance or repair [40 CFR 63.167(a)(2)].

b. Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed [40 CFR 63.167(b)].

c. When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with Condition 5.4.7(a) (see also 40 CFR 63.167(a)) at all other times [40 CFR 63.167(c)].

d. Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of Conditions 5.4.7(a), (b) and (c) (see also 40 CFR 63.167(a), (b) and (c)) [40 CFR 63.167(d)].

e. Open-ended valves or lines containing materials which would autocatalytically polymerize or, would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in Conditions 5.4.7(a) through (c) (see also 40 CFR 63.167(a) through (c)) are exempt from the requirements of Conditions 5.4.7(a) through (c) (see also 40 CFR 63.167(a) through (c)) [40 CFR 63.167(e)].

5.4.8 Valves in Gas/Vapor Service and in Light Liquid Service

a. Pursuant to 40 CFR 63.168(a), the provisions of this Condition (see also 40 CFR 63.168) apply to valves that are either in gas service or in light liquid service.

i. Pursuant to 40 CFR 63.168(a)(1), the provisions are to be implemented on the dates set forth in 40 CFR 63 Subpart F for each group of existing process units at existing sources subject to the provisions of 40 CFR 63 Subpart F, the phases of the standard are:

A. Phase I, beginning on the compliance date [40 CFR 63.168(a)(1)(i)(A)];

B. Phase II, beginning no later than 1 year after the compliance date [40 CFR 63.168(a)(1)(i)(B)]; and

C. Phase III, beginning no later than 2½ years after the compliance date [40 CFR 63.168(a)(1)(i)(C)].

ii. The owner or operator of a source subject to 40 CFR 63 Subpart H may elect to meet the requirements of a later phase during the time period specified for an earlier phase [40 CFR 63.168(a)(2)].

iii. The use of monitoring data generated before April 22, 1994 to qualify for less frequent monitoring is governed by the provisions of Condition 5.9.6(b)(vi) (see also 40 CFR 63.180 (b)(6)) [40 CFR 63.168(a)(3)].

b. Pursuant to 40 CFR 63.168(b), the owner or operator of a source subject to 40 CFR 63 Subpart H shall monitor all valves, except as provided in Condition 5.4.2(b) (see also 40 CFR 63.162(b)) and Conditions 5.4.8(g) and (h) (see also 40 CFR 63.168(h)and (i)), at the intervals specified in Conditions 5.4.8(c) and (d) (see also 40 CFR 63.168(c) and (d)) and shall comply with all other provisions of this Condition (see also 40 CFR 63.168), except as provided in Condition 5.4.11 (see also 40 CFR 63.171), 40 CFR 63.177, 40 CFR 63.178, and 40 CFR 63.179.

i. The valves shall be monitored to detect leaks by the method specified in Condition 5.9.6(b) (see also 40 CFR 63.180(b)) [40 CFR 63.168(b)(1)].

ii. Pursuant to 40 CFR 63.168(b)(2), the instrument reading that defines a leak in each phase of the standard is:

A. For Phase I, an instrument reading of 10,000 parts per million or greater [40 CFR 63.168(b)(2)(i)].

B. For Phase II, an instrument reading of 500 parts per million or greater [40 CFR 63.168(b)(2)(ii)].

C. For Phase III, an instrument reading of 500 parts per million or greater [40 CFR 63.168(b)(2)(iii)].

c. In Phases I and II, each valve shall be monitored quarterly [40 CFR 63.168(c)].

d. Pursuant to 40 CFR 63.168(d), in Phase III, the owner or operator shall monitor valves for leaks at the intervals specified below:

i. Pursuant to 40 CFR 63.168(d)(1), at process units with 2 percent or greater leaking valves, calculated according to Condition 5.9.3 (see also 40 CFR 63.168(e)), the owner or operator shall either:

A. Monitor each valve once per month [40 CFR 63.168(d)(1)(i)]; or

B. Within the first year after the onset of Phase III, implement a quality improvement program for valves that complies with the requirements of Condition 5.4.15(d) or (e) (see also 40 CFR 63.175(d) or (e)) and monitor quarterly [40 CFR 63.168 (d)(1)(ii)].

ii. At process units with less than 2 percent leaking valves, the owner or operator shall monitor each valve once each quarter, except as provided in Conditions 5.4.8(d)(iii) and (d)(iv) (see also 40 CFR 63.168(d)(3) and (d)(4)) [40 CFR 63.168(d)(2)].

iii. At process units with less than 1 percent leaking valves, the owner or operator may elect to monitor each valve once every 2 quarters [40 CFR 63.168(d)(3)].

iv. At process units with less than 0.5 percent leaking valves, the owner or operator may elect to monitor each valve once every 4 quarters [40 CFR 63.168(d)(4)].

e. i. When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in Condition 5.4.11 (see also 40 CFR 63.171) [40 CFR 63.168(f)(1)].

ii. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected [40 CFR 63.168(f)(2)].

iii. Pursuant to 40 CFR 63.168(f)(3), when a leak has been repaired, the valve shall be monitored at least once within the first 3 months after its repair.

A. The monitoring shall be conducted as specified in Condition 5.9.6(b) and (c)

(see also 40 CFR 63.180(b) and (c)), as appropriate, to determine whether the valve has resumed leaking [40 CFR 63.168(f)(3)(i)].

B. Periodic monitoring required by Conditions 5.4.8(b) through (d) (see also 40 CFR 63.168(b) through (d)) may be used to satisfy the requirements of this Condition (see also 40 CFR 63.168(f)(3)), if the timing of the monitoring period coincides with the time specified in this Condition (see also 40 CFR 63.168(f)(3)). Alternatively, other monitoring may be performed to satisfy the requirements of this Condition (see also 40 CFR 63.168 (f)(3)), regardless of whether the timing of the monitoring period for periodic monitoring coincides with the time specified in this Condition (see also 40 CFR 63.168(f)(3)) [40 CFR 63.168 (f)(3)(ii)].

C. Pursuant to 40 CFR 63.168(f)(3)(iii), If a leak is detected by monitoring that is conducted pursuant to Condition 5.4.8 (e)(iii) (see also 40 CFR 63.168(f)(3)), the owner or operator shall follow the provisions of Conditions 5.4.8 (e)(iii)(C)(I) and (e)(iii)(C)(II) (see also 40 CFR 63.168(f)(3)(iii)(A) and (f)(3)(iii)(B)), to determine whether that valve must be counted as a leaking valve for purposes of Condition 5.9.3 (see also 40 CFR 63.168(e)).

I. If the owner or operator elected to use periodic monitoring required by Conditions 5.4.8(b) through (d) (see also 40 CFR 63.168(b) through (d)) to satisfy the requirements of Condition 5.4.8(e)(iii)(see also 40 CFR 63.168(f)(3)), then the valve shall be counted as a leaking valve [40 CFR 63.168(f)(3)(iii)(A)].

II. If the owner or operator elected to use other monitoring, prior to the periodic monitoring required by Conditions 5.4.8(b) through (d) (see also 40 CFR 63.168(b) through (d)), to satisfy the requirements of Condition 5.4.8(e)(iii) (see also 40 CFR 63.168(f)(3)), then the valve shall be counted as a leaking valve unless it is repaired and shown by periodic monitoring not to be leaking [40 CFR 63.168 (f)(3)(iii)(B)].

f. Pursuant to 40 CFR 63.168(g), first attempts at repair include, but are not limited to, the following practices where practicable:

i. Tightening of bonnet bolts [40 CFR 63.168 (g)(1)];

ii. Replacement of bonnet bolts [40 CFR 63.168 (g)(2)];

iii. Tightening of packing gland nuts [40 CFR 63.168 (g)(3)]; and

iv. Injection of lubricant into lubricated packing [40 CFR 63.168(g)(4)].

g. Pursuant to 40 CFR 63.168(h), any valve that is designated, as described in Condition 5.6.5(b)(vii)(A) (see also 40 CFR 63.181(b)(7)(i)), as an unsafe-to-monitor valve is exempt from the requirements of Conditions 5.4.8(b) through (e) and 5.9.3 (see also 40 CFR 63.168(b) through (f)) if:

i. The owner or operator of the valve determines that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with Conditions 5.4.8(b) through (d) (see also 40 CFR 63.168(b) through (d)) [40 CFR 63.168 (h)(1)]; and

ii. The owner or operator of the valve has a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable [40 CFR 63.168(h)(2)].

h. Pursuant to 40 CFR 63.168(i), any valve that is designated, as described in Condition 5.6.5(b)(vii)(B) (see also 40 CFR 63.181(b)(7)(ii)), as a difficult-to-monitor valve is exempt from the requirements of Conditions 5.4.8(b) through (d) (see also 40 CFR 63.168(b) through (d)) if:

i. The owner or operator of the valve determines that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface or it is not accessible at anytime in a safe manner [40 CFR 63.168(i)(1)];

ii. The process unit within which the valve is located is an existing source or the owner or operator designates less than 3 percent of the total number of valves in a new source as difficult-to-monitor [40 CFR 63.168(i)(2)]; and

iii. The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year [40 CFR 63.168(i)(3)].

i. Any equipment located at a plant site with fewer than 250 valves in organic HAP service is exempt from the requirements for monthly monitoring and a quality improvement program specified in Condition 5.4.8(d)(i) (see also 40 CFR 63.168(d)(1)). Instead, the owner or operator shall monitor each valve in organic HAP service for leaks once each quarter, or comply with Conditions 5.4.8(d)(iii) or (d)(iv) (see also 40 CFR 63.168(d)(3) or (d)(4)) except as provided in Conditions 5.4.8(g) and (h) (see also 40 CFR 63.168(h) and (i)) [40 CFR 63.168(j)].

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

a. Pumps, valves, connectors, and agitators in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and instrumentation systems shall be monitored within 5 calendar days by the method specified in Condition 5.9.6(b) (see also 40 CFR 63.180(b)) if evidence of a potential leak to the atmosphere is found by visual, audible, olfactory, or any other detection method. If such a potential leak is repaired as required in Conditions 5.4.9(c) and (d) (see also 40 CFR 63.169(c) and (d)), it is not necessary to monitor the system for leaks by the method specified in Condition 5.9.6(b) (see also 40 CFR 63.180(b)) [40 CFR 63.169(a)].

b. If an instrument reading of 10,000 parts per million or greater for agitators, 5,000 parts per million or greater for pumps handling polymerizing monomers, 2,000 parts per million or greater for pumps in food/medical service or pumps subject to Condition 5.4.3(b)(ii)(C)(III) (see also 40 CFR 63.163 (b)(2)(iii)(C)), or 500 parts per million or greater for valves, connectors, instrumentation systems, and pressure relief devices is measured, a leak is detected [40 CFR 63.169(b)].

c. i. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in Condition 5.4.11 (see also 40 CFR 63.171) [40 CFR 63.169(c)(1)].

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

iii. For equipment identified in Condition 5.4.9(a) (see also 40 CFR 63.169(a)) that is not monitored by the method specified in Condition 5.9.6(b) (see also 40 CFR 63.180(b)), repaired shall mean that the visual, audible, olfactory, or other indications of a leak to the atmosphere have been eliminated; that no

bubbles are observed at potential leak sites during a leak check using soap solution; or that the system will hold a test pressure [40 CFR 63.169(c)(3)].

d. First attempts at repair include, but are not limited to, the practices described under Conditions 5.4.3 (c)(ii) and 5.4.8(f) (see also 40 CFR 63.163(c)(2) and 63.168(g)), for pumps and valves, respectively [40 CFR 63.169(d)].

5.4.10 Surge Control Vessels and Bottoms Receivers

Each surge control vessel or bottoms receiver that is not routed back to the process and that meets the conditions specified in table 2 or table 3 of 40 CFR 63 Subpart H shall be equipped with a closed-vent system that routes the organic vapors vented from the surge control vessel or bottoms receiver back to the process or to a control device that complies with the requirements in Condition 5.4.12 (see also 40 CFR 63.172), except as provided in Condition 5.4.2(b) (see also 40 CFR 63.162(b)), or comply with the requirements of 40 CFR 63.119(b) or (c) [40 CFR 63.170].

5.4.11 Delay of Repair

a. Delay of repair of equipment for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown. Repair of this equipment shall occur by the end of the next process unit shutdown [40 CFR 63.171(a)].

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

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

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

ii. When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with Condition 5.4.12 (see also 40 CFR 63.172) [40 CFR 63.171 (c)(2)].

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

i. Pursuant to 40 CFR 63.171(d)(1), repair requires replacing the existing seal design with a new system that the owner or operator has determined under the provisions of Condition 5.4.16(d) (see also 40 CFR 63.176(d)) will provide better performance or:

A. A dual mechanical seal system that meets the requirements of Condition 5.4.3(d) (see also 40 CFR 63.163(e)) [40 CFR 63.171(d)(1)(i)];

B. a pump that meets the requirements of Condition 5.4.3(e) (see also 40 CFR 63.163(f)) [40 CFR 63.171(d)(1)(ii)]; or

C. a closed-vent system and control device that meets the requirements of Condition 5.4.3(f) (see also 40 CFR 63.163(g)) [40 CFR 63.171(d)(1)(iii)]; and

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

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

5.4.12 Closed-Vent Systems and Control Devices

a. Owners or operators of closed-vent systems and control devices used to comply with provisions of 40 CFR 63 Subpart H shall comply with the provisions of this Condition (see also 40 CFR 63.172), except as provided in Condition 5.4.2(b) (see also 40 CFR 63.162(b)) [40 CFR 63.172(a)].

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

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

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

e. Owners or operators of control devices that are used to comply with the provisions of 40 CFR 63 Subpart H shall monitor these control devices to ensure that they are operated and maintained in conformance with their design. (Note: The intent of this provision is to ensure proper operation and maintenance of the control device.) [40 CFR 63.172(e)]

f. Pursuant to 40 CFR 63.172(f), except as provided in Conditions 5.4.12(k) and (l) (see also 40 CFR 63.172(k) and (l)), each closed-vent system shall be inspected according to the procedures and schedule

specified in Conditions 5.4.12(f)(i) and (f)(ii) (see also 40 CFR 63.172(f)(1) and (f)(2)).

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

A. Conduct an initial inspection according to the procedures in Condition 5.4.12(g) (see also 40 CFR 63.172(g)) [40 CFR 63.172 (f)(1)(i)]; and

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

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

A. Conduct an initial inspection according to the procedures in Condition 5.4.12(g) (see also 40 CFR 63.172(g)) [40 CFR 63.172 (f)(2)(i)]; and

B. Conduct annual inspections according to the procedures in Condition 5.4.12(g) (see also 40 CFR 63.172(g)) [40 CFR 63.172 f)(2)(ii)].

g. Each closed-vent system shall be inspected according to the procedures in Condition 5.9.6(b) (see also 40 CFR 63.180(b)) [40 CFR 63.172(g)].

h. Pursuant to 40 CFR 63.172(h), leaks, as indicated by an instrument reading greater than 500 parts per million above background or by visual inspections, shall be repaired as soon as practicable, except as provided in Condition 5.4.12(i) (see also 40 CFR 63.172(i)).

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

ii. Repair shall be completed no later than 15 calendar days after the leak is detected, except as provided in Condition 5.4.12(i) (see also 40 CFR 63.172(i)) [40 CFR 63.172(h)(2)].

i. Delay of repair of a closed-vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown [40 CFR 63.172(i)].

j. Pursuant to 40 CFR 63.172(j), for each closed-vent system that contains bypass lines that could divert a vent stream away from the control device and to the atmosphere, the owner or operator shall comply with the provisions of either Condition 5.4.12(j)(i) or (j)(ii) (see also 40 CFR 63.172(j)(1) or (j)(2)), except as provided in Condition 5.4.12(j)(iii) (see also 40 CFR 63.172(j)(3)).

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

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

iii. Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for

safety purposes are not subject to this Condition [40 CFR 63.172(j)(3)].

k. Pursuant to 40 CFR 63.172(k), any parts of the closed-vent system that are designated, as described in Condition 5.6.5(b)(vii)(A) (see also 40 CFR 63.181 (b)(7)(i)), as unsafe to inspect are exempt from the inspection requirements of Conditions 5.4.12(f)(i) and (f)(ii) (see also 40 CFR 63.172(f)(1) and (f)(2)) if:

   i. The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with Conditions 5.4.12(f)(i) or (f)(ii) (see also 40 CFR 63.172(f)(1) or (f)(2)) [40 CFR 63.172(k)(1)]; and

   ii. The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times, but not more frequently than annually [40 CFR 63.172(k)(2)].

l. Pursuant to 40 CFR 63.172(l), any parts of the closed-vent system that are designated, as described in Condition 5.6.5(b)(vii)(A) (see also 40 CFR 63.181 (b)(7)(i)), as difficult to inspect are exempt from the inspection requirements of Conditions 5.4.12(f)(i) and (f)(ii) (see also 40 CFR 63.172(f)(1) and (f)(2)) if:

   i. The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface [40 CFR 63.172(l)(1)]; and

   ii. The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years [40 CFR 63.172(l)(2)].

m. Whenever organic HAP emissions are vented to a closed-vent system or control device used to comply with the provisions of 40 CFR 63 Subpart H, such

system or control device shall be operating [40 CFR 63.172(m)].

n. After the compliance dates specified in 40 CFR 63.100, the owner or operator of any control device subject to 40 CFR 63 Subpart H that is also subject to monitoring, recordkeeping, and reporting requirements in 40 CFR part 264, subpart BB, or is subject to monitoring and recordkeeping requirements in 40 CFR part 265, subpart BB, may elect to comply either with the monitoring, recordkeeping, and reporting requirements of 40 CFR 63 Subpart H, or with the monitoring, recordkeeping, and reporting requirements in 40 CFR parts 264 and/or 265, as described in this Condition, which shall constitute compliance with the monitoring, recordkeeping and reporting requirements of 40 CFR 63 Subpart H. The owner or operator shall identify which option has been chosen, in the next periodic report required by Condition 5.7.5(b) (see also 40 CFR 63.182(d)) [40 CFR 63.172(n)].

5.4.13 Agitators in Gas/Vapor Service and in Light Liquid Service

a. i. Each agitator shall be monitored monthly to detect leaks by the methods specified in Condition 5.9.6(b) (see also 40 CFR 63.180(b)), except as provided in Condition 5.4.2(b) (see also 40 CFR 63.162(b)) [40 CFR 63.173(a)(1)].

ii. If an instrument reading of 10,000 parts per million or greater is measured, a leak is detected [40 CFR 63.173(a)(2)].

b. i. Each agitator shall be checked by visual inspection each calendar week for indications of liquids dripping from the agitator [40 CFR 63.173(b)(1)].

ii. If there are indications of liquids dripping from the agitator, a leak is detected [40 CFR 63.173(b)(2)].

c. i. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15

calendar days after it is detected, except as provided in Condition 5.4.11 (see also 40 CFR 63.171) [40 CFR 63.173(c)(1)].

ii. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected [40 CFR 63.173(c)(2)].

d. Pursuant to 40 CFR 63.173(d), each agitator equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of Condition 5.4.13(a) (see also 40 CFR 63.173(a)), provided the requirements specified in Conditions 5.4.13(d)(i) through (d)(vi) (see also 40 CFR 63.173 (d)(1) through (d)(6)) are met:

i. Pursuant to 40 CFR 63.173(d)(1), each dual mechanical seal system is:

A. Operated with the barrier fluid at a pressure that is at all times greater than the agitator stuffing box pressure [40 CFR 63.173(d)(1)(i)]; or

B. Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that complies with the requirements of Condition 5.4.12 (see also 40 CFR 63.172) [40 CFR 63.173(d)(1)(ii)]; or

C. Equipped with a closed-loop system that purges the barrier fluid into a process stream [40 CFR 63.173(d)(1)(iii)].

ii. The barrier fluid is not in light liquid organic HAP service [40 CFR 63.173(d)(2)].

iii. Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both [40 CFR 63.173(d)(3)].

iv. Pursuant to 40 CFR 63.173(d)(4), each agitator is checked by visual inspection each calendar

week for indications of liquids dripping from the agitator seal.

A. If there are indications of liquids dripping from the agitator seal at the time of the weekly inspection, the agitator shall be monitored as specified in Condition 5.9.6(b) (see also 40 CFR 63.180(b)) to determine the presence of organic HAP in the barrier fluid [40 CFR 63.173(d)(4)(i)].

B. If an instrument reading of 10,000 parts per million or greater is measured, a leak is detected [40 CFR 63.173(d)(4)(ii)].

v. Each sensor as described in Condition 5.4.13 (d)(iii) (see also 40 CFR 63.173(d)(3)) is observed daily or is equipped with an alarm unless the agitator is located within the boundary of an unmanned plant site [40 CFR 63.173(d)(5)].

vi. A. The owner or operator determines, based on design considerations and operating experience, criteria applicable to the presence and frequency of drips and to the sensor that indicates failure of the seal system, the barrier fluid system, or both [40 CFR 63.173(d)(6)(i)].

B. If indications of liquids dripping from the agitator seal exceed the criteria established in Condition 5.4.13(d)(vi)(A) (see also 40 CFR 63.173(d)(6)(i)), or if, based on the criteria established in Condition 5.4.13(d)(vi)(A) (see also 40 CFR 63.173(d)(6)(i)), the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected [40 CFR 63.173(d)(6)(ii)].

C. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in Condition

5.4.11 (see also 40 CFR 63.171) [40 CFR 63.173(d)(6)(iii)].

D. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected [40 CFR 63.173(d)(6)(iv)].

e. Any agitator that is designed with no externally actuated shaft penetrating the agitator housing is exempt from Conditions 5.4.13(a) through (c) (see also 40 CFR 63.173(a) through (c)) [40 CFR 63.173(e)].

f. Any agitator equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a process or fuel gas system or to a control device that complies with the requirements of Condition 5.4.12 (see also 40 CFR 63.172) is exempt from the requirements of Conditions 5.4.13(a) through (c) (see also 40 CFR 63.173(a) through (c)) [40 CFR 63.173(f)].

g. Any agitator that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of Conditions 5.4.13(b)(i) and (d)(iv) (see also 40 CFR 63.173(b)(1) and (d)(4)), and the daily requirements of Condition 5.4.13(d)(v) (see also 40 CFR 63.173(d)(5)), provided that each agitator is visually inspected as often as practical and at least monthly [40 CFR 63.173(g)].

h. Pursuant to 40 CFR 63.173(h), any agitator that is difficult-to-monitor is exempt from the requirements of Conditions 5.4.13(a) through (d) (see also 40 CFR 63.173(a) through (d)) if:

i. The owner or operator determines that the agitator cannot be monitored without elevating the monitoring personnel more than two meters above a support surface or it is not accessible at anytime in a safe manner [40 CFR 63.173 (h)(1)];

ii. The process unit within which the agitator is located is an existing source or the owner or

operator designates less than three percent of the total number of agitators in a new source as difficult-to-monitor [40 CFR 63.173(h)(2)]; and

iii. The owner or operator follows a written plan that requires monitoring of the agitator at least once per calendar year [40 CFR 63.173 (h)(3)].

i. Any agitator that is obstructed by equipment or piping that prevents access to the agitator by a monitor probe is exempt from the monitoring requirements of Conditions 5.4.13(a) through (d) (see also 40 CFR 63.173(a) through (d)) [40 CFR 63.173(i)].

j. Pursuant to 40 CFR 63.173(j), any agitator that is designated, as described in Condition 5.6.5(b)(vii)(A) (see also 40 CFR 63.181(b)(7)(i)), as an unsafe-to-monitor agitator is exempt from the requirements of Conditions 5.4.13(a) through (d) (see also 40 CFR 63.173(a) through (d)) if:

i. The owner or operator of the agitator determines that the agitator is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with Conditions 5.4.13(a) through (d) (see also 40 CFR 63.173(a) through (d)) [40 CFR 63.173 (j)(1)]; and

ii. The owner or operator of the agitator has a written plan that requires monitoring of the agitator as frequently as practical during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable [40 CFR 63.173(j)(2)].

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

a. Pursuant to 40 CFR 63.174(a), the owner or operator of a process unit subject to 40 CFR 63 Subpart H shall monitor all connectors in gas/vapor and light

liquid service, except as provided in Condition 5.4.2 (see also 40 CFR 63.162(b)), and in Conditions 5.4.14(e) through (g) (see also 40 CFR 63.174(f) through (h)), at the intervals specified in Condition 5.4.14(b) (see also 40 CFR 63.174(b)).

i. The connectors shall be monitored to detect leaks by the method specified in Condition 5.9.6(b) (see also 40 CFR 63.180(b)) [40 CFR 63.174(a)(1)].

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

b. Pursuant to 40 CFR 63.174(b), the owner or operator shall monitor for leaks at the intervals specified in either Condition 5.4.14(b)(i) or (b)(ii) (see also 40 CFR 63.174(b)(1) or (b)(2)) and in Condition 5.4.14 (b)(iii) (see also 40 CFR 63.174(b)(3)).

i. For each group of existing process units within an existing source, by no later than 12 months after the compliance date, the owner or operator shall monitor all connectors, except as provided in Conditions 5.4.14(e) through (g) (see also 40 CFR 63.174(f) through (h)) [40 CFR 63.174 (b)(1)].

ii. For new sources, within the first 12 months after initial start-up or by no later than 12 months after the date of promulgation of 40 CFR 63 Subpart F, whichever is later, the owner or operator shall monitor all connectors, except as provided in Conditions 5.4.14(e) through (g) (see also 40 CFR 63.174(f) through (h)) [40 CFR 63.174(b)(2)].

iii. Pursuant to 40 CFR 63.174(b)(3), after conducting the initial survey required in Condition 5.4.14(b)(i) or (b)(ii) (see also 40 CFR 63.174(b)(1) or (b)(2)), the owner or operator shall perform all subsequent monitoring of connectors at the frequencies specified in Conditions 5.4.14(b)(iii)(A) through (E) (see also 40 CFR 63.174(b)(3)(i)

through (b)(3)(v)), except as provided in Condition 5.4.14(c)(ii) (see also 40 CFR 63.174(c)(2)):

A. Once per year (i.e., 12-month period), if the percent leaking connectors in the process unit was 0.5 percent or greater during the last required annual or biennial monitoring period [40 CFR 63.174(b)(3)(i)].

B. Once every 2 years, if the percent leaking connectors was less than 0.5 percent during the last required monitoring period. An owner or operator may comply with this Condition by monitoring at least 40 percent of the connectors in the first year and the remainder of the connectors in the second year. The percent leaking connectors will be calculated for the total of all monitoring performed during the 2-year period [40 CFR 63.174 (b)(3)(ii)].

C. If the owner or operator of a process unit in a biennial leak detection and repair program calculates less than 0.5 percent leaking connectors from the 2-year monitoring period, the owner or operator may monitor the connectors one time every 4 years. An owner or operator may comply with the requirements of this Condition by monitoring at least 20 percent of the connectors each year until all connectors have been monitored within 4 years [40 CFR 63.174(b)(3)(iii)].

D. If a process unit complying with the requirements of Condition 5.4.14(b) (see also 40 CFR 63.174(b)) using a 4-year monitoring interval program has greater than or equal to 0.5 percent but less than 1 percent leaking connectors, the owner or operator shall increase the monitoring frequency to one time every 2 years. An owner or operator may comply with the

requirements of this Condition by monitoring at least 40 percent of the connectors in the first year and the remainder of the connectors in the second year. The owner or operator may again elect to use the provisions of Condition 5.4.14(b)(iii)(C) (see also 40 CFR 63.174 (b)(3)(iii)) when the percent leaking connectors decreases to less than 0.5 percent [40 CFR 63.174(b)(3)(iv)].

E. If a process unit complying with requirements of Condition 5.4.14 (b)(iii)(C) (see also 40 CFR 63.174 (b)(3)(iii)) using a 4-year monitoring interval program has 1 percent or greater leaking connectors, the owner or operator shall increase the monitoring frequency to one time per year. The owner or operator may again elect to use the provisions of Condition 5.4.14(b)(iii)(C) (see also 40 CFR 63.174(b)(3)(iii)) when the percent leaking connectors decreases to less than 0.5 percent [40 CFR 63.174(b)(3)(v)].

iv. The use of monitoring data generated before April 22, 1994 to qualify for less frequent monitoring is governed by the provisions of Condition 5.9.6(b) (see also 40 CFR 63.180 (b)(6)) [40 CFR 63.174(b)(4)].

c. i. A. Except as provided in Condition 5.4.14 (c)(i)(B) (see also 40 CFR 63.174 (c)(1)(ii)), each connector that has been opened or has otherwise had the seal broken shall be monitored for leaks when it is reconnected or within the first 3 months after being returned to organic hazardous air pollutants service. If the monitoring detects a leak, it shall be repaired according to the provisions of Condition 5.4.14(d) (see also 40 CFR 63.174(d)), unless it is determined to be nonrepairable, in which case it is counted as a nonrepairable connector for the purposes of Condition 5.9.4(a)(ii) (see

also 40 CFR 63.174(i)(2)) [40 CFR 63.174 (c)(1)(i)].

B. As an alternative to the requirements in Condition 5.4.14(c)(i)(A) (see also 40 CFR 63.174(c)(1)(i)), an owner or operator may choose not to monitor connectors that have been opened or otherwise had the seal broken. In this case, the owner or operator may not count nonrepairable connectors for the purposes of Condition 5.9.4(a)(ii) (see also 40 CFR 63.174 (i)(2)). The owner or operator shall calculate the percent leaking connectors for the monitoring periods described in Condition 5.4.14(b) (see also 40 CFR 63.174(b)), by setting the nonrepairable component, $C_{AN}$, in the equation in Condition 5.9.4(a)(ii) (see also 40 CFR 63.174(i)(2)) to zero for all monitoring periods [40 CFR 63.174(c)(1)(ii)].

C. An owner or operator may switch alternatives described in Conditions 5.4.14(c)(i)(A) and (B) (see also 40 CFR 63.174(c)(1)(i) and (ii)) at the end of the current monitoring period he is in, provided that it is reported as required in Condition 5.7.5 (see also 40 CFR 63.182) and begin the new alternative in annual monitoring. The initial monitoring in the new alternative shall be completed no later than 12 months after reporting the switch [40 CFR 63.174(c)(1)(iii)].

ii. Pursuant to 40 CFR 63.174(c)(2), as an alternative to the requirements of Condition 5.4.14(b)(iii) (see also 40 CFR 63.174(b)(3)), each screwed connector 2 inches or less in nominal inside diameter installed in a process unit before the dates specified in Condition 5.4.14(c)(ii)(C) or (c)(ii)(D) (see also 40 CFR 63.174(c)(2)(iii) or (c)(2)(iv)) may:

A. Comply with the requirements of Condition 5.4.9 (see also 40 CFR 63.169) [40 CFR 63.174(c)(2)(i)]; and

B. Be monitored for leaks within the first 3 months after being returned to organic hazardous air pollutants service after having been opened or otherwise had the seal broken. If that monitoring detects a leak, it shall be repaired according to the provisions of Condition 5.4.14(d) (see also 40 CFR 63.174(d)) [40 CFR 63.174 (c)(2)(ii)].

C. For sources subject to 40 CFR 63 Subpart F, the provisions of Condition 5.4.14 (c)(ii) (see also 40 CFR 63.174(c)(2)) apply to screwed connectors installed before December 31, 1992 [40 CFR 63.174 (c)(2)(iii)].

D. For sources not identified in Condition 5.4.14(c)(ii)(C) (see also 40 CFR 63.174 (c)(2)(iii)), the provisions of Condition 5.4.14(c)(ii) (see also 40 CFR 63.174 (c)(2)) apply to screwed connectors installed before the date of proposal of 40 CFR 63 Subpart F [40 CFR 63.174 (c)(2)(iv)].

d. When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in Condition 5.4.14(f) (see also 40 CFR 63.174(g)) and in Condition 5.4.11 (see also 40 CFR 63.171). A first attempt at repair shall be made no later than 5 calendar days after the leak is detected [40 CFR 63.174(d)].

e. Pursuant to 40 CFR 63.174(f), any connector that is designated, as described in Condition 5.6.5(b)(vii)(A) (see also 40 CFR 63.181(b)(7)(i)), as an unsafe-to-monitor connector is exempt from the requirements of Condition 5.4.14(a) (see also 40 CFR 63.174(a)):

i. The owner or operator determines that the connector is unsafe to monitor because personnel would be exposed to an immediate danger as a result of complying with Conditions 5.4.14(a) through (d) (see also 40 CFR 63.174(a) through (e)) [40 CFR 63.174(f)(1)]; and

ii. The owner or operator has a written plan that requires monitoring of the connector as frequently as practicable during safe to monitor periods, but not more frequently than the periodic schedule otherwise applicable [40 CFR 63.174(f)(2)].

f. Pursuant to 40 CFR 63.174(g), any connector that is designated, as described in Condition 5.6.5(b)(vii)(C) (see also 40 CFR 63.181(b)(7)(iii)), as an unsafe-to-repair connector is exempt from the requirements of Conditions 5.4.14(a) and (d) (see also 40 CFR 63.174(a), (d), and (e)) if:

i. The owner or operator determines that repair personnel would be exposed to an immediate danger as a consequence of complying with Condition 5.4.14(d) (see also 40 CFR 63.174(d)) [40 CFR 63.174(g)(1)]; and

ii. The connector will be repaired before the end of the next scheduled process unit shutdown [40 CFR 63.174(g)(2)].

g. i. Pursuant to 40 CFR 63.174(h)(1), any connector that is inaccessible or is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined), is exempt from the monitoring requirements of Conditions 5.4.14(a) and (c) (see also 40 CFR 63.174(a) and (c)) and from the recordkeeping and reporting requirements of Condition 5.6.5 (see also 40 CFR 63.181) and Condition 5.7.5 (see also 40 CFR 63.182).

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

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

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

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

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

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

ii. If any inaccessible or ceramic or ceramic-lined connector is observed by visual, audible, olfactory, or other means to be leaking, the leak shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in Condition 5.4.11 (see also 40 CFR 63.171) and Condition 5.4.14(f) (see also 40 CFR 63.174(g)) [40 CFR 63.174(h)(2)].

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

5.4.15 Quality Improvement Program for Valves

a. In Phase III, an owner or operator may elect to comply with one of the alternative quality improvement programs specified in Conditions 5.4.15(d) and (e) (see also 40 CFR 63.175(d) and (e)). The decision to use one of these alternative provisions to comply with the requirements of Condition 5.4.8(d)(i)(B) (see also 40 CFR 63.168(d)(1)(ii)) must be made during the first year of Phase III for existing process units and for new process units [40 CFR 63.175(a)].

b. An owner or operator of a process unit subject to the requirements of Conditions 5.4.15(d) and (e) (see also 40 CFR 63.175(d) and (e)) shall comply with those requirements until the process unit has fewer than 2 percent leaking valves, calculated as a rolling average of 2 consecutive quarters, as specified in Condition 5.9.3 (see also 40 CFR 63.168(e)) [40 CFR 63.175(b)].

c. Pursuant to 40 CFR 63.175(c), after the process unit has fewer than 2 percent leaking valves, the owner or operator may elect to comply with the requirements in Condition 5.4.8 (see also 40 CFR 63.168), to continue to comply with the requirements in Condition 5.4.15(e) (see also 40 CFR 63.175(e)) [or Condition 5.4.15(d) (see also 40 CFR 63.175(d)), if appropriate], or comply with both the requirements in Conditions 5.4.8 and 5.4.15 (see also 40 CFR 63.168 and 63.175).

i. If the owner or operator elects to continue the quality improvement program, the owner or operator is exempt from the requirements for performance trials as specified in Condition 5.4.15(e)(vi) (see also 40 CFR 63.175(e)(6)), or further progress as specified in Condition 5.9.5 (see also 40 CFR 63.175(d)(4)), as long as the process unit has fewer than 2 percent leaking valves calculated according to Condition 5.9.3 (see also 40 CFR 63.168(e)) [40 CFR 63.175 (c)(1)].

ii. If the owner or operator elects to comply with both Condition 5.4.15(e) (see also 40 CFR 63.175(e)) and Condition 5.4.8 (see also 40 CFR 63.168), he may also take advantage of the lower monitoring frequencies associated with lower leak rates in Condition 5.4.8(d)(ii), (d)(iii), and (d)(4) (see also 40 CFR 63.168(d)(2), (d)(3), and (d)(4)) [40 CFR 63.175(c)(2)].

iii. If the owner or operator elects not to continue the quality improvement program, the program is no longer an option if the process unit again exceeds 2 percent leaking valves, and in such case, monthly monitoring will be required [40 CFR 63.175(c)(3)].

d. Pursuant to 40 CFR 63.175(d), the following requirements shall be met if an owner or operator elects to use a quality improvement program to demonstrate further progress:

i. The owner or operator shall continue to comply with the requirements in Condition 5.4.8 (see also 40 CFR 63.168) except each valve shall be monitored quarterly [40 CFR 63.175(d)(1)].

ii. Pursuant to 40 CFR 63.175(d)(2), the owner or operator shall collect the following data, and maintain records as required in Condition 5.6.5 (h)(i) (see also 40 CFR 63.181(h)(1)), for each valve in each process unit subject to the quality improvement program:

A. The maximum instrument reading observed in each monitoring observation before repair, the response factor for the stream if appropriate, the instrument model number, and date of the observation [40 CFR 63.175 (d)(2)(i)].

B. Whether the valve is in gas or light liquid service [40 CFR 63.175(d)(2)(ii)].

C. If a leak is detected, the repair methods used and the instrument readings after repair [40 CFR 63.175(d)(2)(iii)].

iii. The owner or operator shall continue to collect data on the valves as long as the process unit remains in the quality improvement program [40 CFR 63.175(d)(3)].

e. Pursuant to 40 CFR 63.175(e), the following requirements shall be met if an owner or operator elects to use a quality improvement program of technology review and improvement:

i. The owner or operator shall comply with the requirements in Condition 5.4.8 (see also 40 CFR 63.168) except the requirement for monthly monitoring in Condition 5.4.8(d)(i)(A) (see also 40 CFR 63.168(d)(1)(i)) does not apply [40 CFR 63.175(e)(1)].

ii. Pursuant to 40 CFR 63.175(e)(2), the owner or operator shall collect the data specified below, and maintain records as required in Condition 5.6.5(h)(ii) (see also 40 CFR 63.181(h)(2)), for each valve in each process unit subject to the quality improvement program. The data may be collected and the records may be maintained on a process unit or group of process units basis. The data shall include the following:

A. Valve type (e.g., ball, gate, check); valve manufacturer; valve design (e.g., external stem or actuating mechanism, flanged body); materials of construction; packing material; and year installed [40 CFR 63.175(e)(2)(i)].

B. Service characteristics of the stream such as operating pressure, temperature, line diameter, and corrosivity [40 CFR 63.175 (e)(2)(ii)].

C. Whether the valve is in gas or light liquid service [40 CFR 63.175(e)(2)(iii)].

D. The maximum instrument readings observed in each monitoring observation before repair, response factor for the stream if adjusted, instrument model number, and date of the observation [40 CFR 63.175 (e)(2)(iv)].

E. If a leak is detected, the repair methods used and the instrument readings after repair [40 CFR 63.175(e)(2)(v)].

F. If the data will be analyzed as part of a larger analysis program involving data from other plants or other types of process units, a description of any maintenance or quality assurance programs used in the process unit that are intended to improve emission performance [40 CFR 63.175(e)(2)(vi)].

iii. The owner or operator shall continue to collect data on the valves as long as the process unit remains in the quality improvement program [40 CFR 63.175(e)(3)].

iv. The owner or operator shall inspect all valves removed from the process unit due to leaks. The inspection shall determine which parts of the valve have failed and shall include recommendations, as appropriate, for design changes or changes in specifications to reduce leak potential [40 CFR 63.175(e)(4)].

v. A. The owner or operator shall analyze the data collected to comply with the requirements of Condition 5.4.15(e)(ii) (see also 40 CFR 63.175(e)(2)) to determine the services, operating or maintenance practices, and valve designs or technologies that have poorer than average emission performance and those that have better than average emission performance. The analysis shall determine if specific trouble areas can be identified on the basis of service,

operating conditions or maintenance practices, equipment design, or other process specific factors [40 CFR 63.175 (e)(5)(i)].

B. The analysis shall also be used to identify any superior performing valve technologies that are applicable to the service(s), operating conditions, or valve designs associated with poorer than average emission performance. A superior performing valve technology is one for which a group of such valves has a leak frequency of less than 2 percent for specific applications in such a process unit. A candidate superior performing valve technology is one demonstrated or reported in the available literature or through a group study as having low emission performance and as being capable of achieving less than 2 percent leaking valves in the process unit [40 CFR 63.175 (e)(5)(ii)].

C. Pursuant to 40 CFR 63.175(e)(5)(iii), the analysis shall include consideration of:

I. The data obtained from the inspections of valves removed from the process unit due to leaks [40 CFR 63.175(e)(5)(iii)(A)];

II. Information from the available literature and from the experience of other plant sites that will identify valve designs or technologies and operating conditions associated with low emission performance for specific services [40 CFR 63.175 (e)(5)(iii)(B)]; and

III. Information on limitations on the service conditions for the valve design and operating conditions as well as information on maintenance

procedures to ensure continued low emission performance [40 CFR 63.175 (e)(5)(iii)(C)].

D. The data analysis may be conducted through an inter- or intra-company program (or through some combination of the two approaches) and may be for a single process unit, a company, or a group of process units [40 CFR 63.175(e)(5)(iv)].

E. The first analysis of the data shall be completed no later than 18 months after the start of Phase III. The first analysis shall be performed using a minimum of two quarters of data. An analysis of the data shall be done each year the process unit is in the quality improvement program [40 CFR 63.175(e)(5)(v)].

vi. Pursuant to 40 CFR 63.175(e)(6), a trial evaluation program shall be conducted at each plant site for which the data analysis does not identify superior performing valve designs or technologies that can be applied to the operating conditions and services identified as having poorer than average performance, except as provided in Condition 5.4.15(e)(vi)(E) (see also 40 CFR 63.175(e)(6)(v)). The trial program shall be used to evaluate the feasibility of using in the process unit the valve designs or technologies that have been identified by others as having low emission performance.

A. The trial program shall include on-line trials of valves or operating and maintenance practices that have been identified in the available literature or in analysis by others as having the ability to perform with leak rates below 2 percent in similar services, as having low probability of failure, or as having no external actuating mechanism in contact with the process fluid. If any of the candidate superior performing valve

technologies is not included in the performance trials, the reasons for rejecting specific technologies from consideration shall be documented as required in Condition 5.6.5(h)(v)(B) (see also 40 CFR 63.181(h)(5)(ii)) [40 CFR 63.175(e)(6)(i)].

B. The number of valves in the trial evaluation program shall be the lesser of 1 percent or 20 valves for programs involving single process units and the lesser of 1 percent or 50 valves for programs involving groups of process units [40 CFR 63.175(e)(6)(ii)].

C. Pursuant to 40 CFR 63.175(e)(6)(iii), the trial evaluation program shall specify and include documentation of:

I. The candidate superior performing valve designs or technologies to be evaluated, the stages for evaluating the identified candidate valve designs or technologies, including the estimated time period necessary to test the applicability [40 CFR 63.175(e)(6)(iii)(A)];

II. The frequency of monitoring or inspection of the equipment [40 CFR 63.175(e)(6)(iii)(B)];

III. The range of operating conditions over which the component will be evaluated [40 CFR 63.175 (e)(6)(iii)(C)]; and

IV. Conclusions regarding the emission performance and the appropriate operating conditions and services for the trial valves [40 CFR 63.175 (e)(6)(iii)(D)].

D. The performance trials shall initially be conducted for, at least, a 6-month period

beginning not later than 18 months after the start of Phase III. Not later than 24 months after the start of Phase III, the owner or operator shall have identified valve designs or technologies that, combined with appropriate process, operating, and maintenance practices, operate with low emission performance for specific applications in the process unit. The owner or operator shall continue to conduct performance trials as long as no superior performing design or technology has been identified, except as provided in Condition 5.4.15(e)(vi)(D) (see also 40 CFR 63.175(e)(6)(vi)). The compilation of candidate and demonstrated superior emission performance valve designs or technologies shall be amended in the future, as appropriate, as additional information and experience is obtained [40 CFR 63.175(e)(6)(iv)].

E. Any plant site with fewer than 400 valves and owned by a corporation with fewer than 100 total employees shall be exempt from trial evaluations of valves. Plant sites exempt from the trial evaluations of valves shall begin the program at the start of the fourth year of Phase III [40 CFR 63.175(e)(6)(v)].

F. An owner or operator who has conducted performance trials on all candidate superior emission performance technologies suitable for the required applications in the process unit may stop conducting performance trials provided that a superior performing design or technology has been demonstrated or there are no technically feasible candidate superior technologies remaining. The owner or operator shall prepare an engineering evaluation documenting the physical, chemical, or engineering basis for the judgment that the superior emission performance technology is technically

infeasible or demonstrating that it would not reduce emissions [40 CFR 63.175 (e)(6)(vi)].

vii. Pursuant to 40 CFR 63.175(e)(7), each owner or operator who elects to use a quality improvement program for technology review and improvement shall prepare and implement a valve quality assurance program that details purchasing specifications and maintenance procedures for all valves in the process unit. The quality assurance program may establish any number of categories, or classes, of valves as needed to distinguish among operating conditions and services associated with poorer than average emission performance as well as those associated with better than average emission performance. The quality assurance program shall be developed considering the findings of the data analysis required under Condition 5.4.15(e)(v) (see also 40 CFR 63.175(e)(5)), if applicable, the findings of the trial evaluation required in Condition 5.4.15(e)(vi) (see also 40 CFR 63.175 (e)(6)), and the operating conditions in the process unit. The quality assurance program shall be reviewed and, as appropriate, updated each year as long as the process unit has 2 percent or more leaking valves.

A. Pursuant to 40 CFR 63.175(e)(7)(i), the quality assurance program shall:

I. Establish minimum design standards for each category of valves. The design standards shall specify known critical parameters such as tolerance, manufacturer, materials of construction, previous usage, or other applicable identified critical parameters [40 CFR 63.175 (e)(7)(i)(A)];

II. Require that all equipment orders specify the design standard (or

minimum tolerances) for the valve [40 CFR 63.175(e)(7)(i)(B)];

III. Include a written procedure for bench testing of valves that specifies performance criteria for acceptance of valves and specifies criteria for the precision and accuracy of the test apparatus. All valves repaired off-line after preparation of the quality assurance plan shall be bench-tested for leaks. This testing may be conducted by the owner or operator of the process unit, by the vendor, or by a designated representative. The owner or operator shall install only those valves that have been documented through bench-testing to be nonleaking [40 CFR 63.175 (e)(7)(i)(C)].

IV. Require that all valves repaired on-line be monitored using the method specified in Condition 5.9.6(b) (see also 40 CFR 63.180(b)) for leaks for 2 successive months, after repair [40 CFR 63.175(e)(7)(i)(D)].

V. Provide for an audit procedure for quality control of purchased equipment to ensure conformance with purchase specifications. The audit program may be conducted by the owner or operator of the process unit or by a designated representative [40 CFR 63.175 (e)(7)(i)(E)].

VI. Detail off-line valve maintenance and repair procedures. These procedures shall include provisions to ensure that rebuilt or refurbished valves will meet the design specifications for the valve type and will operate such that

emissions are minimized [40 CFR 63.175(e)(7)(i)(F)].

B. The quality assurance program shall be established no later than the start of the third year of Phase III for plant sites with 400 or more valves or owned by a corporation with 100 or more employees; and no later than the start of the fourth year of Phase III for plant sites with less than 400 valves and owned by a corporation with less than 100 employees [40 CFR 63.175(e)(7)(ii)].

viii. Pursuant to 40 CFR 63.175(e)(8), beginning at the start of the third year of Phase III for plant sites with 400 or more valves or owned by a corporation with 100 or more employees and at the start of the fourth year of Phase III for plant sites with less than 400 valves and owned by a corporation with less than 100 employees, each valve that is replaced for any reason shall be replaced with a new or modified valve that complies with the quality assurance standards for the valve category and that is identified as superior emission performance technology. Superior emission performance technology means valves or valve technologies identified with emission performance that, combined with appropriate process, operating, and maintenance practices, will result in less than 2 percent leaking valves for specific applications in a large population, except as provided in Condition 5.4.15(e)(viii)(B) (see also 40 CFR 63.175(e)(8)(ii)).

A. The valves shall be maintained as specified in the quality assurance program [40 CFR 63.175(e)(8)(i)].

B. If a superior emission performance technology cannot be identified, then valve replacement shall be with one of (if several) the lowest emission performance technologies that has been identified for

the specific application [40 CFR 63.175 (e)(8)(ii)].

5.4.16 Quality Improvement Program for Pumps

a. Pursuant to 40 CFR 63.176(a), in Phase III, if, on a 6-month rolling average, the greater of either 10 percent of the pumps in a process unit (or plant site) or three pumps in a process unit (or plant site) leak, the owner or operator shall comply with the requirements of this Condition (see also 40 CFR 63.176) as specified below:

   i. Pumps that are in food/medical service or in polymerizing monomer service shall comply with all requirements except for those specified in Condition 5.4.16(d)(viii) (see also 40 CFR 63.176(d)(8)) [40 CFR 63.176(a)(1)].

   ii. Pumps that are not in food/medical or polymerizing monomer service shall comply with all requirements of this Condition (see also 40 CFR 63.176) [40 CFR 63.176(a)(2)].

b. The owner or operator shall comply with the requirements of this Condition (see also 40 CFR 63.176) until the number of leaking pumps is less than the greater of either 10 percent of the pumps or three pumps, calculated as a 6-month rolling average, in the process unit (or plant site). Once the performance level is achieved, the owner or operator shall comply with the requirements in Condition 5.4.3 (see also 40 CFR 63.163) [40 CFR 63.176(b)].

c. If in a subsequent monitoring period, the process unit (or plant site) has greater than 10 percent of the pumps leaking or three pumps leaking (calculated as a 6-month rolling average), the owner or operator shall resume the quality improvement program starting at performance trials [40 CFR 63.176(c)].

d. Pursuant to 40 CFR 63.176(d), the quality improvement program shall include the following:

i. The owner or operator shall comply with the requirements in Condition 5.4.3 (see also 40 CFR 63.163) [40 CFR 63.176(d)(1)].

ii. Pursuant to 40 CFR 63.176(d)(2), the owner or operator shall collect the following data, and maintain records as required in Condition 5.6.5 (h)(iii) (see also 40 CFR 63.181(h)(3)), for each pump in each process unit (or plant site) subject to the quality improvement program. The data may be collected and the records may be maintained on a process unit or plant site basis.

A. Pump type (e.g., piston, horizontal or vertical centrifugal, gear, bellows); pump manufacturer; seal type and manufacturer; pump design (e.g., external shaft, flanged body); materials of construction; if applicable, barrier fluid or packing material; and year installed [40 CFR 63.176(d)(2)(i)].

B. Service characteristics of the stream such as discharge pressure, temperature, flow rate, corrosivity, and annual operating hours installed [40 CFR 63.176(d)(2)(ii)].

C. The maximum instrument readings observed in each monitoring observation before repair, response factor for the stream if appropriate, instrument model number, and date of the observation [40 CFR 63.176 (d)(2)(iii)].

D. If a leak is detected, the repair methods used and the instrument readings after repair [40 CFR 63.176(d)(2)(iv)].

E. If the data will be analyzed as part of a larger analysis program involving data from other plants or other types of process units, a description of any maintenance or quality assurance programs used in the process unit that are intended

to improve emission performance [40 CFR 63.176(d)(2)(v)].

iii. The owner or operator shall continue to collect data on the pumps as long as the process unit (or plant site) remains in the quality improvement program [40 CFR 63.176(d)(3)].

iv. The owner or operator shall inspect all pumps or pump seals which exhibited frequent seal failures and were removed from the process unit due to leaks. The inspection shall determine the probable cause of the pump seal failure or of the pump leak and shall include recommendations, as appropriate, for design changes or changes in specifications to reduce leak potential [40 CFR 63.176(d)(4)].

v. A. The owner or operator shall analyze the data collected to comply with the requirements of Condition 5.4.16(d)(ii) (see also 40 CFR 63.176(d)(2)) to determine the services, operating or maintenance practices, and pump or pump seal designs or technologies that have poorer than average emission performance and those that have better than average emission performance. The analysis shall determine if specific trouble areas can be identified on the basis of service, operating conditions or maintenance practices, equipment design, or other process specific factors [40 CFR 63.176 (d)(5)(i)].

B. The analysis shall also be used to determine if there are superior performing pump or pump seal technologies that are applicable to the service(s), operating conditions, or pump or pump seal designs associated with poorer than average emission performance. A superior performing pump or pump seal technology is one with a leak frequency of less than 10 percent for specific applications in the

process unit or plant site. A candidate superior performing pump or pump seal technology is one demonstrated or reported in the available literature or through a group study as having low emission performance and as being capable of achieving less than 10 percent leaking pumps in the process unit (or plant site) [40 CFR 63.176(d)(5)(ii)].

C. Pursuant to 40 CFR 63.176(d)(5)(iii), the analysis shall include consideration of:

I. The data obtained from the inspections of pumps and pump seals removed from the process unit due to leaks [40 CFR 63.176(d)(5)(iii)(A)];

II. Information from the available literature and from the experience of other plant sites that will identify pump designs or technologies and operating conditions associated with low emission performance for specific services [40 CFR 63.176 (d)(5)(iii)(B)]; and

III. Information on limitations on the service conditions for the pump seal technology operating conditions as well as information on maintenance procedures to ensure continued low emission performance [40 CFR 63.176 (d)(5)(iii)(C)].

D. The data analysis may be conducted through an inter- or intra-company program (or through some combination of the two approaches) and may be for a single process unit, a plant site, a company, or a group of process units [40 CFR 63.176 (d)(5)(iv)].

E. The first analysis of the data shall be completed no later than 18 months after

the start of the quality improvement program. The first analysis shall be performed using a minimum of 6 months of data. An analysis of the data shall be done each year the process unit is in the quality improvement program [40 CFR 63.176 (d)(5)(v)].

vi. Pursuant to 40 CFR 63.176(d)(6), a trial evaluation program shall be conducted at each plant site for which the data analysis does not identify use of superior performing pump seal technology or pumps that can be applied to the areas identified as having poorer than average performance, except as provided in Condition 5.4.16(d)(vi)(E) (see also 40 CFR 63.176 (d)(6)(v)). The trial program shall be used to evaluate the feasibility of using in the process unit (or plant site) the pump designs or seal technologies, and operating and maintenance practices that have been identified by others as having low emission performance.

A. The trial program shall include on-line trials of pump seal technologies or pump designs and operating and maintenance practices that have been identified in the available literature or in analysis by others as having the ability to perform with leak rates below 10 percent in similar services, as having low probability of failure, or as having no external actuating mechanism in contact with the process fluid. If any of the candidate superior performing pump seal technologies or pumps is not included in the performance trials, the reasons for rejecting specific technologies from consideration shall be documented as required in Condition 5.6.5(h)(v)(B) (see also 40 CFR 63.181(h)(5)(ii)) [40 CFR 63.176(d)(6)(i)].

B. The number of pump seal technologies or pumps in the trial evaluation program

shall be the lesser of 1 percent or two pumps for programs involving single process units and the lesser of 1 percent or five pumps for programs involving a plant site or groups of process units. The minimum number of pumps or pump seal technologies in a trial program shall be one [40 CFR 63.176(d)(6)(ii)].

C. Pursuant to 40 CFR 63.176(d)(6)(iii), the trial evaluation program shall specify and include documentation of:

I. The candidate superior performing pump seal designs or technologies to be evaluated, the stages for evaluating the identified candidate pump designs or pump seal technologies, including the time period necessary to test the applicability [40 CFR 63.176 (d)(6)(iii)(A)];

II. The frequency of monitoring or inspection of the equipment [40 CFR 63.176(d)(6)(iii)(B)];

III. The range of operating conditions over which the component will be evaluated [40 CFR 63.176 (d)(6)(iii)(C)]; and

IV. Conclusions regarding the emission performance and the appropriate operating conditions and services for the trial pump seal technologies or pumps [40 CFR 63.176 (d)(6)(iii)(D)].

D. The performance trials shall initially be conducted, at least, for a 6-month period beginning not later than 18 months after the start of the quality improvement program. No later than 24 months after the start of the quality improvement program, the owner or operator shall have

identified pump seal technologies or pump designs that, combined with appropriate process, operating, and maintenance practices, operate with low emission performance for specific applications in the process unit. The owner or operator shall continue to conduct performance trials as long as no superior performing design or technology has been identified, except as provided in Condition 5.4.16 (d)(vi)(F) (see also 40 CFR 63.176 (d)(6)(vi)). The initial list of superior emission performance pump designs or pump seal technologies shall be amended in the future, as appropriate, as additional information and experience is obtained [40 CFR 63.176(d)(6)(iv)].

E. Any plant site with fewer than 400 valves and owned by a corporation with fewer than 100 employees shall be exempt from trial evaluations of pump seals or pump designs. Plant sites exempt from the trial evaluations of pumps shall begin the pump seal or pump replacement program at the start of the fourth year of the quality improvement program [40 CFR 63.176 (d)(6)(v)].

F. An owner or operator who has conducted performance trials on all alternative superior emission performance technologies suitable for the required applications in the process unit may stop conducting performance trials provided that a superior performing design or technology has been demonstrated or there are no technically feasible alternative superior technologies remaining. The owner or operator shall prepare an engineering evaluation documenting the physical, chemical, or engineering basis for the judgment that the superior emission performance technology is technically infeasible or demonstrating that it would

not reduce emissions [40 CFR 63.176 (d)(6)(vi)].

vii. Pursuant to 40 CFR 63.176(d)(7), each owner or operator shall prepare and implement a pump quality assurance program that details purchasing specifications and maintenance procedures for all pumps and pump seals in the process unit. The quality assurance program may establish any number of categories, or classes, of pumps as needed to distinguish among operating conditions and services associated with poorer than average emission performance as well as those associated with better than average emission performance. The quality assurance program shall be developed considering the findings of the data analysis required under Condition 5.4.16(d)(v) (see also 40 CFR 63.176 (d)(5)), if applicable, the findings of the trial evaluation required in Condition 5.4.16 (d)(vi) (see also 40 CFR 63.176(d)(6)), and the operating conditions in the process unit. The quality assurance program shall be updated each year as long as the process unit has the greater of either 10 percent or more leaking pumps or has three leaking pumps.

A. Pursuant to 40 CFR 63.176(d)(7)(i), The quality assurance program shall:

I. Establish minimum design standards for each category of pumps or pump seal technology. The design standards shall specify known critical parameters such as tolerance, manufacturer, materials of construction, previous usage, or other applicable identified critical parameters [40 CFR 63.176 (d)(7)(i)(A)];

II. Require that all equipment orders specify the design standard (or minimum tolerances) for the pump or

the pump seal [40 CFR 63.176 (d)(7)(i)(B)];

III. Provide for an audit procedure for quality control of purchased equipment to ensure conformance with purchase specifications. The audit program may be conducted by the owner or operator of the plant site or process unit or by a designated representative [40 CFR 63.176 (d)(7)(i)(C)]; and

IV. Detail off-line pump maintenance and repair procedures. These procedures shall include provisions to ensure that rebuilt or refurbished pumps and pump seals will meet the design specifications for the pump category and will operate such that emissions are minimized [40 CFR 63.176 (d)(7)(i)(D)].

B. The quality assurance program shall be established no later than the start of the third year of the quality improvement program for plant sites with 400 or more valves or 100 or more employees; and no later than the start of the fourth year of the quality improvement program for plant sites with less than 400 valves and less than 100 employees [40 CFR 63.176 (d)(7)(ii)].

viii. Pursuant to 40 CFR 63.176(d)(8), beginning at the start of the third year of the quality improvement program for plant sites with 400 or more valves or 100 or more employees and at the start of the fourth year of the quality improvement program for plant sites with less than 400 valves and less than 100 employees, the owner or operator shall replace, as described in Conditions 5.4.16(d)(viii)(A) and (d)(viii)(B) (see also 40 CFR 63.176(d)(8)(i)and (d)(8)(ii)), the pumps or pump seals that are not superior emission

performance technology with pumps or pump seals that have been identified as superior emission performance technology and that comply with the quality assurance standards for the pump category. Superior emission performance technology is that category or design of pumps or pump seals with emission performance which, when combined with appropriate process, operating, and maintenance practices, will result in less than 10 percent leaking pumps for specific applications in the process unit or plant site. Superior emission performance technology includes material or design changes to the existing pump, pump seal, seal support system, installation of multiple mechanical seals or equivalent, or pump replacement.

A. Pumps or pump seals shall be replaced at the rate of 20 percent per year based on the total number of pumps in light liquid service. The calculated value shall be rounded to the nearest nonzero integer value. The minimum number of pumps or pump seals shall be one. Pump replacement shall continue until all pumps subject to the requirements of Condition 5.4.3 (see also 40 CFR 63.163) are pumps determined to be superior performance technology [40 CFR 63.176(d)(8)(i)].

B. The owner or operator may delay replacement of pump seals or pumps with superior technology until the next planned process unit shutdown, provided the number of pump seals and pumps replaced is equivalent to the 20 percent or greater annual replacement rate [40 CFR 63.176 (d)(8)(ii)].

C. The pumps shall be maintained as specified in the quality assurance program [40 CFR 63.176(d)(8)(iii)].

5.4.17 Inspection Program Plan for Leaks

Pursuant to 35 IAC 218.422, the owner or operator of a synthetic organic chemical or polymer manufacturing plant subject to Condition 5.2.8 (see also 35 IAC 218.421) shall prepare an inspection program plan which contains, at a minimum:

a. An identification of all components and the period in which each will be monitored pursuant to Condition 5.4.18 (see also 35 IAC 218.423) [35 IAC 218.422(a)].

b. The format for the monitoring log required by Condition 5.6.6 (see also 35 IAC 218.425) [35 IAC 218.422(b)].

c. A description of the monitoring equipment to be used when complying with Condition 5.4.18 (see also 35 IAC 218.423) [35 IAC 218.422(c)]; and

d. A description of the methods to be used to identify all pipeline valves, pressure relief valves in gaseous service, all leaking components, and components exempted under Condition 5.4.18(j) (see also 35 IAC 218.423(j)) such that they are obvious and can be located by both plant personnel performing monitoring and Illinois EPA personnel performing inspections [35 IAC 218.422(d)].

5.4.18 Inspection Program for Leaks

Pursuant to 35 IAC 218.423, the owner or operator of a synthetic organic chemical or polymer manufacturing plant subject to 35 IAC 218 Subpart Q shall, for the purposes of detecting leaks, conduct a component inspection program using the test methods specified in Method 21, 40 CFR 60, Appendix A (1986), consistent with the following provisions:

a. Test annually those components operated near extreme temperature or pressure such that they would be unsafe to routinely monitor and those components which would require the elevation of monitoring personnel higher than two meters above permanent worker access structures or surfaces [35 IAC 218.423(a)].

b. Test quarterly all other pressure relief valves in gas service, pumps in light liquid service, valves in light liquid service and in gas service, and compressors [35 IAC 218.423(b)].

c. If less than or equal to 2 percent of the valves in light liquid service and in gas service tested pursuant to Condition 5.4.18(b) (see also 35 IAC 218.423(b)) are found to leak for five consecutive quarters, no leak tests shall be required for three consecutive quarters. Thereafter, leak tests shall resume for the next quarter. If that test shows less than or equal to 2 percent of the valves in light liquid service and in gas service are leaking, then no tests are required for the next three quarters. If more than 2 percent are leaking, then tests are required for the next five quarters [35 IAC 218.423(c)].

d. Observe visually all pump seals weekly [35 IAC 218.423(d)].

e. Test immediately any pump seal from which liquids are observed dripping [35 IAC 218.423(e)].

f. Test any relief valve within 24 hours after it has vented to the atmosphere [35 IAC 218.423(f)].

g. Routine instrument monitoring of valves which are not externally regulated, flanges, and equipment in heavy liquid service, is not required. However, any valve which is not externally regulated, flange or piece of equipment in heavy liquid service that is found to be leaking on the basis of sight, smell or sound shall be repaired as soon as practicable but no later than 30 days after the leak is found [35 IAC 218.423(g)].

h. Test immediately after repair any component that was found leaking [35 IAC 218.423(h)].

i. Within one hour of its detection, a weatherproof, readily visible tag, in bright colors such as red or yellow, bearing an identification number and the date on which the leak was detected must be affixed on the

leaking component and remain in place until the leaking component is repaired [35 IAC 218.423(i)].

j. Pursuant to 35 IAC 218.423(j), the following components are exempt from the monitoring requirements in this Condition (see also 35 IAC 218.423):

i. Any component that is in vacuum service [35 IAC 218.423(j)(1)]; and

ii. Any pressure relief valve that is connected to an operating flare header or vapor recovery device [35 IAC 218.423(j)(2)].

5.4.19 Repairing Leaks

All leaking components must be repaired and retested as soon as practicable but no later than 15 days after the leak is found unless the leaking component cannot be repaired until the process unit is shut down. Records of repairing and retesting must be maintained in accordance with Conditions 5.6.6 and 5.7.6 (see also 35 IAC 218.425 and 218.426) [35 IAC 218.424].

5.4.20 Open-Ended Valves

a. Each open-ended valve shall be equipped with a cap, blind flange, plug, or a second valve, except during operations requiring fluid flow through the open-ended valve [35 IAC 218.428(a)].

b. Each open-ended valve equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed [35 IAC 218.428(b)].

c. Pursuant to 35 IAC 218.428(c), components which are open-ended valves and which serve as a sampling connection shall be controlled such that they comply with Conditions 5.4.20(c)(i), (c)(ii) (see also 35 IAC 218.428(c)(1) and (c)(2)) or 35 IAC 218.428(c)(3). This requirement does not apply to in-situ sampling systems.

i. A closed purge system or closed vent system shall return purged process fluid to the process line with no detectable VOM emissions to the atmosphere [35 IAC 218.428(c)(1)]; or

ii. A closed purge system or closed vent system shall collect and recycle purged process fluid to the process line with no detectable VOM emissions to the atmosphere [35 IAC 218.428(c)(2)].

## 5.5 Source-Wide Emission Limitations

### 5.5.1 Permitted Emissions for Fees

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

Permitted Emissions of Regulated Pollutants

| Pollutant | Tons/Year |
|---|---|
| Nitrogen Oxides ($NO_x$) | 650.31 |
| Particulate Matter (PM) | 146.55 |
| Sulfur Dioxide ($SO_2$) | 1,471.43 |
| Volatile Organic Material (VOM) | 629.06 |
| HAP, not included in VOM or PM | -- |
| TOTAL | 2,897.35 |

### 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

a. Emissions and operation of the Phthalic Anhydride Plant shall not exceed the following limits:

i. The emissions from the Phthalic Anhydride Plant upon installation of the regenerative thermal oxidizers on Reactor Trains A and B shall not exceed the following limitations:

| Nitrogen Oxide Emissions | |
|---|---|
| lb/hr | Ton/yr |
| 7.49 | 32.8 |

These limits are being applied to define the potential emissions from the phthalic anhydride plant with the thermal oxidizers on Reactor Trains A and B.

ii. This permit is issued based on shutdown of the Brule' incinerator.

iii. This permit is issued based on replacement of the scrubber control system on the phthalic anhydride plant with the thermal oxidizers on Reactor Trains A and B, which results in the following:

A. No change in emissions of sulfur dioxide, volatile organic material, and carbon monoxide.

B. An increase in nitrogen oxide emissions from the phthalic anhydride plant which is less than 25 tons/year. Considering the actual emissions prior to the installation of the thermal oxidizers on Reactor Trains A and B, 12.7 tons/year, the increase in $NO_x$ emissions is 20.1 tons/year (32.8 - 12.7 = 20.`1). In addition, the shutdown of the Brule' incinerator will eliminate 6.4 tons/year of $NO_x$.

iv. The above limitations contain revisions to previously issued Permit 93100069. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and

has addressed the applicability and compliance of Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, the limit for VOM emissions from Reactor Trains A and B were deemed inappropriate for the addition of a thermal oxidizer because there was no increase in potential VOM emissions and no offsets or reductions for VOM were needed for this project or any related project [T1R].

b. Emissions and operation of equipment controlled by the Mini-Switch Condenser System shall not exceed the following limits:

i. The Permittee shall use only one rail car tanker and/or one tanker truck loading rack at any given time liquid phthalic anhydride is being loaded.

ii. The switching condenser system shall achieve a recovery efficiency of 80% or greater at all times phthalic anhydride is present in the storage vessels and/or liquid loading operations occur.

iii. Annual emissions of VOM from the storage vessels and loading operations recovered by the switching condensers shall not exceed 9.0 tons/year.

iv. This permit is issued based upon replacement of the sublimation boxes with switching condensers which will result in no increase of VOM emissions to the atmosphere.

v. The limits on VOM are limitations established in Permit 97120034, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203. See Conditions 7.10.6 and 7.14.6 [T1].

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

## 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 General Records for Fugitive Emissions from Road Dust

a. The Permittee shall maintain a record of the maximum aggregate annual emissions of fugitive PM from the traffic areas at the source (i.e., road dust) estimated based on the applicable emission factors and formulas specified by Condition 5.9.8, with supporting calculations, so as to demonstrate compliance with the limits in Condition 5.5.

b. This record shall be updated upon construction of additional roadways or parking areas or other permanent change to the source, that alters the maximum aggregate emissions of PM.

5.6.3 General Recordkeeping Requirements for the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry

Pursuant to 40 CFR 63.103(c), each owner or operator of a source subject to 40 CFR 63 Subparts F, G, and H shall keep copies of all applicable reports and records required by 40 CFR 63 Subparts F, G, and H for at least 5 years; except that, if 40 CFR 63 Subparts G or H require records to be maintained for a time period different than 5 years, those records shall be maintained for the time specified in 40 CFR 63 Subpart G or H. If an owner or operator submits copies of reports to the applicable EPA Regional Office, the owner or operator is not required to maintain copies of reports. If the EPA Regional Office has waived the requirement of 40 CFR 63.10(a)(4)(ii) for submittal of copies of reports, the owner or operator is not required to maintain copies of reports.

a. All applicable records shall be maintained in such a manner that they can be readily accessed. The most recent 6 months of records shall be retained on site or shall be accessible from a central location by computer or other means that provides access within 2 hours after a request. The remaining four and one-half years of records may be retained offsite. Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, floppy disk, magnetic tape, or microfiche [40 CFR 63.103(c)(1)].

b. Pursuant to 40 CFR 63.103(c)(2), the owner or operator subject to 40 CFR 63 Subparts F, G, and H shall keep the records specified in this Condition, as well as records specified in 40 CFR 63 Subparts G and H.

i. Records of the occurrence and duration of each start-up, shutdown, and malfunction of operation of process equipment or of air pollution control equipment or continuous monitoring systems used to comply with 40 CFR 63 Subpart F, 40 CFR 63 Subpart G, or H during which excess emissions (as defined in Condition 5.2.6(c)(iv) (see also 40 CFR

63.102(a)(4))) occur [40 CFR 63.103 (c)(2)(i)].

ii. For each start-up, shutdown, and malfunction during which excess emissions (as defined in Condition 5.2.6(c)(iv) (see also 40 CFR 63.102 (a)(4))) occur, records that the procedures specified in the source's start-up, shutdown, and malfunction plan were followed, and documentation of actions taken that are not consistent with the plan. For example, if a start-up, shutdown, and malfunction plan includes procedures for routing a control device to a backup control device (e.g., the incinerator for a halogenated stream could be routed to a flare during periods when the primary control device is out of service), records must be kept of whether the plan was followed. These records may take the form of a "checklist," or other form of recordkeeping that confirms conformance with the start-up, shutdown, and malfunction plan for the event [40 CFR 63.103(c)(2)(ii)].

iii. For continuous monitoring systems used to comply with 40 CFR 63 Subpart G, records documenting the completion of calibration checks and maintenance of continuous monitoring systems that are specified in the manufacturer's instructions or other written procedures that provide adequate assurance that the equipment would reasonably be expected to monitor accurately [40 CFR 63.103(c)(2)(iii)].

c. Records of start-up, shutdown and malfunction and continuous monitoring system calibration and maintenance are not required if they pertain solely to Group 2 emission points, as defined in 40 CFR 63.111, that are not included in an emissions average [40 CFR 63.103(c)(3)].

5.6.4 Continuous Records for the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater

a. Pursuant to 40 CFR 63.152(f), owners or operators required to keep continuous records by 40 CFR 63.118, 63.130, 63.147, 63.150, or other sections of 40 CFR 63 Subpart G shall keep records as specified in Conditions 5.6.4(a)(i) through (a)(vii) (see also 40 CFR 63.152(f)(1) through (f)(7)), unless an alternative recordkeeping system has been requested and approved under 40 CFR 63.151(f) or (g) or Condition 5.7.4(e) (see also 40 CFR 63.152(e)) or under 40 CFR 63.8(f), and except as provided in Condition 5.7.4(c)(ii)(B)(III) (see also 40 CFR 63.152 (c)(2)(ii)(C)) or in Condition 5.6.4(b) (see also 40 CFR 63.152(g)). If a monitoring plan for storage vessels pursuant to 40 CFR 63.120(d)(2)(i) requires continuous records, the monitoring plan shall specify which provisions, if any, of Conditions 5.6.4(a)(i) through (a)(vii) (see also 40 CFR 63.152(f)(1) through (f)(7)) apply.

i. The monitoring system shall measure data values at least once every 15 minutes [40 CFR 63.152 (f)(1)].

ii. Pursuant to 40 CFR 63.152(f)(2), the owner or operator shall record either:

A. Each measured data value [40 CFR 63.152 (f)(2)(i)]; or

B. Block average values for 15-minute or shorter periods calculated from all measured data values during each period or at least one measured data value per minute if measured more frequently than once per minute [40 CFR 63.152(f)(2)(ii)].

iii. Pursuant to 40 CFR 63.152(f)(3), if the daily average value of a monitored parameter for a given operating day is within the range established in the Notification of Compliance Status or operating permit, the owner or operator shall either:

A. Retain block hourly average values for that operating day for 5 years and

discard, at or after the end of that operating day, the 15-minute or more frequent average values and readings recorded under Condition 5.6.4(a)(ii) (see also 40 CFR 63.152(f)(2)) [40 CFR 63.152 (f)(3)(i)]; or

B. Retain the data recorded in Condition 5.6.4(a)(ii) (see also 40 CFR 63.152 (f)(2)) for 5 years [40 CFR 63.152 (f)(3)(ii)].

iv. If the daily average value of a monitored parameter for a given operating day is outside the range established in the Notification of Compliance Status or operating permit, the owner or operator shall retain the data recorded that operating day under Condition 5.6.4(a)(ii) (see also 40 CFR 63.152(f)(2)) for 5 years [40 CFR 63.152(f)(4)].

v. Pursuant to 40 CFR 63.152(f)(5), daily average values of each continuously monitored parameter shall be calculated for each operating day, and retained for 5 years, except as specified in Conditions 5.6.4(a)(vi) and (a)(vii) (see also 40 CFR 63.152(f)(6) and (f)(7)).

A. The daily average shall be calculated as the average of all values for a monitored parameter recorded during the operating day. The average shall cover a 24-hour period if operation is continuous, or the number of hours of operation per operating day if operation is not continuous [40 CFR 63.152(f)(5)(i)].

B. The operating day shall be the period defined in the operating permit or the Notification of Compliance Status. It may be from midnight to midnight or another daily period [40 CFR 63.152(f)(5)(ii)].

vi. If all recorded values for a monitored parameter during an operating day are within

the range established in the Notification of Compliance Status or operating permit, the owner or operator may record that all values were within the range and retain this record for 5 years rather than calculating and recording a daily average for that operating day. For these operating days, the records required in Condition 5.6.4(a)(iii) (see also 40 CFR 63.152 (f)(3)) shall also be retained for 5 years [40 CFR 63.152(f)(6)].

vii. Pursuant to 40 CFR 63.152(f)(7), monitoring data recorded during periods identified in Conditions 5.6.4(a)(vii)(A) through (a)(vii)(E) (see also 40 CFR 63.152(f)(7)(i) through (f)(7)(v)) shall not be included in any average computed under 40 CFR 63 Subpart G. Records shall be kept of the times and durations of all such periods and any other periods during process or control device operation when monitors are not operating.

A. Monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments [40 CFR 63.152 (f)(7)(i)];

B. Start-ups [40 CFR 63.152(f)(7)(ii)];

C. Shutdowns [40 CFR 63.152(f)(7)(iii)];

D. Malfunctions [40 CFR 63.152(f)(7)(iv)];

E. Periods of non-operation of the chemical manufacturing process unit (or portion thereof), resulting in cessation of the emissions to which the monitoring applies [40 CFR 63.152(f)(7)(v)].

b. Pursuant to 40 CFR 63.152(g), for any parameter with respect to any item of equipment, the owner or operator may implement the recordkeeping requirements in Condition 5.6.4(b)(i) or (b)(ii) (see also 40 CFR 63.152(g)(1) or (g)(2)) as alternatives to the continuous operating parameter monitoring and recordkeeping provisions listed in 40 CFR 63.114,

63.117, and 63.118 for process vents, 40 CFR 63.127, 63.129, and 63.130 for transfer operations, 40 CFR 63.143, 63.146, and 63.147 for wastewater, and/or Condition 5.6.4(a) (see also 40 CFR 63.152(f)), except that Condition 5.6.4(a)(vii) (see also 40 CFR 63.152 (f)(7)) shall apply. The owner or operator shall retain each record required by Condition 5.6.4(b)(i) or (b)(ii) (see also 40 CFR 63.152(g)(1) or (g)(2)) as provided in Condition 5.6.3 (see also 40 CFR 63.103(c)), except as provided otherwise in Condition 5.6.4(b)(i) or (b)(ii) (see also 40 CFR 63.152(g)(1) or (g)(2)).

i. Pursuant to 40 CFR 63.152(g)(1), the owner or operator may retain only the daily average value, and is not required to retain more frequent monitored operating parameter values, for a monitored parameter with respect to an item of equipment, if the requirements of Conditions 5.6.4(b)(i)(A) through (b)(i)(F) (see also 40 CFR 63.152(g)(1)(i) through (g)(1)(vi)) are met. An owner or operator electing to comply with the requirements of Condition 5.6.4(b)(i) (see also 40 CFR 63.152(g)(1)) shall notify the Illinois EPA or USEPA in the Notification of Compliance Status or, if the Notification of Compliance Status has already been submitted, in the periodic report immediately preceding implementation of the requirements of Condition 5.6.4(b)(i) (see also 40 CFR 63.152(g)(1)).

A. The monitoring system is capable of detecting unrealistic or impossible data during periods of operation other than startups, shutdowns, or malfunctions (e.g., a temperature reading of -200°C on a boiler), and will alert the operator by alarm or other means. The owner or operator shall record the occurrence. All instances of the alarm or other alert in an operating day constitute a single occurrence [40 CFR 63.152(g)(1)(i).

B. Pursuant to 40 CFR 63.152(g)(1)(ii), the monitoring system generates, updated at

least hourly throughout each operating day, a running average of the monitoring values that have been obtained during that operating day, and the capability to observe this average is readily available to the Illinois EPA or USEPA on-site during the operating day. The owner or operator shall record the occurrence of any period meeting the criteria in Conditions 5.6.4(b)(i)(B)(I) through (b)(i)(B)(III) (see also 40 CFR 63.152 (g)(1)(ii)(A) through (g)(1)(ii)(C)). All instances in an operating day constitute a single occurrence.

I. The running average is above the maximum or below the minimum established limits [40 CFR 63.152 (g)(1)(ii)(A)];

II. The running average is based on at least 6 1-hour average values [40 CFR 63.152(g)(1)(ii)(B)]; and

III. The running average reflects a period of operation other than a startup, shutdown, or malfunction [40 CFR 63.152(g)(1)(ii)(C)].

C. The monitoring system is capable of detecting unchanging data during periods of operation other than startups, shutdowns, or malfunctions, except in circumstances where the presence of unchanging data is the expected operating condition based on past experience (e.g., pH in some scrubbers), and will alert the operator by alarm or other means. The owner or operator shall record the occurrence. All instances of the alarm or other alert in an operating day constitute a single occurrence [40 CFR 63.152 (g)(1)(iii)].

D. The monitoring system will alert the owner or operator by an alarm or other means, if

the running average parameter value calculated under Condition 5.6.4(b)(i)(B) (see also 40 CFR 63.152(g)(1)(ii)) reaches a set point that is appropriately related to the established limit for the parameter that is being monitored [40 CFR 63.152 (g)(1)(iv)].

E. Pursuant to 40 CFR 63.152(g)(1)(v), the owner or operator shall verify the proper functioning of the monitoring system, including its ability to comply with the requirements of Condition 5.6.4(b)(i) (see also 40 CFR 63.152(g)(1)), at the times specified in Condition 5.6.4(b)(i)(E)(I) through (b)(i)(E)(III) (see also 40 CFR 63.152(g)(1)(v)(A) through (g)(1)(v)(C)). The owner or operator shall document that the required verifications occurred.

I. Upon initial installation [40 CFR 63.152(g)(1)(v)(A)].

II. Annually after initial installation [40 CFR 63.152(g)(1)(v)(B)].

III. After any change to the programming or equipment constituting the monitoring system, which might reasonably be expected to alter the monitoring system's ability to comply with the requirements of this Condition (see also 40 CFR 63.152) [40 CFR 63.152(g)(1)(C)].

F. Pursuant to 40 CFR 63.152(g)(1)(vi), the owner or operator shall retain the records identified in Conditions 5.6.4(b)(i)(F)(I) through (III) (see also 40 CFR 63.152 (g)(1)(vi)(A) through (C)).

I. Identification of each parameter, for each item of equipment, for which the owner or operator has elected to comply with the requirements of Condition 5.6.4(b)

(see also 40 CFR 63.152(g)) [40 CFR 63.152(g)(1)(vi)(A)].

II. A description of the applicable monitoring system(s), and of how compliance will be achieved with each requirement of Condition 5.6.4 (b)(i)(A) through (E) (see also 40 CFR 63.152(g)(1)(i) through (g)(1)(v)). The description shall identify the location and format (e.g., on-line storage; log entries) for each required record. If the description changes, the owner or operator shall retain both the current and the most recent superseded description. The description, and the most recent superseded description, shall be retained as provided in Condition 5.6.3 (see also 40 CFR 63.103(c)), except as provided in Condition 5.6.4(b)(i)(F)(IV) (see also 40 CFR 63.152(g)(1)(vi)(D)) [40 CFR 63.152 (g)(1)(vi)(B)].

III. A description, and the date, of any change to the monitoring system that would reasonably be expected to affect its ability to comply with the requirements of Condition 5.6.4 (b)(i) (see also 40 CFR 63.152 (g)(1)) [40 CFR 63.152 (g)(1)(vi)(C)].

IV. Owners and operators subject to Condition 5.6.4(b)(i)(F)(II) (see also 40 CFR 63.152(g)(1)(vi)(B)) shall retain the current description of the monitoring system as long as the description is current, but not less than 5 years from the date of its creation. The current description shall, at all times, be retained on-site or be accessible from a central location by computer

or other means that provides access within 2 hours after a request. The owner or operator shall retain the most recent superseded description at least until 5 years from the date of its creation. The superseded description shall be retained on-site (or accessible from a central location by computer that provides access within 2 hours after a request) at least 6 months after its creation. Thereafter, the superseded description may be stored off-site [40 CFR 63.152(g)(1)(vi)(D)].

ii. Pursuant to 40 CFR 63.152(g)(2), if an owner or operator has elected to implement the requirements of Condition 5.6.4(b)(i) (see also 40 CFR 63.152(g)(1)), and a period of 6 consecutive months has passed without an excursion as defined in Condition 5.6.4 (b)(ii)(D) (see also 40 CFR 63.152(g)(2)(iv)), the owner or operator is no longer required to record the daily average value for that parameter for that unit of equipment, for any operating day when the daily average value is less than the maximum, or greater than the minimum established limit. With approval by the Illinois EPA or USEPA, monitoring data generated prior to the compliance date of 40 CFR 63 Subpart G shall be credited toward the period of 6 consecutive months, if the parameter limit and the monitoring was required and/or approved by the Illinois EPA or USEPA.

A. If the owner or operator elects not to retain the daily average values, the owner or operator shall notify the Illinois EPA in the next periodic report. The notification shall identify the parameter and unit of equipment [40 CFR 63.152 (g)(2)(i)].

B. If, on any operating day after the owner or operator has ceased recording daily

averages as provided in Condition 5.6.4 (b)(ii) (see also 40 CFR 63.152(g)(2)), there is an excursion as defined in Condition 5.6.4(b)(ii)(D) (see also 40 CFR 63.152(g)(2)(iv)), the owner or operator shall immediately resume retaining the daily average value for each day, and shall notify the Illinois EPA or USEPA in the next periodic report. The owner or operator shall continue to retain each daily average value until another period of 6 consecutive months has passed without an excursion as defined in Condition 5.6.4 (b)(ii)(D) (see also 40 CFR 63.152 (g)(2)(iv)) [40 CFR 63.152(g)(2)(ii)].

C. The owner or operator shall retain the records specified in Conditions 5.6.4 (b)(i)(A), (B), (C), (D), (E), and (F) (see also 40 CFR 63.152(g)(1)(i), (ii), (iii), (iv), (v), and (vi)). For any calendar week, if compliance with Conditions 5.6.4(b)(i)(A), (B), (C), and (D) (see also 40 CFR 63.152(g)(1)(i), (ii), (iii), and (iv)) does not result in retention of a record of at least one occurrence or measured parameter value, the owner or operator shall record and retain at least one parameter value during a period of operation other than a startup, shutdown, or malfunction [40 CFR 63.152(g)(2)(iii)].

D. Pursuant to 40 CFR 63.152(g)(2)(iv), for purposes of Condition 5.6.4(b) (see also 40 CFR 63.152(g)), an excursion means that the daily average value of monitoring data for a parameter is greater than the maximum, or less than the minimum established value, except as provided in Conditions 5.6.4(b)(ii)(D)(I) and (b)(ii)(D)(II) (see also 40 CFR 63.152 (g)(2)(iv)(A) and (g)(2)(iv)(B)).

I. The daily average value during any start-up, shutdown, or malfunction

shall not be considered an excursion for purposes of Condition 5.6.4 (b)(ii) (see also 40 CFR 63.152 (g)(2)), if the owner or operator follows the applicable provisions of the startup, shutdown, and malfunction plan required by 40 CFR 63.6(e)(3) [40 CFR 63.152 (g)(2)(iv)(A)].

II. An excused excursion, as described in Condition 5.7.4(c)(ii)(B)(II) and (III) (see also 40 CFR 63.152 (c)(2)(ii)(B) and (C)), shall not be considered an excursion for purposes of Condition 5.6.4(b)(ii) (see also 40 CFR 63.152(g)(2)) [40 CFR 63.152 (g)(2)(iv)(B)].

5.6.5 Recordkeeping Requirements for the NESHAP for Organic Hazardous Air Pollutants for Equipment Leaks

a. An owner or operator of more than one process unit subject to the provisions of 40 CFR 63 Subpart H may comply with the recordkeeping requirements for these process units in one recordkeeping system if the system identifies each record by process unit and the program being implemented (e.g., quarterly monitoring, quality improvement) for each type of equipment. All records and information required by this Condition (see also 40 CFR 63.181) shall be maintained in a manner that can be readily accessed at the plant site. This could include physically locating the records at the plant site or accessing the records from a central location by computer at the plant site [40 CFR 63.181(a)].

b. Pursuant to 40 CFR 63.181(b), except as provided in Condition 5.6.5(e) (see also 40 CFR 63.181(e)), the following information pertaining to all equipment in each process unit subject to the requirements in Conditions 5.4.2 through 5.4.14 (see also 40 CFR 63.162 through 63.174) shall be recorded:

i. A. A list of identification numbers for equipment (except connectors exempt from

monitoring and recordkeeping identified in Condition 5.4.14 (see also 40 CFR 63.174) and instrumentation systems) subject to the requirements of 40 CFR 63 Subpart H. Connectors need not be individually identified if all connectors in a designated area or length of pipe subject to the provisions of 40 CFR 63 Subpart H are identified as a group, and the number of connectors subject is indicated. With respect to connectors, the list shall be complete no later than the completion of the initial survey required by Condition 5.4.14(b)(i) or (b)(ii) (see also 40 CFR 63.174(b)(1) or (b)(2)) [40 CFR 63.181 (b)(1)(i)].

B. A schedule by process unit for monitoring connectors subject to the provisions of Condition 5.4.14(a) (see also 40 CFR 63.174(a)) and valves subject to the provisions of Condition 5.4.8(d) (see also 40 CFR 63.168(d)) [40 CFR 63.181 (b)(1)(ii)].

C. Physical tagging of the equipment to indicate that it is in organic HAP service is not required. Equipment subject to the provisions of 40 CFR 63 Subpart H may be identified on a plant site plan, in log entries, or by other appropriate methods [40 CFR 63.181(b)(1)(iii)].

ii. A. A list of identification numbers for equipment that the owner or operator elects to equip with a closed-vent system and control device, under the provisions of Condition 5.4.3(g) (see also 40 CFR 63.163(g)), Condition 5.4.4(h) (see also 40 CFR 63.164(h)), Condition 5.4.5(c) (see also 40 CFR 63.165(c)), or Condition 5.4.13(f) (see also 40 CFR 63.173(f)) [40 CFR 63.181(b)(2)(i)].

B. A list of identification numbers for compressors that the owner or operator

elects to designate as operating with an instrument reading of less than 500 parts per million above background, under the provisions of Condition 5.4.4(i) (see also 40 CFR 63.164(i)) [40 CFR 63.181 (b)(2)(ii)].

C. Identification of surge control vessels or bottoms receivers subject to the provisions of 40 CFR 63 Subpart H that the owner or operator elects to equip with a closed-vent system and control device, under the provisions of Condition 5.4.10 (see also 40 CFR 63.170) [40 CFR 63.181 (b)(2)(iii)].

iii. A. A list of identification numbers for pressure relief devices subject to the provisions in Condition 5.4.5(a) (see also 40 CFR 63.165(a)) [40 CFR 63.181 (b)(3)(i)].

B. A list of identification numbers for pressure relief devices equipped with rupture disks, under the provisions of Condition 5.4.5(d) (see also 40 CFR 63.165(d)) [40 CFR 63.181(b)(3)(ii)].

iv. Identification of instrumentation systems subject to the provisions of 40 CFR 63 Subpart H. Individual components in an instrumentation system need not be identified [40 CFR 63.181 (b)(4)].

v. Identification of screwed connectors subject to the requirements of Condition 5.4.14(c)(ii) (see also 40 CFR 63.174(c)(2)). Identification can be by area or grouping as long as the total number within each group or area is recorded [40 CFR 63.181(b)(5)].

vi. Pursuant to 40 CFR 63.181(b)(6), the following information shall be recorded for each dual mechanical seal system:

A. Design criteria required in Conditions 5.4.3(d)(vi)(A)), 5.4.4(e)(ii), and 5.4.13 (d)(vi)(A) (see also 40 CFR 63.163 (e)(6)(i), 63.164(e)(2), and 63.173 (d)(6)(i)) and an explanation of the design criteria [40 CFR 63.181(b)(6)(i)]; and

B. Any changes to these criteria and the reasons for the changes [40 CFR 63.181 (b)(6)(ii)].

vii. Pursuant to 40 CFR 63.181(b)(7), the following information pertaining to all pumps subject to the provisions of Condition 5.4.3(i) (see also 40 CFR 63.163(j)), valves subject to the provisions of Condition 5.4.8(g) and (h) (see also 40 CFR 63.168(h) and (i)), agitators subject to the provisions of Conditions 5.4.13(h) through (j) (see also 40 CFR 63.173(h) through (j)), and connectors subject to the provisions of Conditions 5.4.14(e) and (f) (see also 40 CFR 63.174(f) and (g)) shall be recorded:

A. Identification of equipment designated as unsafe to monitor, difficult to monitor, or unsafe to inspect and the plan for monitoring or inspecting this equipment [40 CFR 63.181(b)(7)(i)].

B. A list of identification numbers for the equipment that is designated as difficult to monitor, an explanation of why the equipment is difficult to monitor, and the planned schedule for monitoring this equipment [40 CFR 63.181(b)(7)(ii)].

C. A list of identification numbers for connectors that are designated as unsafe to repair and an explanation why the connector is unsafe to repair [40 CFR 63.181(b)(7)(iii)].

viii. A. A list of valves removed from and added to the process unit, as described in

Condition 5.9.3(e) (see also 40 CFR 63.168 (e)(1)), if the net credits for removed valves is expected to be used [40 CFR 63.181(b)(8)(i)].

B. A list of connectors removed from and added to the process unit, as described in Condition 5.9.4(a)(i) (see also 40 CFR 63.174(i)(1)), and documentation of the integrity of the weld for any removed connectors, as required in Condition 5.9.4(j) (see also 40 CFR 63.174(j)). This is not required unless the net credits for removed connectors is expected to be used [40 CFR 63.181(b)(8)(ii)].

c. For visual inspections of equipment subject to the provisions of 40 CFR 63 Subpart H [e.g., Conditions 5.4.3(b)(iii), 5.4.3(d)(iv)(A) (see also 40 CFR 63.163 (b)(3), 40 CFR 63.163(e)(4)(i))], the owner or operator shall document that the inspection was conducted and the date of the inspection. The owner or operator shall maintain records as specified in Condition 5.6.5(d) (see also 40 CFR 63.181(d)) for leaking equipment identified in this inspection, except as provided in Condition 5.6.5(e) (see also 40 CFR 63.181(e)). These records shall be retained for 2 years [40 CFR 63.181(c)].

d. Pursuant to 40 CFR 63.181(d), when each leak is detected as specified in Conditions 5.4.3 and 5.4.4 (see also 40 CFR 63.163 and 63.164); Conditions 5.4.8 and 5.4.9 (see also 40 CFR 63.168 and 63.169); and Conditions 5.4.12 through 5.4.14 (see also 40 CFR 63.172 through 63.174), the following information shall be recorded and kept for 2 years:

i. The instrument and the equipment identification number and the operator name, initials, or identification number [40 CFR 63.181(d)(1)].

ii. The date the leak was detected and the date of first attempt to repair the leak [40 CFR 63.181 (d)(2)].

iii. The date of successful repair of the leak [40 CFR 63.181(d)(3)].

iv. Maximum instrument reading measured by Method 21 of 40 CFR part 60, appendix A after it is successfully repaired or determined to be nonrepairable [40 CFR 63.181(d)(4)].

v. Pursuant to 40 CFR 63.181(d)(5), "repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

A. The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. The written procedures may be included as part of the startup/shutdown/malfunction plan, required by 40 CFR 63.6(e)(3), for the source or may be part of a separate document that is maintained at the plant site. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure [40 CFR 63.181(d)(5)(i)].

B. If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion [40 CFR 63.181(d)(5)(ii)].

vi. Dates of process unit shutdowns that occur while the equipment is unrepaired [40 CFR 63.181 (d)(6)].

vii. A. Identification, either by list, location (area or grouping), or tagging of connectors that have been opened or otherwise had the seal broken since the last monitoring period required in Condition 5.4.14(b) (see also 40 CFR 63.174(b)), as described in Condition 5.4.14(c)(i) (see also 40 CFR 63.174 (c)(1)), unless the owner or operator

elects to comply with the provisions of Condition 5.4.14(c)(i)(B) (see also 40 CFR 63.174(c)(1)(ii)) [40 CFR 63.181 (d)(7)(i)].

B. The date and results of monitoring as required in Condition 5.4.14(c)(i) (see also 40 CFR 63.174(c)). If identification of connectors that have been opened or otherwise had the seal broken is made by location under Condition 5.6.5(d)(vii)(A) (see also 40 CFR 63.181(d)(7)(i)), then all connectors within the designated location shall be monitored [40 CFR 63.181 (d)(7)(ii)].

viii. Copies of the periodic reports as specified in Condition 5.7.5(b) (see also 40 CFR 63.182(d)), if records are not maintained on a computerized database capable of generating summary reports from the records [40 CFR 63.181(d)(9)].

e. Pursuant to 40 CFR 63.181(e), the owner or operator of a batch product process who elects to pressure test the batch product process equipment train to demonstrate compliance with 40 CFR 63 Subpart H is exempt from the requirements of Conditions 5.6.5(b), (c), (d), and (f) (see also 40 CFR 63.181(b), (c), (d), and (f)). Instead, the owner or operator shall maintain records of the following information:

i. The identification of each product, or product code, produced during the calendar year. It is not necessary to identify individual items of equipment in a batch product process equipment train [40 CFR 63.181(e)(1)].

ii. Physical tagging of the equipment to identify that it is in organic HAP service and subject to the provisions of 40 CFR 63 Subpart H is not required. Equipment in a batch product process subject to the provisions of 40 CFR 63 Subpart H may be identified on a plant site plan, in log entries, or by other appropriate methods [40 CFR 63.181(e)(3)].

iii. Records of any visible, audible, or olfactory evidence of fluid loss [40 CFR 63.181(e)(5)].

iv. Pursuant to 40 CFR 63.181(e)(6), when a batch product process equipment train does not pass two consecutive pressure tests, the following information shall be recorded in a log and kept for 2 years:

A. The date of each pressure test and the date of each leak repair attempt [40 CFR 63.181(e)(6)(i)].

B. Repair methods applied in each attempt to repair the leak [40 CFR 63.181(e)(6)(ii)].

C. The reason for the delay of repair [40 CFR 63.181(e)(6)(iii)].

D. The expected date for delivery of the replacement equipment and the actual date of delivery of the replacement equipment [40 CFR 63.181(e)(6)(iv)].

E. The date of successful repair [40 CFR 63.181(e)(6)(v)].

f. Pursuant to 40 CFR 63.181(f), the dates and results of each compliance test required for compressors subject to the provisions in Condition 5.4.4(i) (see also 40 CFR 63.164(i)) and the dates and results of the monitoring following a pressure release for each pressure relief device subject to the provisions in Conditions 5.4.5(a) and (b) (see also 40 CFR 63.165(a) and (b)). The results shall include:

i. The background level measured during each compliance test [40 CFR 63.181(f)(1)].

ii. The maximum instrument reading measured at each piece of equipment during each compliance test [40 CFR 63.181(f)(2)].

g. Pursuant to 40 CFR 63.181(g), the owner or operator shall maintain records of the information specified

in Conditions 5.6.5(g)(i) through (g)(iii) (see also 40 CFR 63.181(g)(1) through (g)(3)) for closed-vent systems and control devices subject to the provisions of Condition 5.4.12 (see also 40 CFR 63.172). The records specified in Condition 5.6.5(g)(i) (see also 40 CFR 63.181(g)(1)) shall be retained for the life of the equipment. The records specified in Conditions 5.6.5(g)(ii) and (g)(iii) (see also 40 CFR 63.181 (g)(2) and (g)(3)) shall be retained for 2 years.

i. Pursuant to 40 CFR 63.181(g)(1), the design specifications and performance demonstrations specified in Conditions 5.6.5(g)(i)(A) through (g)(i)(D) (see also 40 CFR 63.181(g)(1)(i) through (g)(1)(iv)).

A. Detailed schematics, design specifications of the control device, and piping and instrumentation diagrams [40 CFR 63.181 (g)(1)(i)].

B. The dates and descriptions of any changes in the design specifications [40 CFR 63.181(g)(1)(ii)].

C. The flare design (i.e., steam-assisted, air-assisted, or non-assisted) and the results of the compliance demonstration required by 40 CFR 63.11(b) [40 CFR 63.181 (g)(1)(iii)].

D. A description of the parameter or parameters monitored, as required in Condition 5.4.12(e) (see also 40 CFR 63.172(e)), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring [40 CFR 63.181 (g)(1)(iv)].

ii. Pursuant to 40 CFR 63.181(g)(2), records of operation of closed-vent systems and control devices, as specified in Conditions 5.6.5 (g)(ii)(A) through (g)(ii)(C) (see also 40 CFR 63.181(g)(2)(i) through (g)(2)(iii)).

A. Dates and durations when the closed-vent systems and control devices required in Conditions 5.4.3 through 5.4.6 (see also 40 CFR 63.163 through 63.166), and Condition 5.4.10 (see also 40 CFR 63.170) are not operated as designed as indicated by the monitored parameters, including periods when a flare pilot light system does not have a flame [40 CFR 63.181 (g)(2)(i)].

B. Dates and durations during which the monitoring system or monitoring device is inoperative [40 CFR 63.181(g)(2)(ii)].

C. Dates and durations of start-ups and shutdowns of control devices required in Conditions 5.4.3 through 5.4.6 (see also 40 CFR 63.163 through 63.166), and Condition 5.4.10 (see also 40 CFR 63.170 ) [40 CFR 63.181(g)(2)(iii)].

iii. Pursuant to 40 CFR 63.181(g)(3), records of inspections of closed-vent systems subject to the provisions of Condition 5.4.12 (see also 40 CFR 63.172), as specified in Conditions 5.6.5 (g)(iii)(A) and (g)(iii)(B) (see also 40 CFR 63.181(g)(3)(i) and (g)(3)(ii)).

A. For each inspection conducted in accordance with the provisions of Condition 5.4.12(f)(i) or (f)(ii) (see also 40 CFR 63.172(f)(1) or (f)(2)) during which no leaks were detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected [40 CFR 63.181 (g)(3)(i)].

B. For each inspection conducted in accordance with the provisions of Condition 5.4.12(f)(i) or (f)(ii) (see also 40 CFR 63.172(f)(1) or (f)(2)) which leaks were detected, the information specified in Condition 5.6.5(d) (see also

40 CFR 63.181(d)) shall be recorded [40 CFR 63.181(g)(3)(ii)].

h. Pursuant to 40 CFR 63.181(h), each owner or operator of a process unit subject to the requirements of 40 CFR 63.175 and 63.176 shall maintain the records specified in Conditions 5.6.5(h)(i) through (h)(ix) (see also 40 CFR 63.181(h)(1) through (h)(9)) for the period of the quality improvement program for the process unit.

i. Pursuant to 40 CFR 63.181(h)(1), for owners or operators who elect to use a reasonable further progress quality improvement program, as specified in 40 CFR 63.175(d):

A. All data required in 40 CFR 63.175(d)(2) [40 CFR 63.181(h)(1)(i)].

B. The percent leaking valves observed each quarter and the rolling average percent reduction observed in each quarter [40 CFR 63.181(h)(1)(ii)].

C. The beginning and ending dates while meeting the requirements of 40 CFR 63.175(d) [40 CFR 63.181(h)(1)(iii)].

ii. Pursuant to 40 CFR 63.181(h)(2), for owners or operators who elect to use a quality improvement program of technology review and improvement, as specified in 40 CFR 63.175(e):

A. All data required in 40 CFR 63.175(e)(2) [40 CFR 63.181(h)(2)(i)].

B. The percent leaking valves observed each quarter [40 CFR 63.181(h)(2)(ii)].

C. Documentation of all inspections conducted under the requirements of 40 CFR 63.175 (e)(4), and any recommendations for design or specification changes to reduce leak frequency [40 CFR 63.181(h)(2)(iii)].

D. The beginning and ending dates while meeting the requirements of 40 CFR 63.175 (e) of 40 CFR 63 Subpart H [40 CFR 63.181 (h)(2)(iv)].

iii. Pursuant to 40 CFR 63.181(h)(3), for owners or operators subject to the requirements of the pump quality improvement program as specified in 40 CFR 63.176:

A. All data required in 40 CFR 63.176(d)(2) [40 CFR 63.181(h)(3)(i)].

B. The rolling average percent leaking pumps [40 CFR 63.181(h)(3)(ii)].

C. Documentation of all inspections conducted under the requirements of 40 CFR 63.176 (d)(4), and any recommendations for design or specification changes to reduce leak frequency [40 CFR 63.181(h)(3)(iii)].

D. The beginning and ending dates while meeting the requirements of 40 CFR 63.176(d) [40 CFR 63.181(h)(3)(iv)].

iv. If a leak is not repaired within 15 calendar days after discovery of the leak, the reason for the delay and the expected date of successful repair [40 CFR 63.181(h)(4)].

v. Pursuant to 40 CFR 63.181(h)(5), records of all analyses required in 40 CFR 63.175(e) and 63.176(d). The records will include the following:

A. A list identifying areas associated with poorer than average performance and the associated service characteristics of the stream, the operating conditions and maintenance practices [40 CFR 63.181 (h)(5)(i)].

B. The reasons for rejecting specific candidate superior emission performing

valve or pump technology from performance trials [40 CFR 63.181(h)(5)(ii)].

C. The list of candidate superior emission performing valve or pump technologies, and documentation of the performance trial program items required under 40 CFR 63.175 (e)(6)(iii) and 63.176(d)(6)(iii) [40 CFR 63.181(h)(5)(iii)].

D. The beginning date and duration of performance trials of each candidate superior emission performing technology [40 CFR 63.181(h)(5)(iv)].

vi. All records documenting the quality assurance program for valves or pumps as specified in 40 CFR 63.175(e)(7) and 63.176(d)(7) [40 CFR 63.181 (h)(6)].

vii. Records indicating that all valves or pumps replaced or modified during the period of the quality improvement program are in compliance with the quality assurance requirements in 40 CFR 63.175(e)(7) and 40 CFR 63.176(d)(7) [40 CFR 63.181(h)(7)].

viii. Records documenting compliance with the 20 percent or greater annual replacement rate for pumps as specified in 40 CFR 63.176(d)(8) [40 CFR 63.181(h)(8)].

ix. Information and data to show the corporation has fewer than 100 employees, including employees providing professional and technical contracted services [40 CFR 63.181(h)(9)].

i. Pursuant to 40 CFR 63.181(i), the owner or operator of equipment in heavy liquid service shall comply with the requirements of either Condition 5.6.5(i)(i) or (i)(ii) (see also 40 CFR 63.181(i)(1) or (i)(2)), as provided in Condition 5.6.5(i)(iii) (see also 40 CFR 63.181(i)(3)).

i. Retain information, data, and analyses used to determine that a piece of equipment is in heavy liquid service [40 CFR 63.181(i)(1)].

ii. When requested by the Illinois EPA or USEPA, demonstrate that the piece of equipment or process is in heavy liquid service [40 CFR 63.181(i)(2)].

iii. A determination or demonstration that a piece of equipment or process is in heavy liquid service shall include an analysis or demonstration that the process fluids do not meet the definition of "in light liquid service." Examples of information that could document this include, but are not limited to, records of chemicals purchased for the process, analyses of process stream composition, engineering calculations, or process knowledge [40 CFR 63.181(i)(3)].

j. Identification, either by list, location (area or group) of equipment in organic HAP service less than 300 hours per year within a process unit subject to the provisions of 40 CFR 63 Subpart H under 40 CFR 63.160 [40 CFR 63.181(j)].

5.6.6 Recordkeeping for Leaks

a. Pursuant to 35 IAC 218.425(a), the owner or operator of a synthetic organic chemical or polymer manufacturing plant shall maintain a leaking components monitoring log which shall contain, at a minimum, the following information:

i. The name of the process unit where the component is located [35 IAC 218.425(a)(1)];

ii. The type of component (e.g., valve, seal) [35 IAC 218.425(a)(2)];

iii. The identification number of the component [35 IAC 218.425(a)(3)];

iv. The date on which a leaking component is discovered [35 IAC 218.425(a)(4)];

v. The date on which a leaking component is repaired [35 IAC 218.425(a)(5)];

vi. The date and instrument reading of the recheck procedure after a leaking component is repaired [35 IAC 218.425(a)(6)];

vii. A record of the calibration of the monitoring instrument [35 IAC 218.425(a)(7)];

viii. The identification number of leaking components which cannot be repaired until process unit shutdown [35 IAC 218.425(a)(8)]; and

ix. The total number of valves in light liquid service and in gas service inspected; the total number and the percentage of these valves found leaking during the monitoring period [35 IAC 218.425(a)(9)].

b. Copies of the monitoring log shall be retained by the owner or operator for a minimum of two years after the date on which the record was made or the report was prepared [35 IAC 218.425(b)].

c. Copies of the monitoring log shall be made available to the Illinois EPA, upon verbal or written request, prior to or at the time of inspection pursuant to Section 4(d) of the Act at any reasonable time [35 IAC 218.425(c)].

5.6.7 Retention and Availability of Records

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

b. The Permittee shall retrieve and print, on paper during normal source office hours, any records

retained in an electronic format (e.g., computer) in response to an Illinois EPA or USEPA request for records during the course of a source inspection.

## 5.7 General Reporting Requirements

### 5.7.1 General Source-Wide Reporting Requirements

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

### 5.7.2 Annual Emissions Report

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

### 5.7.3 General Reporting Requirements for the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry

Pursuant to 40 CFR 63.103(d), all reports required under 40 CFR 63 Subparts F, G, and H shall be sent to the Illinois EPA or USEPA at the addresses listed in 40 CFR 63.13, except that requests for permission to use an alternative means of compliance as provided for in 40 CFR 63.102(b) and application for approval of a nominal efficiency as provided for in 40 CFR 63.150(i)(1) through (i)(6) shall be submitted to the Director of the EPA Office of Air Quality Planning and Standards rather than to the Illinois EPA.

a. Wherever 40 CFR 63 Subpart A specifies "postmark" dates, submittals may be sent by methods other than the U.S. Mail (e.g., by fax or courier). Submittals shall be sent on or before the specified date [40 CFR 63.103(d)(1)].

b. Submittals sent by U.S. Mail shall be postmarked on or before the specified date [40 CFR 63.103(d)(1)(i)].

c. Submittals sent by other methods shall be received by the Illinois EPA or USEPA on or before the specified date [40 CFR 63.103(d)(1)(ii)].

5.7.4 General Reporting Requirements for the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater.

a. Pursuant to 40 CFR 63.152(a), the owner or operator of a source subject to 40 CFR 63 Subpart G shall submit the reports listed in Conditions 5.7.4(a)(i) through (a)(v) (see also 40 CFR 63.152(a)(1) through (a)(5)) and keep continuous records of monitored parameters as specified in Condition 5.6.4(a) (see also 40 CFR 63.152(f)). Owners or operators requesting an extension of compliance shall also submit the report described in 40 CFR 63.151(a)(6).

i. An Initial Notification described in 40 CFR 63.151(b) [40 CFR 63.152(a)(1)].

ii. An Implementation Plan described in 40 CFR 63.151(c), (d), and (e) for existing sources with emission points that are included in an emissions average or for new sources [40 CFR 63.152(a)(2)].

iii. A Notification of Compliance Status described in Condition 5.7.4(b) (see also 40 CFR 63.152(b)) [40 CFR 63.152(a)(3)].

iv. Periodic Reports described in Condition 5.7.4(c) (see also 40 CFR 63.152(c)) [40 CFR 63.152 (a)(4)].

v. Other reports described in Conditions 5.7.4(d) and (e) (see also 40 CFR 63.152(d) and (e)) [40 CFR 63.152(a)(5)].

b. Pursuant to 40 CFR 63.152(b), each owner or operator of a source subject to 40 CFR 63 Subpart G shall submit a Notification of Compliance Status within 150 calendar days after the compliance dates specified in 40 CFR 63.100.

i. Pursuant to 40 CFR 63.152(b)(1), the notification shall include the results of any emission point group determinations, performance tests, inspections, continuous monitoring system performance evaluations, values of monitored parameters established during performance tests, and any other information used to demonstrate compliance or required to be included in the Notification of Compliance Status under 40 CFR 63.110(h) for regulatory overlaps, under 40 CFR 63.117 for process vents, 40 CFR 63.122 for storage vessels, 40 CFR 63.129 for transfer operations, 40 CFR 63.146 for process wastewater, and 40 CFR 63.150 for emission points included in an emissions average.

A. For performance tests and group determinations that are based on measurements, the Notification of Compliance Status shall include one complete test report for each test method used for a particular kind of emission point. For additional tests performed for the same kind of emission point using the same method, the results and any other information required in 40 CFR 63.117 for process vents, 40 CFR 63.129 for transfer, and 40 CFR 63.146 for process wastewater shall be submitted, but a complete test report is not required [40 CFR 63.152 (b)(1)(i)].

B. A complete test report shall include a brief process description, sampling site description, description of sampling and analysis procedures and any modifications to standard procedures, quality assurance procedures, record of operating conditions during the test, record of preparation of standards, record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, documentation of calculations, and any other information required by the test method [40 CFR 63.152(b)(1)(ii)].

ii. Pursuant to 40 CFR 63.152(b)(2), for each monitored parameter for which a range is required to be established under 40 CFR 63.114 for process vents, 40 CFR 63.127 for transfer, 40 CFR 63.143 for process wastewater, 40 CFR 63.150(m) for emission points in emissions averages, or 40 CFR 63.151(f), or Condition 5.7.4(e) (see also 40 CFR 63.152(e)), the Notification of Compliance Status shall include the information in Conditions 5.7.4(b)(ii)(A), (b)(ii)(B), and (b)(ii)(C) (see also 40 CFR 63.152(b)(2)(i), (b)(2)(ii), and (b)(2)(iii)), unless the range and the operating day definition have been established in the operating permit. The recordkeeping and reporting requirements applicable to storage vessels are located in 40 CFR 63.122 and 63.123.

A. The specific range of the monitored parameter(s) for each emission point [40 CFR 63.152(b)(2)(i)];

B. Pursuant to 40 CFR 63.152(b)(2)(ii), the rationale for the specific range for each parameter for each emission point, including any data and calculations used to develop the range and a description of why the range indicates proper operation of the control device.

I. If a performance test is required by 40 CFR 63 Subpart G for a control device, the range shall be based on the parameter values measured during the performance test and may be supplemented by engineering assessments and/or manufacturer's recommendations. Performance testing is not required to be conducted over the entire range of permitted parameter values [40 CFR 63.152 (b)(2)(ii)(A)].

II. If a performance test is not required by 40 CFR 63 Subpart G for a control device, the range may be based solely on engineering assessments and/or manufacturer's recommendations [40 CFR 63.152 (b)(2)(ii)(B)].

C. A definition of the source's operating day for purposes of determining daily average values of monitored parameters. The definition shall specify the times at which an operating day begins and ends [40 CFR 63.152(b)(2)(iii)].

iii. For emission points included in an emissions average, the Notification of Compliance Status shall include the values of all parameters needed for input to the emission credit and debit equations in 40 CFR 63.150(g) and (h), calculated or measured according to the procedures in 40 CFR 63.150(g) and (h), and the resulting calculation of credits and debits for the first quarter of the year. The first quarter begins on the compliance date specified in 40 CFR 63.100 [40 CFR 63.152(b)(3)].

iv. If any emission point is subject to 40 CFR 63 Subpart G and to other standards as specified in 40 CFR 63.110 and if the provisions of 40 CFR 63.110 allow the owner or operator to choose which testing, monitoring, reporting, and recordkeeping provisions will be followed, then the Notification of Compliance Status shall indicate which rule's requirements will be followed for testing, monitoring, reporting, and recordkeeping [40 CFR 63.152(b)(4)].

v. An owner or operator who transfers a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream for treatment pursuant to 40 CFR 63.132(g) shall include in the Notification of Compliance Status the name and location of the transferee and a

description of the Group 1 wastewater stream or residual sent to the treatment facility [40 CFR 63.152(b)(5)].

c. Pursuant to 40 CFR 63.152(c), the owner or operator of a source subject to 40 CFR 63 Subpart G shall submit Periodic Reports.

i. Except as specified under Conditions 5.7.4(c)(v) and (c)(vi) (see also 40 CFR 63.152(c)(5) and (c)(6)), a report containing the information in Conditions 5.7.4(c)(ii), (c)(iii), and (c)(iv) (see also 40 CFR 63.152(c)(2), (c)(3), and (c)(4)) shall be submitted semiannually no later than 60 calendar days after the end of each 6-month period. The first report shall be submitted no later than 8 months after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due [40 CFR 63.152(c)(1)].

ii. Pursuant to 40 CFR 63.152(c)(2), except as provided in Condition 5.7.4(c)(ii)(D) (see also 40 CFR 63.152(c)(2)(iv)), for an owner or operator of a source complying with the provisions of 40 CFR 63.113 through 63.147 for any emission points, Periodic Reports shall include all information specified in 40 CFR 63.117 and 63.118 for process vents, 40 CFR 63.122 for storage vessels, 40 CFR 63.129 and 63.130 for transfer operations, and 40 CFR 63.146 for process wastewater, including reports of periods when monitored parameters are outside their established ranges.

A. For each parameter or parameters required to be monitored for a control device, the owner or operator shall establish a range of parameter values to ensure that the device is being applied, operated and maintained properly. As specified in Condition 5.7.4(b)(ii) (see also 40 CFR 63.152(b)(2)), these parameter values and the definition of an operating day shall

be approved as part of and incorporated into the source's Notification of Compliance Status or operating permit, as appropriate [40 CFR 63.152(c)(2)(i)].

B. Pursuant to 40 CFR 63.152(c)(2)(ii), the parameter monitoring data for Group 1 emission points and emission points included in emissions averages that are required to perform continuous monitoring shall be used to determine compliance with the required operating conditions for the monitored control devices or recovery devices. For each excursion, except for excused excursions, the owner or operator shall be deemed to have failed to have applied the control in a manner that achieves the required operating conditions.

I. Pursuant to 40 CFR 63.152 (c)(2)(ii)(A), an excursion means any of the three cases listed in Condition 5.7.4(c)(ii)(B)(I)(1), (c)(ii)(B)(2), or (c)(ii)(B)(I)(3) (see also 40 CFR 63.152 (c)(2)(ii)(A)(1), (c)(2)(ii)(A)(2), or (c)(2)(ii)(A)(3)). For a control device or recovery device where multiple parameters are monitored, if one or more of the parameters meets the excursion criteria in Condition 5.7.4(c)(ii)(B)(I)(1), (c)(ii)(B)(2), or (c)(ii)(B)(I)(3) (see also 40 CFR 63.152 (c)(2)(ii)(A)(1), (c)(2)(ii)(A)(2), or (c)(2)(ii)(A)(3)), this is considered a single excursion for the control device or recovery device.

(1) When the daily average value of one or more monitored parameters is outside the permitted range [40 CFR 63.152 (c)(2)(ii)(A)(1)].

(2) When the period of control device or recovery device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data for at least 75 percent of the operating hours [40 CFR 63.152 (c)(2)(ii)(A)(2)].

(3) When the period of control device or recovery device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data [40 CFR 63.152 (c)(2)(ii)(A)(3)].

(4) Monitoring data are insufficient to constitute a valid hour of data, as used in Conditions 5.7.4 (c)(ii)(B)(I)(2) and 5.7.4 (c)(ii)(B)(I)(3) (see also 40 CFR 63.152(c)(2)(ii)(A)(2) and (c)(2)(ii)(A)(3)), if measured values are unavailable for any of the 15-minute periods within the hour. For data compression systems approved under 40 CFR 63.151(g)(4), monitoring data are insufficient to calculate a valid hour of data if there are less than 4 data values recorded during the hour [40 CFR 63.152(c)(2)(ii)(A)(4)].

II. Pursuant to 40 CFR 63.152 (c)(2)(ii)(B), the number of excused excursions for each control device

or recovery device for each semiannual period is specified in Conditions 5.7.4(c)(ii)(B)(II)(1) through (6) (see also 40 CFR 63.152 (c)(2)(ii)(B)(1) through (c)(2)(ii)(B)(6)). This Condition applies to sources required to submit Periodic Reports semiannually or quarterly. The first semiannual period is the 6-month period starting the date the Notification of Compliance Status is due.

(1) For the first semiannual period - six excused excursions [40 CFR 63.152 (c)(2)(ii)(B)(1)].

(2) For the second semiannual period - five excused excursions [40 CFR 63.152 (c)(2)(ii)(B)(2)].

(3) For the third semiannual period - four excused excursions [40 CFR 63.152 (c)(2)(ii)(B)(3)].

(4) For the fourth semiannual period - three excused excursions [40 CFR 63.152 (c)(2)(ii)(B)(4)].

(5) For the fifth semiannual period - two excused excursions [40 CFR 63.152 (c)(2)(ii)(B)(5)].

(6) For the sixth and all subsequent semiannual periods - one excused excursion [40 CFR 63.152(c)(2)(ii)(B)(6)].

III. Pursuant to 40 CFR 63.152 (c)(2)(ii)(C), a monitored parameter that is outside its established

range or monitoring data that are not collected are excursions. However, if the conditions in Conditions 5.7.4(c)(ii)(B)(III)(1) or (c)(ii)(B)(III)(2) (see also 40 CFR 63.152(c)(2)(ii)(C)(1) or (c)(2)(ii)(C)(2)) are met, these excursions are not violations and do not count toward the number of excused excursions for determining compliance.

(1) Periods of start-up, shutdown, or malfunction. During periods of start-up, shutdown, or malfunction when the source is operated during such periods in accordance with the source's start-up, shutdown, and malfunction plan as required by 40 CFR 63.6(e)(3) [40 CFR 63.152 (c)(2)(ii)(C)(1)].

(2) Periods of nonoperation. During periods of nonoperation of the chemical manufacturing process unit, or portion thereof, that results in cessation of the emissions to which the monitoring applies [40 CFR 63.152 (c)(2)(ii)(C)(2)].

IV. Nothing in Condition 5.7.4(c)(ii)(B) (see also 40 CFR 63.152(c)(2)(ii)) shall be construed to allow or excuse a monitoring parameter excursion caused by any activity that violates other applicable provisions of 40 CFR 63 Subparts A, F, or G [40 CFR 63.152 (c)(2)(ii)(D)].

V. Condition 5.7.4(c)(ii)(B) (see also 40 CFR 63.152(c)(2)(ii)), except

Condition 5.7.4(c)(ii)(B)(III) (see also 40 CFR 63.152(c)(2)(ii)(C)), shall apply only to emission points and control devices or recovery devices for which continuous monitoring is required by 40 CFR 63.113 through 63.150 [40 CFR 63.152 (c)(2)(ii)(E)].

C. Periodic Reports shall include the daily average values of monitored parameters for both excused and unexcused excursions, as defined in Condition 5.7.4(c)(ii)(B)(I) (see also 40 CFR 63.152(c)(2)(ii)(A)). For excursions caused by lack of monitoring data, the duration of periods when monitoring data were not collected shall be specified [40 CFR 63.152(c)(2)(iii)].

D. The provisions of Conditions 5.7.4(c)(ii), (c)(ii)(A), (c)(ii)(B), and (c)(ii)(C) (see also 40 CFR 63.152(c)(2), (c)(2)(i), (c)(2)(ii), and (c)(2)(iii)) do not apply to any storage vessel for which the owner or operator is not required, by the applicable monitoring plan established under 40 CFR 63.120(d)(2), to keep continuous records. If continuous records are required, the owner or operator shall specify, in the monitoring plan, whether the provisions of Conditions 5.7.4(c)(ii), (c)(ii)(A), (c)(ii)(B), and (c)(ii)(C) (see also 40 CFR 63.152(c)(2), (c)(2)(i), (c)(2)(ii), and (c)(2)(iii)) apply [40 CFR 63.152(c)(2)(iv)].

iii. Pursuant to 40 CFR 63.152(c)(3), if any performance tests are reported in a Periodic Report, the following information shall be included:

A. One complete test report shall be submitted for each test method used for a particular kind of emission point tested. A complete test report shall contain the information specified in Condition 5.7.4

(b)(i)(B) (see also 40 CFR 63.152 (b)(1)(ii)) [40 CFR 63.152(c)(3)(i)].

B. For additional tests performed for the same kind of emission point using the same method, results and any other information required in 40 CFR 63.117 for process vents, 40 CFR 63.129 for transfer, and 40 CFR 63.146 for process wastewater shall be submitted, but a complete test report is not required [40 CFR 63.152(c)(3)(ii)].

iv. Pursuant to 40 CFR 63.152(c)(4), periodic Reports shall include the information in Conditions 5.7.4(c)(iv)(A) through (c)(iv)(D) (see also 40 CFR 63.152(c)(4)(i) through (c)(4)(iv)), as applicable:

A. For process vents, reports of process changes as required under 40 CFR 63.118(g), (h), (i), and (j) [40 CFR 63.152(c)(4)(i)];

B. Any supplements required under 40 CFR 63.151(i) and (j) [40 CFR 63.152 (c)(4)(ii)];

C. Notification if any Group 2 emission point becomes a Group 1 emission point, including a compliance schedule as required in 40 CFR 63.100 [40 CFR 63.152 (c)(4)(iii)]; and

D. For process wastewater streams sent for treatment pursuant to 40 CFR 63.132(g), reports of changes in the identity of the treatment facility or transferee [40 CFR 63.152(c)(4)(iv)].

v. Pursuant to 40 CFR 63.152(c)(5), the owner or operator of a source shall submit quarterly reports for all emission points included in an emissions average.

A. The quarterly reports shall be submitted no later than 60 calendar days after the

end of each quarter. The first report shall be submitted with the Notification of Compliance Status no later than 5 months after the compliance date specified in 40 CFR 63.100 [40 CFR 63.152(c)(5)(i)].

B. Pursuant to 40 CFR 63.152(c)(5)(ii), the quarterly reports shall include the information specified in this Condition for all emission points included in an emissions average.

I. The credits and debits calculated each month during the quarter [40 CFR 63.152(c)(5)(ii)(A)];

II. A demonstration that debits calculated for the quarter are not more than 1.30 times the credits calculated for the quarter, as required under 40 CFR 63.150(e)(4) [40 CFR 63.152(c)(5)(ii)(B)];

III. The values of any inputs to the credit and debit equations in 40 CFR 63.150(g) and (h) that change from month to month during the quarter or that have changed since the previous quarter [40 CFR 63.152 (c)(5)(ii)(C)];

IV. Results of any performance tests conducted during the reporting period including one complete report for each test method used for a particular kind of emission point as described in Condition 5.7.4(c)(iii) (see also 40 CFR 63.152(c)(3)) [40 CFR 63.152(c)(5)(ii)(D)];

V. Reports of daily average values of monitored parameters for both excused and unexcused excursions as defined in Condition 5.7.4 (c)(ii)(B)(I) (see also 40 CFR 63.152(c)(2)(ii)(A)). For excursions

caused by lack of monitoring data, the duration of periods when monitoring data were not collected shall be specified [40 CFR 63.152 (c)(5)(ii)(E)].

C. Conditions 5.7.4(c)(ii)(A) through (c)(ii)(C) (see also 40 CFR 63.152 (c)(2)(i) through (c)(2)(iii)) shall govern the use of monitoring data to determine compliance for Group 1 and Group 2 points included in emissions averages. For storage vessels to which the provisions of Conditions 5.7.4(c)(ii)(A) through (c)(ii)(C) (see also 40 CFR 63.152 (c)(2)(i) through (c)(2)(iii)) do not apply (as specified in Condition 5.7.4 (c)(ii)(D) (see also 40 CFR 63.152 (c)(2)(iv))), the owner or operator is required to comply with the provisions of the applicable monitoring plan, and monitoring records may be used to determine compliance [40 CFR 63.152 (c)(5)(iii)].

D. Pursuant to 40 CFR 63.152(c)(5)(iv), every fourth quarterly report shall include the following:

I. A demonstration that annual credits are greater than or equal to annual debits as required by 40 CFR 63.150 (e)(3) [40 CFR 63.152(c)(5)(iv)(A)]; and

II. A certification of compliance with all the emissions averaging provisions in 40 CFR 63.150 [40 CFR 63.152(c)(5)(iv)(B)].

vi. Pursuant to 40 CFR 63.152(c)(6), the owner or operator of a source shall submit reports quarterly for particular emission points not included in an emissions average under the circumstances described in Conditions 5.7.4

(c)(vi)(A) through (c)(vi)(E) (see also 40 CFR 63.152(c)(6)(i) through (c)(6)(v)).

A. Pursuant to 40 CFR 63.152(c)(6)(i), the owner or operator of a source subject to 40 CFR 63 Subpart G shall submit quarterly reports for a period of one year for an emission point that is not included in an emissions average if:

   I. The emission point has more excursions, as defined in Condition 5.7.4(c)(ii)(B) (see also 40 CFR 63.152(c)(2)(ii)), than the number of excused excursions allowed under Condition 5.7.4(c)(ii)(B)(II) (see also 40 CFR 63.152(c)(2)(ii)(B)) for a semiannual reporting period [40 CFR 63.152(c)(6)(i)(A)]; and

   II. The Illinois EPA or USEPA requests the owner or operator to submit quarterly reports for the emission point [40 CFR 63.152(c)(6)(i)(B)].

B. The quarterly reports shall include all information in Conditions 5.7.4(c)(ii), (c)(iii), and (c)(iv) (see also 40 CFR 63.152(c)(2), (c)(3), and (c)(4)) applicable to the emission point(s) for which quarterly reporting is required under Condition 5.7.4(c)(vi)(A) (see also 40 CFR 63.152(c)(6)(i)). Information applicable to other emission points within the source shall be submitted in the semiannual reports required under Condition 5.7.4(c)(i) (see also 40 CFR 63.152(c)(1)) [40 CFR 63.152(c)(6)(ii)].

C. Quarterly reports shall be submitted no later than 60 calendar days after the end of each quarter [40 CFR 63.152 (c)(6)(iii)].

D. After quarterly reports have been submitted for an emission point for one

year, the owner or operator may return to semiannual reporting for the emission point unless the Illinois EPA or USEPA requests the owner or operator to continue to submit quarterly reports [40 CFR 63.152 (c)(6)(iv)].

E. Conditions 5.7.4(c)(ii)(A) through (c)(ii)(C) (see also 40 CFR 63.152 (c)(2)(i) through (c)(2)(iii)) shall govern the use of monitoring data to determine compliance for Group 1 emission points. For storage vessels to which the provisions of Conditions 5.7.4(c)(ii)(A) through (c)(ii)(C) (see also 40 CFR 63.152 (c)(2)(i) through (c)(2)(iii)) do not apply (as specified in Condition 5.7.4 (c)(ii)(D) (see also 40 CFR 63.152 (c)(2)(iv))), the owner or operator is required to comply with the provisions of the applicable monitoring plan, and monitoring records may be used to determine compliance [40 CFR 63.152 (c)(6)(v)].

d. Pursuant to 40 CFR 63.152(d), other reports shall be submitted as specified in 40 CFR 63 Subpart A or in 40 CFR 63.113 through 63.151. These reports are:

i. Reports of start-up, shutdown, and malfunction required by 40 CFR 63.10(d)(5). The start-up, shutdown and malfunction reports may be submitted on the same schedule as the Periodic Reports required under Condition 5.7.4(c) (see also 40 CFR 63.152(c)) instead of the schedule specified in 40 CFR 63.10(d)(5) [40 CFR 63.152 (d)(1)].

ii. For storage vessels, the notifications of inspections required by 40 CFR 63.122(h)(1) and (h)(2) [40 CFR 63.152(d)(2)].

iii. For owners or operators of sources required to request approval for a nominal control efficiency for use in calculating credits for an emissions average, the information

specified in 40 CFR 63.150(i) [40 CFR 63.152(d)(3)].

e. Pursuant to 40 CFR 63.152(e), an owner or operator subject to 40 CFR 63 Subpart G shall submit the information specified in Conditions 5.7.4(e)(i) through (e)(iv) (see also 40 CFR 63.152(e)(1) through (e)(4)) with the operating permit application or as otherwise specified by the permitting authority. The owner or operator shall submit written updates as amendments to the operating permit application on the schedule and under the circumstances described in 40 CFR 63.151(j). Notwithstanding, if the owner or operator has an operating permit under 40 CFR part 70 or 71, the owner or operator shall follow the schedule and format required by the permitting authority.

i. The information specified in 40 CFR 63.151(f) or (g) for any emission points for which the owner or operator requests approval to monitor a unique parameter or use an alternative monitoring and recording system [40 CFR 63.152 (e)(1)]; and

ii. The information specified in 40 CFR 63.151(d) for points included in an emissions average [40 CFR 63.152(e)(2)];

iii. The information specified in 40 CFR 63.151(e) for points not included in an emissions average [40 CFR 63.152(e)(3)].

iv. The information specified in 40 CFR 63.151(h) as applicable [40 CFR 63.152(e)(4)].

5.7.5 Reporting Requirements for the NESHAP for Organic Hazardous Air Pollutants for Equipment Leaks

a. Pursuant to 40 CFR 63.182(a), each owner or operator of a source subject to 40 CFR 63 Subpart H shall submit the reports listed in Conditions 5.7.5(a)(i) through (a)(iii) (see also 40 CFR 63.182(a)(1) through (a)(5)). Owners or operators requesting an extension of compliance shall also submit the report

listed in Condition 5.7.5(a)(iv) (see also 40 CFR 63.182(a)(6)).

i. An Initial Notification described in 40 CFR 63.182(b) [40 CFR 63.182(a)(1)]; and

ii. A Notification of Compliance Status described in 40 CFR 63.182(c) [40 CFR 63.182(a)(2)]; and

iii. Periodic Reports described in Condition 5.7.5(b) (see also 40 CFR 63.182(d)) [40 CFR 63.182 (a)(3)];

iv. Pursuant to 40 CFR 63.182(a)(6), pursuant to section 112(i)(3)(B) of the CAA, an owner or operator may request an extension allowing an existing source up to 1 additional year beyond the compliance date specified in 40 CFR 63 Subpart F.

A. For purposes of 40 CFR 63 Subpart H, a request for an extension shall be submitted to the operating permit authority as part of the operating permit application. If the State in which the source is located does not have an approved operating permit program, a request for an extension shall be submitted to the USEPA as a separate submittal. The dates specified in 40 CFR 63.6(i) for submittal of requests for extensions shall not apply to sources subject to 40 CFR 63 Subpart H [40 CFR 63.182(a)(6)(i)].

B. A request for an extension of compliance must include the data described in 40 CFR 63.6(i)(6)(i)(A), (B), and (D) [40 CFR 63.182(a)(6)(ii)].

C. The requirements in 40 CFR 63.6(i)(8) through (i)(14) will govern the review and approval of requests for extensions of compliance with 40 CFR 63 Subpart H [40 CFR 63.182(a)(6)(iii)].

b. Pursuant to 40 CFR 63.182(d), the owner or operator of a source subject to 40 CFR 63 Subpart H shall submit Periodic Reports.

i. A report containing the information in Conditions 5.7.5(b)(ii), (b)(iii), and (b)(iv) (see also 40 CFR 63.182(d)(2), (d)(3), and (d)(4)) shall be submitted semiannually starting 6 months after the Notification of Compliance Status, as required in 40 CFR 63.182(c). The first periodic report shall cover the first 6 months after the compliance date specified in 40 CFR 63.100(k)(3). Each subsequent periodic report shall cover the 6 month period following the preceding period [40 CFR 63.182(d)(1)].

ii. Pursuant to 40 CFR 63.182(d)(2), for each process unit complying with the provisions of 40 CFR 63.163 through 63.174, the summary information listed in Conditions 5.7.5(b)(ii)(A) through (O) (see also 40 CFR 63.182(d)(2)(i) through (xvi)) for each monitoring period during the 6-month period.

A. The number of valves for which leaks were detected as described in Condition 5.4.8(b) (see also 40 CFR 63.168(b)), the percent leakers, and the total number of valves monitored [40 CFR 63.182(d)(2)(i)];

B. The number of valves for which leaks were not repaired as required in Condition 5.4.8(e) (see also 40 CFR 63.168(f)), identifying the number of those that are determined nonrepairable [40 CFR 63.182 (d)(2)(ii)];

C. The number of pumps for which leaks were detected as described in Condition 5.4.3(b) (see also 40 CFR 63.163(b)), the percent leakers, and the total number of pumps monitored [40 CFR 63.182 (d)(2)(iii)];

D. The number of pumps for which leaks were not repaired as required in Condition 5.4.3(c) (see also 40 CFR 63.163(c)) [40 CFR 63.182(d)(2)(iii)];

E. The number of compressors for which leaks were detected as described in Condition 5.4.4(f) (see also 40 CFR 63.164(f)) [40 CFR 63.182(d)(2)(v)];

F. The number of compressors for which leaks were not repaired as required in Condition 5.4.4(g) (see also 40 CFR 63.164(g)) [40 CFR 63.182(d)(2)(vi)];

G. The number of agitators for which leaks were detected as described in Condition 5.4.13(a) and (b) (see also 40 CFR 63.173(a) and (b)) [40 CFR 63.182 (d)(2)(vii)];

H. The number of agitators for which leaks were not repaired as required in Condition 5.4.13(c) (see also 40 CFR 63.173(c)) [40 CFR 63.182(d)(2)(viii)];

I. The number of connectors for which leaks were detected as described in Condition 5.4.14(a) (see also 40 CFR 63.174(a)), the percent of connectors leaking, and the total number of connectors monitored [40 CFR 63.182(d)(2)(ix)];

J. The number of connectors for which leaks were not repaired as required in Condition 5.4.14(d) (see also 40 CFR 63.174(d)), identifying the number of those that are determined nonrepairable [40 CFR 63.182 (d)(2)(xi)];

K. The facts that explain any delay of repairs and, where appropriate, why a process unit shutdown was technically infeasible [40 CFR 63.182(d)(2)(xiii)].

L. The results of all monitoring to show compliance with Conditions 5.4.4(i), 5.4.5(a), and 5.4.12(f) (see also 40 CFR 63.164(i), 63.165(a), and 63.172(f)) conducted within the semiannual reporting period [40 CFR 63.182(d)(2)(xiv)].

M. If applicable, the initiation of a monthly monitoring program under Condition 5.4.8 (d)(i)(A) (see also 40 CFR 63.168 (d)(1)(i)), or a quality improvement program under either 40 CFR 63.175 or 63.176 [40 CFR 63.182(d)(2)(xv)].

N. If applicable, notification of a change in connector monitoring alternatives as described in Condition 5.4.14(c)(i) (see also 40 CFR 63.174(c)(1)) [40 CFR 63.182 (d)(2)(xvi)].

O. If applicable, the compliance option that has been selected under Condition 5.4.12(n) (see also 40 CFR 63.172(n)) [40 CFR 63.182(d)(2)(xvii)].

5.7.6 Report for Leaks

Pursuant to 35 IAC 218.426, the owner or operator of a synthetic organic chemical or polymer manufacturing plant subject to Conditions 5.2.8, 5.4.17 through 5.4.20, 5.6.6, and 5.7.6 (see also 35 IAC 218.421 through 218.430) shall:

a. Submit quarterly reports to the Agency on or before March 31, June 30, September 30, and December 31 of each year, listing all leaking components identified pursuant to 35 IAC 218.423 but not repaired within 15 days, all leaking components awaiting process unit shutdown, the total number of components inspected, the type of components inspected, and the total number of components found leaking, the total number of valves in light liquid service and in gas service inspected and the number and percentage of valves in light liquid service and in gas service found leaking [35 IAC 218.426(a)].

b. Submit a signed statement with the report attesting that all monitoring and repairs were performed as required under Conditions 5.2.8, 5.4.17 through 5.4.19, 5.6.6, and 5.7.6 (see also 35 IAC 218.421 through 218.427) [35 IAC 218.426(b)].

## 5.8 General Operational Flexibility/Anticipated Operating Scenarios

N/A

## 5.9 General Compliance Procedures

### 5.9.1 General Compliance Procedures for the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry

Pursuant to 40 CFR 63.103(b), initial performance tests and initial compliance determinations shall be required only as specified in 40 CFR 63 Subparts G and H.

a. Performance tests and compliance determinations shall be conducted according to the schedule and procedures in 40 CFR 63.7(a) t and the applicable sections of 40 CFR 63 Subparts G and H [40 CFR 63.103(b)(1)].

b. The owner or operator shall notify the Illinois EPA or USEPA of the intention to conduct a performance test at least 30 calendar days before the performance test is scheduled to allow the Illinois EPA or USEPA the opportunity to have an observer present during the test [40 CFR 63.103(b)(2)].

c. Performance tests shall be conducted according to the provisions of 40 CFR 63.7(e), except that performance tests shall be conducted at maximum representative operating conditions for the process. During the performance test, an owner or operator may operate the control or recovery device at maximum or minimum representative operating conditions for monitored control or recovery device parameters, whichever results in lower emission reduction [40 CFR 63.103 (b)(3)].

d. Data shall be reduced in accordance with the EPA-approved methods specified in 40 CFR 63 Subpart G or H, or, if other test methods are used, the data and

methods shall be validated according to the protocol in Method 301 of appendix A of 40 CFR Part 63 [40 CFR 63.103(b)(4)].

e. Pursuant to 40 CFR 63.103(b)(5), performance tests may be waived with approval of the Illinois EPA or USEPA as specified in 40 CFR 63.7(h)(2). Owners or operators of sources subject to 40 CFR 63 Subparts F, G, and H who apply for a waiver of a performance test shall submit the application by the dates specified in Condition 5.9.1(e)(i) (see also 40 CFR 63.103 (b)(5)(i)) rather than the dates specified in 40 CFR 63.7(h)(3).

i. If a request is made for an extension of compliance under 40 CFR 63.151(a)(6) or 40 CFR 63.6(i), the application for a waiver of an initial performance test shall accompany the information required for the request for an extension of compliance. If no extension of compliance is requested, the application for a waiver of an initial performance test shall be submitted no later than 90 calendar days before the Notification of Compliance Status required in Condition 5.7.4(b) (see also 40 CFR 63.152(b)) is due to be submitted [40 CFR 63.103 (b)(5)(i)].

ii. Any application for a waiver of a performance test shall include information justifying the owner or operator's request for a waiver, such as the technical or economic infeasibility, or the impracticality, of the source performing the required test [40 CFR 63.103(b)(5)(ii)].

f. The owner or operator of a flexible operation unit shall conduct all required compliance demonstrations during production of the primary product. The owner or operator is not required to conduct compliance demonstrations for operating conditions during production of a product other than the primary product. Except as otherwise provided in 40 CFR 63 Subpart F or in 40 CFR Subpart G or Subpart H, as applicable, the owner or operator shall operate each control device, recovery device, and/or recapture device that is required or used for compliance, and

associated monitoring systems, without regard for whether the product that is being produced is the primary product or a different product. Except as otherwise provided in 40 CFR 63 Subpart F, Subpart G and/or Subpart H, as applicable, operation of a control device, recapture device and/or recovery device required or used for compliance such that the daily average of monitored parameter values is outside the parameter range established pursuant to Condition 5.7.4(b)(ii) (see also 40 CFR 63.152(b)(2)), or such that the monitoring data show operation inconsistent with the monitoring plan established pursuant to 40 CFR 63.120(d)(2) or 40 CFR 63.181(g)(1)(iv), shall constitute a violation of the required operating conditions [40 CFR 63.103(b)(6)].

5.9.2 Procedures for Calculating Percent Leaking Pumps in Light Liquid Service

a. The owner or operator shall decide no later than the first monitoring period whether to calculate percent leaking pumps on a process unit basis or on a source-wide basis. Once the owner or operator has decided, all subsequent percent calculations shall be made on the same basis [40 CFR 63.163(d)(1)].

b. If, in Phase III, calculated on a 6-month rolling average, the greater of either 10 percent of the pumps in a process unit or three pumps in a process unit leak, the owner or operator shall implement a quality improvement program for pumps that complies with the requirements of Condition 5.4.16 (see also 40 CFR 63.176) [40 CFR 63.163(d)(2)].

c. The number of pumps at a process unit shall be the sum of all the pumps in organic HAP service, except that pumps found leaking in a continuous process unit within 1 month after start-up of the pump shall not count in the percent leaking pumps calculation for that one monitoring period only [40 CFR 63.163(d)(3)].

d. Pursuant to 40 CFR 63.163(d)(4), percent leaking pumps shall be determined by the following equation:

$$\%P_L = ((P_L - P_S)/(P_T - P_S)) \times 100$$

where:

$\%P_L$ = Percent leaking pumps

$P_L$ = Number of pumps found leaking as determined through monthly monitoring as required in Conditions 5.4.3(b)(i) and (b)(ii) (see also 40 CFR 63.163(b)(1) and (b)(2)).

$P_T$ = Total pumps in organic HAP service, including those meeting the criteria in Conditions 5.4.3(d) and (e) (see also 40 CFR 63.163(e) and (f)).

$P_S$ = Number of pumps leaking within 1 month of start-up during the current monitoring period.

5.9.3 Procedures for Calculating Percent Leaking Valves in Light Liquid Service

a. Pursuant to 40 CFR 63.168(e)(1), percent leaking valves at a process unit shall be determined by the following equation:

$$\%V_L = (V_L/(V_T + V_C)) \times 100$$

where:

$\%V_L$ = Percent leaking valves as determined through periodic monitoring required in Conditions 5.4.8(b) through (d) (see also 40 CFR 63.168(b) through (d)).

$V_L$ = Number of valves found leaking excluding nonrepairables as provided in Condition 5.9.3 (c)(i) (see also 40 CFR 63.168(e)(3)(i)).

$V_T$ = Total valves monitored, in a monitoring period excluding valves monitored as required by Condition 5.4.8(e)(iii) (see also 40 CFR 63.168 (f)(3)).

$V_C$ = Optional credit for removed valves = 0.67 × net number (i.e., total removed-total added) of valves in organic HAP service removed from

process unit after the date set forth in 40 CFR 63.100(k) for existing process units, and after the date of initial start-up for new sources. If credits are not taken, then $V_C$ = 0.

b. For use in determining monitoring frequency, as specified in Condition 5.4.8(d) (see also 40 CFR 63.168(d)), the percent leaking valves shall be calculated as a rolling average of two consecutive monitoring periods for monthly, quarterly, or semiannual monitoring programs; and as an average of any three out of four consecutive monitoring periods for annual monitoring programs [40 CFR 63.168(e)(2)].

c. i. Nonrepairable valves shall be included in the calculation of percent leaking valves the first time the valve is identified as leaking and nonrepairable and as required to comply with Condition 5.9.3(c)(ii) (see also 40 CFR 63.168 (e)(3)(ii)). Otherwise, a number of nonrepairable valves (identified and included in the percent leaking calculation in a previous period) up to a maximum of 1 percent of the total number of valves in organic HAP service at a process unit may be excluded from calculation of percent leaking valves for subsequent monitoring periods [40 CFR 63.168(e)(3)(i)].

ii. If the number of nonrepairable valves exceeds 1 percent of the total number of valves in organic HAP service at a process unit, the number of nonrepairable valves exceeding 1 percent of the total number of valves in organic HAP service shall be included in the calculation of percent leaking valves [40 CFR 63.168(e)(3)(ii)].

5.9.4 Procedures for Calculating Percent Leaking Connectors

a. Pursuant to 40 CFR 63.174(i), for use in determining the monitoring frequency, as specified in Condition 5.4.14(b) (see also 40 CFR 63.174(b)), the percent leaking connectors shall be calculated as specified

in Conditions 5.9.4(i)(i) and (i)(ii) (see also 40 CFR 63.174(i)(1) and (i)(2)).

i. Pursuant to 40 CFR 63.174(i)(1), for the first monitoring period, use the following equation:

$$\%C_L = C_L/(C_t + C_C) \times 100$$

where:

$\%C_L$ = Percent leaking connectors as determined through periodic monitoring required in Conditions 5.4.14(a) and (b) (see also 40 CFR 63.174(a) and (b)).

$C_L$ = Number of connectors measured at 500 parts per million or greater, by the method specified in Condition 5.9.6(b) (see also 40 CFR 63.180(b)).

$C_t$ = Total number of monitored connectors in the process unit.

$C_C$ = Optional credit for removed connectors = 0.67 × net (i.e., total removed - total added) number of connectors in organic hazardous air pollutants service removed from the process unit after the compliance date set forth in 40 CFR 63 Subpart F for existing process units, and after the date of initial start-up for new process units. If credits are not taken, then $C_C = 0$.

ii. Pursuant to 40 CFR 63.174(i)(2), for subsequent monitoring periods, use the following equation:

$$\%C_L = [(C_L - C_{AN})/(C_t + C_C)] \times 100$$

where:

$\%C_L$ = Percent leaking connectors as determined through periodic monitoring required in Conditions 5.4.14(a) and (b) (see also 40 CFR 63.174(a) and (b)).

$C_L$ = Number of connectors, including nonrepairables, measured at 500 parts per million or greater, by the method specified in Condition 5.9.6(b) (see also 40 CFR 63.180(b)).

$C_{AN}$ = Number of allowable nonrepairable connectors, as determined by monitoring required in Conditions 5.4.14(b)(iii) and (c) (see also 40 CFR 63.174(b)(3) and (c)), not to exceed 2 percent of the total connector population, $C_t$.

$C_t$ = Total number of monitored connectors, including nonrepairables, in the process unit.

$C_C$ = Optional credit for removed connectors = 0.67 × net number (i.e., total removed - total added) of connectors in organic hazardous air pollutants service removed from the process unit after the compliance date set forth in 40 CFR 63 Subpart F for existing process units, and after the date of initial start-up for new process units. If credits are not taken, then $C_C$ = 0.

b. Pursuant to 40 CFR 63.174(j), optional credit for removed connectors. If an owner or operator eliminates a connector subject to monitoring under Condition 5.4.14(b) (see also 40 CFR 63.174(b)), the owner or operator may receive credit for elimination of the connector, as described in Condition 5.9.4(a) (see also 40 CFR 63.174(i)), provided the requirements in Conditions 5.9.4(b)(i) through (b)(iv) (see also 40 CFR 63.174(j)(1) through (j)(4)) are met.

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

ii. The integrity of the weld is demonstrated by monitoring it according to the procedures in Condition 5.9.6(b) (see also 40 CFR 63.180(b)) or by testing using X-ray, acoustic

monitoring, hydrotesting, or other applicable method [40 CFR 63.174(j)(2)].

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

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

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

5.9.5 Procedures to Demonstrate Progress in Reducing the Percent Leaking Valves

Pursuant to 40 CFR 63.175(d)(4), if an owner or operator elects to use a quality improvement program to demonstrate further progress the owner or operator must demonstrate progress in reducing the percent leaking valves each quarter the process unit is subject to the requirements of Condition 5.4.15(d) (see also 40 CFR 63.175(d)), except as provided in Conditions 5.9.5(b) and (c) (see also 40 CFR 63.175 (d)(4)(ii) and (d)(4)(iii)).

a. Pursuant to 40 CFR 63.175(d)(4)(i), demonstration of progress shall mean that for each quarter there is at least a 10-percent reduction in the percent leaking valves from the percent leaking valves determined for the preceding monitoring period. The percent leaking valves shall be calculated as a rolling average of two consecutive quarters of monitoring data. The percent reduction shall be calculated using the rolling average percent leaking valves, according to the following:

$$\%LV_R = (\%LV_{AVG1} - \%LV_{AVG2}) / \%LV_{AVG1} \times 100$$

where:

$\%LV_R$ Percent leaking valve reduction.

$\%LV_{AVG1} = (\%V_{Li} + \%V_{Li+1})/2.$

$\%LV_{AVG2} = (\%VL_{i+1} + \%V_{Li+2})/2.$

where:

$\%V_{Li}$, $\%V_{Li+1}$, $\%V_{Li+2}$ are percent leaking valves calculated for subsequent monitoring periods, i, i+1, i+2.

b. An owner or operator who fails for two consecutive rolling averages to demonstrate at least a 10-percent reduction per quarter in percent leaking valves, and whose overall average percent reduction based on two or more rolling averages is less than 10 percent per quarter, shall either comply with the requirements in Condition 5.4.8(d)(i)(A) (see also 40 CFR 63.168 (d)(1)(i)) using monthly monitoring or shall comply using a quality improvement program for technology review as specified in Condition 5.4.15(e) (see also 40 CFR 63.175(e)). If the owner or operator elects to comply with the requirements of Condition 5.4.15(e) (see also 40 CFR 63.175(e)), the schedule for performance trials and valve replacements remains as specified in Condition 5.4.15(e) (see also 40 CFR 63.175(e)) [40 CFR 63.175(d)(4)(ii)].

c. Pursuant to 40 CFR 63.175(d)(4)(iii), as an alternative to the provisions in Condition 5.9.5(a) (see also 40 CFR 63.175(d)(4)(i)), an owner or operator may use the procedure specified in Conditions 5.9.5(c)(i) and (c)(ii) (see also 40 CFR 63.175 (d)(4)(iii)(A) and (d)(4)(iii)(B)) to demonstrate progress in reducing the percent leaking valves.

i. Pursuant to 40 CFR 63.175(d)(4)(iii)(A), the percent reduction that must be achieved each quarter shall be calculated as follows:

$$\%RR = \frac{\%V_L - 2\%}{0.10}$$

Where:

%RR = percent reduction required each quarter, as calculated according to Condition 5.9.3 (see also 40 CFR 63.168(e)).

$\%V_L$ = percent leaking valves, calculated according to Condition 5.9.3 (see also 40 CFR 63.168(e)), at the time elected to use provisions of Condition 5.4.8(d)(i)(B) (see also 40 CFR 63.168(d)(1)(ii))

ii. The owner or operator shall achieve less than 2 percent leaking valves no later than 2 years after electing to use the demonstration of progress provisions in Conditions 5.4.15(d) and 5.9.5 (see also 40 CFR 63.175(d)) [40 CFR 63.175(d)(4)(iii)(B)].

5.9.6 Test Methods and Procedures for the NESHAP for Organic Hazardous Air Pollutants for Equipment Leaks

a. Each owner or operator subject to the provisions of 40 CFR 63 Subpart H shall comply with the test methods and procedures requirements provided in this Condition (see also 40 CFR 63.180) [40 CFR 63.180(a)].

b. Pursuant to 40 CFR 63.180(b), monitoring, as required under 40 CFR 63 Subpart H, shall comply with the following requirements:

i. Monitoring shall comply with Method 21 of 40 CFR part 60, appendix A [40 CFR 63.180(b)(1)].

ii. A. Except as provided for in Condition 5.9.6 (b)(ii)(B) (see also 40 CFR 63.180 (b)(2)(ii)), the detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in Section 3.1.2(a) of Method 21 shall be for the average composition of

the process fluid not each individual VOC in the stream. For process streams that contain nitrogen, water, air, or other inerts which are not organic HAP's or VOC's, the average stream response factor may be calculated on an inert-free basis. The response factor may be determined at any concentration for which monitoring for leaks will be conducted [40 CFR 63.180 (b)(2)(i)].

B. If no instrument is available at the plant site that will meet the performance criteria specified in Condition 5.9.6 (b)(ii)(A) (see also 40 CFR 63.180 (b)(2)(i)), the instrument readings may be adjusted by multiplying by the average response factor of the process fluid, calculated on an inert-free basis as described in Condition 5.9.6(b)(ii)(A) (see also 40 CFR 63.180(b)(2)(i)) [40 CFR 63.180(b)(2)(ii)].

iii. The instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A [40 CFR 63.180(b)(3)].

iv. Pursuant to 40 CFR 63.180(b)(4), calibration gases shall be:

A. Zero air (less than 10 parts per million of hydrocarbon in air) [40 CFR 63.180 (b)(4)(i)]; and

B. Pursuant to 40 CFR 63.180(b)(4)(ii), mixtures of methane in air at the concentrations specified in Conditions 5.9.6(b)(iv)(B)(I) through (b)(iv)(B)(III) (see also 40 CFR 63.180(b)(4)(ii)(A) through (b)(4)(ii)(C)). A calibration gas other than methane in air may be used if the instrument does not respond to methane or if the instrument does not meet the performance criteria specified in Condition 5.9.6(b)(ii)(A) (see also 40 CFR

63.180(b)(2)(i)). In such cases, the calibration gas may be a mixture of one or more of the compounds to be measured in air.

I. For Phase I, a mixture of methane or other compounds, as applicable, in air at a concentration of approximately, but less than, 10,000 parts per million [40 CFR 63.180 (b)(4)(ii)(A)].

II. For Phase II, a mixture of methane or other compounds, as applicable, and air at a concentration of approximately, but less than, 10,000 parts per million for agitators, 5,000 parts per million for pumps, and 500 parts per million for all other equipment, except as provided in Condition 5.9.6(b)(iv)(C) (see also 40 CFR 63.180(b)(4)(iii)) [40 CFR 63.180(b)(4)(ii)(B)].

III. For Phase III, a mixture of methane or other compounds, as applicable, and air at a concentration of approximately, but less than, 10,000 parts per million methane for agitators; 2,000 parts per million for pumps in food/medical service; 5,000 parts per million for pumps in polymerizing monomer service; 1,000 parts per million for all other pumps; and 500 parts per million for all other equipment, except as provided in Condition 5.9.6 (b)(iv)(C) (see also 40 CFR 63.180 (b)(4)(iii)) [40 CFR 63.180 (b)(4)(ii)(C)].

C. The instrument may be calibrated at a higher methane concentration than the concentration specified for that piece of equipment. The concentration of the calibration gas may exceed the

concentration specified as a leak by no more than 2,000 parts per million. If the monitoring instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 parts per million above the concentration specified as a leak and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 parts per million. If only one scale on an instrument will be used during monitoring, the owner or operator need not calibrate the scales that will not be used during that day's monitoring [40 CFR 63.180(b)(4)(iii)].

v. Monitoring shall be performed when the equipment is in organic HAP service, in use with an acceptable surrogate volatile organic compound which is not an organic HAP, or is in use with any other detectable gas or vapor [40 CFR 63.180 (b)(5)].

vi. Pursuant to 40 CFR 63.180(b)(6), monitoring data that do not meet the criteria specified in Condition 5.9.6(b)(i) through (b)(v) (see also 40 CFR 63.180(b)(1) through (b)(5)) may be used to qualify for less frequent monitoring under the provisions in Condition 5.4.8(d)(ii) and (d)(iii) (see also 40 CFR 63.168(d)(2) and (d)(3)) or Condition 5.4.14(b)(iii)(B) or (b)(iii)(C) (see also 40 CFR 63.174(b)(3)(ii) or (b)(3)(iii)) provided the data meet the conditions specified in Conditions 5.9.6 (b)(vi)(A) and (b)(vi)(B) (see also 40 CFR 63.180(b)(6)(i) and (b)(6)(ii)).

A. The data were obtained before April 22, 1994 [40 CFR 63.180(b)(6)(i)].

B. The departures from the criteria specified in Conditions 5.9.6(b)(i) through (b)(v) (see also 40 CFR 63.180(b)(1) through (b)(5)) or from the specified monitoring

frequency of Condition 5.4.8(c) (see also 40 CFR 63.168(c)) are minor and do not significantly affect the quality of the data. Examples of minor departures are monitoring at a slightly different frequency (such as every six weeks instead of monthly or quarterly), following the performance criteria of section 3.1.2(a) of Method 21 of appendix A of 40 CFR part 60 instead of Condition 5.9.6(b)(ii) (see also 40 CFR 63.180(b)(2)), or monitoring at a different leak definition if the data would indicate the presence or absence of a leak at the concentration specified in 40 CFR 63 Subpart G. Failure to use a calibrated instrument is not considered a minor departure [40 CFR 63.180(b)(6)(ii)].

c. Pursuant to 40 CFR 63.180(c), when equipment is monitored for compliance as required in Conditions 5.4.4(i), 5.4.5, and 5.4.12(f) (see also 40 CFR 63.164(i), 63.165(a), and 63.172(f)) or when equipment subject to a leak definition of 500 ppm is monitored for leaks as required by 40 CFR 63 Subpart H, the owner or operator may elect to adjust or not to adjust the instrument readings for background. If an owner or operator elects to not adjust instrument readings for background, the owner or operator shall monitor the equipment according to the procedures specified in Conditions 5.9.6(b)(i) through (b)(iv) (see also 40 CFR 63.180(b)(1) through (b)(4)). In such case, all instrument readings shall be compared directly to the applicable leak definition to determine whether there is a leak. If an owner or operator elects to adjust instrument readings for background, the owner or operator shall monitor the equipment according to the procedures specified in Conditions 5.9.6(c)(i) through (c)(iv) (see also 40 CFR 63.180(c)(1) through (c)(4)).

i. The requirements of Conditions 5.9.6(b)(i) through (b)(iv) (see also 40 CFR 63.180(b)(1) through (4)) shall apply [40 CFR 63.180(c)(1)].

ii. The background level shall be determined, using the same procedures that will be used to determine whether the equipment is leaking [40 CFR 63.180(c)(2)].

iii. The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Method 21 of 40 CFR part 60, appendix A [40 CFR 63.180 (c)(3)].

iv. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 parts per million for determining compliance [40 CFR 63.180(c)(4)].

d. i. Each piece of equipment within a process unit that can reasonably be expected to contain equipment in organic HAP service is presumed to be in organic HAP service unless an owner or operator demonstrates that the piece of equipment is not in organic HAP service. For a piece of equipment to be considered not in organic HAP service, it must be determined that the percent organic HAP content can be reasonably expected not to exceed 5 percent by weight on an annual average basis. For purposes of determining the percent organic HAP content of the process fluid that is contained in or contacts equipment, Method 18 of 40 CFR part 60, appendix A shall be used [40 CFR 63.180(d)(1)].

ii. A. An owner or operator may use good engineering judgment rather than the procedures in Condition 5.9.6(d)(i) (see also 40 CFR 63.180(d)(1)) to determine that the percent organic HAP content does not exceed 5 percent by weight. When an owner or operator and the Illinois EPA or USEPA do not agree on whether a piece of equipment is not in organic HAP service, however, the procedures in Condition 5.9.6 (d)(i) (see also 40 CFR 63.180(d)(1))

shall be used to resolve the disagreement [40 CFR 63.180(d)(2)(i)].

B. Conversely, the owner or operator may determine that the organic HAP content of the process fluid does not exceed 5 percent by weight by, for example, accounting for 98 percent of the content and showing that organic HAP is less than 3 percent [40 CFR 63.180(d)(2)(ii)].

iii. If an owner or operator determines that a piece of equipment is in organic HAP service, the determination can be revised after following the procedures in Condition 5.9.6(d)(i) (see also 40 CFR 63.180(d)(1)), or by documenting that a change in the process or raw materials no longer causes the equipment to be in organic HAP service [40 CFR 63.180(d)(3)].

iv. Samples used in determining the percent organic HAP content shall be representative of the process fluid that is contained in or contacts the equipment [40 CFR 63.180(d)(4)].

e. When a flare is used to comply with Condition 5.4.12(d) (see also 40 CFR 63.172(d)), the compliance determination shall be conducted using Method 22 of 40 CFR part 60, appendix A to determine visible emissions [40 CFR 63.180(e)].

5.9.7 Leak Detection Methods for Volatile Organic Material

Pursuant to 35 IAC 218.105(g), owners or operators required by 35 IAC Part 218 to carry out a leak detection monitoring program shall comply with the following requirements:

a. Leak Detection Monitoring

i. Monitoring shall comply with 40 CFR 60, Appendix A, Method 21 [35 IAC 218.105(g)(1)(A)].

ii. The detection instrument shall meet the performance criteria of Method 21 [35 IAC 218.105(g)(1)(B)].

iii. The instrument shall be calibrated before use on each day of its use by the methods specified in Method 21 [35 IAC 218.105(g)(1)(C)].

iv. Pursuant to 35 IAC 218.105(g)(1)(D), calibration gases shall be:

A. Zero air (less than 10 ppm of hydrocarbon in air) [35 IAC 218.105(g)(1)(D)(i)]; and

B. A mixture of methane or n-hexane and air at a concentration of approximately, but no less than, 10,000 ppm methane or n-hexane [35 IAC 218.105(g)(1)(D)(ii)].

v. The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Method 21 [35 IAC 218.105(g)(1)(E)].

b. Pursuant to 35 IAC 218.105(g)(2), when equipment is tested for compliance with no detectable emissions as required, the test shall comply with the following requirements:

i. The requirements of Condition 5.9.7(a)(i) through (a)(v) (see also 35 IAC (g)(1)(A) through (g)(1)(E)) shall apply [35 IAC 218.105(g)(2)(A)].

ii. The background level shall be determined as set forth in Method 21 [35 IAC 218.105(g)(2)(B)].

c. Pursuant to 35 IAC 218.105(g)(3), leak detection tests shall be performed consistent with:

i. "APTI Course SI 417 controlling Volatile Organic Compound Emissions from Leaking Process Equipment", EPA-450/2-82-015 [35 IAC 218.105(g)(3)(A)].

ii. "Portable Instrument User's Manual for Monitoring VOC Sources", EPA-340/1-86-015 [35 IAC 218.105(g)(3)(B)].

iii. "Protocols for Generating Unit-Specific Emission Estimates for Equipment Leaks of VOC and VHAP", EPA-450/3-88-010 [35 IAC 218.105(g)(3)(C)].

iv. "Petroleum Refinery Enforcement Manual", EPA-340/1-80-008 [35 IAC 218.105(g)(3)(D)].

5.9.8 General Procedures for Calculating Fugitive Emissions from Roadways

a. For the purpose of estimating fugitive PM emissions from the paved roadways at the source, the emission factors and formulas in Sections 13.2.1 of AP-42, Volume I, Fifth Edition, Supplement D, October, 1997 are acceptable.

b. For the purpose of estimating fugitive PM emissions from the unpaved roadways at the source, the emission factors and formulas in Sections 13.2.2 of AP-42, Volume I, Fifth Edition, Supplement E, September, 1998 are acceptable.

# 6.0 EMISSIONS REDUCTION MARKET SYSTEM (ERMS)

## 6.1 Description of ERMS

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

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

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

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

6.2 Applicability

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

6.3 Obligation to Hold Allotment Trading Units (ATUs)

a. Pursuant to 35 IAC 205.150(c)(1) and 35 IAC 205.720, and as further addressed by Condition 6.8, as of December 31 of each year, this source shall hold ATUs in its account in an amount not less than the ATU equivalent of its VOM emissions during the preceding seasonal allotment period (May 1 - September 30), not including VOM emissions from the following, or the source shall be subject to “emissions excursion compensation,” as described in Condition 6.5.

i. VOM emissions from insignificant emission units and activities as identified in Section 3 of this permit, in accordance with 35 IAC 205.220;

ii. Excess VOM emissions associated with startup, malfunction, or breakdown of an emission unit as authorized in Section 7.0 of this permit, in accordance with 35 IAC 205.225;

iii. Excess VOM emissions to the extent allowed by a Variance, Consent Order, or Compliance Schedule, in accordance with 35 IAC 205.320(e)(3);

iv. Excess VOM emissions that are a consequence of an emergency as approved by the Illinois EPA, pursuant to 35 IAC 205.750; and

v. VOM emissions from certain new and modified emission units as addressed by Condition 6.8(b), if applicable, in accordance with 35 IAC 205.320(f).

b. Notwithstanding the above condition, in accordance with 35 IAC 205.150(c)(2), if a source commences operation of a major modification, pursuant to 35 IAC Part 203, the source shall hold ATUs in an amount not less than 1.3 times its seasonal VOM emissions attributable to such major modification during the seasonal allotment period, determined in accordance with the construction permit for

such major modification or applicable provisions in Section 7.0 of this permit.

6.4 Market Transactions

a. The source shall apply to the Illinois EPA for and obtain authorization for a Transaction Account prior to conducting any market transactions, as specified at 35 IAC 205.610(a).

b. The Permittee shall promptly submit to the Illinois EPA any revisions to the information submitted for its Transaction Account, pursuant to 35 IAC 205.610(b).

c. The source shall have at least one account officer designated for its Transaction Account, pursuant to 35 IAC 205.620(a).

d. Any transfer of ATUs to or from the source from another source or general participant must be authorized by a qualified Account Officer designated by the source and approved by the Illinois EPA, in accordance with 35 IAC 205.620, and the transfer must be submitted to the Illinois EPA for entry into the Transaction Account database.

6.5 Emissions Excursion Compensation

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

a. Upon receipt of an Excursion Compensation Notice issued by the Illinois EPA, the source shall purchase ATUs from the ACMA in the amount specified by the notice, as follows:

i. The purchase of ATUs shall be in an amount equivalent to 1.2 times the emissions excursion; or

ii. If the source had an emissions excursion for the seasonal allotment period immediately before the period for the present emissions excursion, the source shall purchase ATUs in an amount equivalent to 1.5 times the emissions excursion.

b. If requested in accordance with paragraph (c) below or in the event that the ACMA balance is not adequate to cover the total emissions excursion amount, the Illinois EPA will deduct ATUs equivalent to the specified amount or any remaining portion thereof from the ATUs to be issued to the source for the next seasonal allotment period.

c. Pursuant to 35 IAC 205.720(c), within 15 days after receipt of an Excursion Compensation Notice, the owner or operator may request that ATUs equivalent to the amount specified be deducted from the source's next seasonal allotment by the Illinois EPA, rather than purchased from the ACMA.

6.6 Quantification of Seasonal VOM Emissions

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

No exceptions

b. The Permittee shall report emergency conditions at the source to the Illinois EPA, in accordance with 35 IAC 205.750, if the Permittee intends to deduct VOM emissions in excess of the technology-based emission rates normally achieved that are attributable to the emergency from the source's seasonal VOM emissions for purposes of the ERMS. These reports shall include the information specified by 35 IAC 205.750(a), and shall be submitted in accordance with the following:

i. An initial emergency conditions report within two days after the time when such excess emissions occurred due to the emergency; and

ii. A final emergency conditions report, if needed to supplement the initial report, within 10 days after the conclusion of the emergency.

6.7 Annual Account Reporting

a. For each year in which the source is operational, the Permittee shall submit, as a component of its Annual

Emissions Report, seasonal VOM emissions information to the Illinois EPA for the seasonal allotment period. This report shall include the following information [35 IAC 205.300]:

i. Actual seasonal emissions of VOM from the source;

ii. A description of the methods and practices used to determine VOM emissions, as required by this permit, including any supporting documentation and calculations;

iii. A detailed description of any monitoring methods that differ from the methods specified in this permit, as provided in 35 IAC 205.337;

iv. If a source has experienced an emergency, as provided in 35 IAC 205.750, the report shall reference the associated emergency conditions report that has been approved by the Illinois EPA;

v. If a source's baseline emissions have been adjusted due to a Variance, Consent Order, or CAAPP permit Compliance Schedule, as provided for in 35 IAC 205.320(e)(3), the report shall provide documentation quantifying the excess VOM emissions during the season that were allowed by the Variance, Consent Order, or Compliance Schedule, in accordance with 35 IAC 205.320(e)(3); and

vi. If a source is operating a new or modified emission unit for which three years of operational data is not yet available, as specified in 35 IAC 205.320(f), the report shall specify seasonal VOM emissions attributable to the new emission unit or the modification of the emission unit.

b. This report shall be submitted by November 30 of each year, for the preceding seasonal allotment period.

6.8 Allotment of ATUs to the Source

a. i. The allotment of ATUs to this source is 1,476 ATUs per seasonal allotment period.

ii. This allotment of ATUs reflects the Illinois EPA's determination that the source's baseline emissions were 158.345tons per season.

This determination includes the use of 1990 and 1997 as baseline seasons. This determination includes use of the 1990 and 1997 seasons as a substitute for the 1994 and 1995 seasons due to non-representative conditions in this season, as allowed by 35 IAC 205.320(a)(2).

iii. The source's allotment reflects 88% of the baseline emissions (12% reduction), except for the VOM emissions from specific emission units excluded from such reduction, pursuant to 35 IAC 205.405, including units complying with MACT or using BAT, as identified in Condition 6.11 of this permit.

iv. ATUs will be issued to the source's Transaction Account by the Illinois EPA annually. These ATUs will be valid for the seasonal allotment period during issuance and, if not retired in this season, the next seasonal allotment period.

v. Condition 6.3(a) becomes effective beginning in the seasonal allotment period during the initial issuance of ATUs by the Illinois EPA into the Transaction Account for the source.

b. Contingent Allotments for New or Modified Emission Units

The source was not issued a construction permit prior to January 1, 1998 for the following new or modified emission units:

| Emission Unit | Construction Permit No. | Date Issued |
|---|---|---|
| Tank 102 | 98100031 | 11/5/98 |
| PAA Recovery Exhauster | 99070061 | 10/6/99 |

In accordance with 35 IAC Part 205, for the above referenced emission units, the source is required to hold the appropriate amount of ATUs for these emission units.

c. Notwithstanding the above, part or all of the above ATUs will not be issued to the source in circumstances as set forth in 35 IAC Part 205, including:

i. Transfer of ATUs by the source to another participant or the ACMA, in accordance with 35 IAC 205.630;

ii. Deduction of ATUs as a consequence of emissions excursion compensation, in accordance with 35 IAC 205.720; and

iii. Transfer of ATUs to the ACMA, as a consequence of shutdown of the source, in accordance with 35 IAC 205.410.

6.9 Recordkeeping for ERMS

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

a. Seasonal component of the Annual Emissions Report;

b. Information on actual VOM emissions, as specified in detail in Sections 5 and 7 of this permit and Condition 6.6(a); and

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

6.10 Federal Enforceability

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

6.11 Exclusions from Further Reductions

a. VOM emissions from the following emission units shall be excluded from the VOM emissions reductions requirements specified in 35 IAC 205.400(c) and (e) as long as such emission units continue to satisfy the following [35 IAC 205.405(a)]:

i. Emission units that comply with any NESHAP or MACT standard promulgated pursuant to the CAA;

ii. Direct combustion emission units designed and used for comfort heating purposes, fuel combustion emission units, and internal combustion engines; and

iii. An emission unit for which a LAER demonstration has been approved by the Illinois EPA on or after November 15, 1990.

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

PAA Plant Oxidation and Distillation;
PAA Plant Loading;
PAA Plant Tank Farm;
PAA Plant Process – Fugitive Emissions; and
Fuel Combustion Emission Sources.

b. VOM emissions from emission units using BAT for controlling VOM emissions shall not be subject to the VOM emissions reductions requirement specified in 35 IAC 205.400(c) or (e) as long as such emission unit continues to use such BAT [35 IAC 205.405(b)].

The source has demonstrated in its ERMS application and the Illinois EPA has determined that the following emission units qualify for exclusion from further reductions because these emission units use BAT for controlling VOM emissions as indicated above [35 IAC 205.405(b) and (c)]:

None

# 7.0 UNIT SPECIFIC CONDITIONS

## 7.1 Units TPT-1 Tar Plant Tanks Group 1
Controls FS-1 - FS-5 Fume Systems

### 7.1.1 Description

Each of these Tar Plant tanks were either constructed prior to 1978 or have a capacity of less than 40,000 gallons.

### 7.1.2 List of Emission Units and Pollution Control Equipment

| Emission Unit | Description | Emission Control Equipment |
|---|---|---|
| 1 | 522,000 Gallon Raw Material/Distillate Oil/Carbon Black Storage Tank (Tank 1) | Fume System #2 |
| 2 | 522,000 Gallon Raw Material/Distillate Oil/Carbon Black/Refined Chemical Oil Storage Tank (Tank 2) | Fume System #2 |
| 4 | 522,000 Gallon Raw Material Storage Tank (Tank 4) | None |
| 5 | 522,000 Gallon Raw Material Storage Tank (Tank 5) | None |
| 6 | 522,000 Gallon Raw Material Storage Tank (Tank 6) | None |
| 12 | 316,000 Gallon Refined Chemical Oil Storage Tank (Tank 12) | Fume System #2 |
| 13 | 316,000 Gallon Tar/Water Storage Tank (Tank 13) | Fume System #2 |
| 21 | 158,000 Gallon Distillate Oil Storage Tank (Tank 21) | Fume System #2 |
| 22 | 158,000 Gallon Distillate Oil Storage Tank (Tank 22) | Fume System #2 |
| 23 | 158,000 Gallon Distillate Oil Storage Tank (Tank 23) | Fume System #2 |
| 24 | 158,000 Gallon Distillate Oil Storage Tank (Tank 24) | Fume System #2 |
| 26 | 155,000 Gallon Light/Light Blend/Heavy Distillate Oil Storage Tank (Tank 26) | Fume System #2 |

| Emission Unit | Description | Emission Control Equipment |
|---|---|---|
| 27 | 155,000 Gallon Light/Light Blend/Heavy Distillate Oil Storage Tank (Tank 27) | Fume System #2 |
| 31 | 109,000 Gallon Heavy Distillate Oil Storage Tank (Tank 31) | Fume System #1 |
| 32 | 109,000 Gallon Heavy Distillate Oil Storage Tank (Tank 32) | Fume System #1 |
| 33 | 106,000 Gallon Pitch/Old Style Pitch/Bitumen Storage Tank (Tank 33) | Fume System #4 |
| 40 | 44,000 Gallon Distillate Oil Storage Tank (Tank 40) | Fume System #1 |
| 43 | 37,000 Gallon Raw Material/Pitch/Crude Tar Storage Tank (Tank 43) | Fume System #2 |
| 44 | 63,000 Gallon Carbon Pitch Storage Tank (Tank 44) | Fume System #5 |
| 45 | 56,000 Gallon Pitch/Bitumen/PSB Storage Tank (Tank 45) | Fume System #1 |
| 46 | 52,000 Gallon Carbon Pitch Storage Tank (Tank 46) | Fume System #5 |
| 47 | 55,000 Gallon Carbon Pitch Storage Tank (Tank 47) | Fume System #5 |
| 48 | 56,000 Gallon Carbon Pitch Storage Tank (Tank 48) | Fume System #5 |
| 62 | 25,000 Gallon Pitch Storage Tank (Tank 62) | Fume System #1 |
| 63 | 25,000 Gallon Pitch Storage Tank (Tank 63) | Fume System #1 |
| 64 | 25,000 Gallon Pitch Storage Tank (Tank 64) | Fume System #1 |
| 100 | 1,040,000 Gallon Raw Material Storage Tank (Tank 100) | None |
| 101 | 1,040,000 Gallon Raw Material Storage Tank (Tank 101) | None |
| D-5 | 36,000 Gallon Pitch/Old Style Pitch/Bitumen Storage Tank (Tank D-5) | Fume System #4 |
| P8 | 55,000 Gallon Pitch Storage Tank (Tank P8) | Fume System #1 |
| P9 | 55,000 Gallon Pitch Storage Tank (Tank P9) | Fume System #1 |

| Emission Unit | Description | Emission Control Equipment |
|---|---|---|
| T-305 | 158,000 Gallon Raw Material Storage Tank (Tank T-305) | None |
| T-306 | 200,000 Gallon Raw Material Storage Tank (Tank T-306) | None |
| TP-701 | 526,000 Gallon Raw Material Storage Tank (Tank TP-701) | None |

7.1.3 Applicability Provisions and Applicable Regulations

a. The Tar Plant tanks listed in Condition 7.1.2 are “affected tanks" for the purpose of these unit-specific conditions.

b. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

7.1.4 Non-Applicability of Regulations of Concern

a. The affected tanks are not subject to the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry, 40 CFR 63 Subparts F, G, and H because the affected tanks are not used to manufacture as a primary product one or more of the chemicals listed in 40 CFR 63.100(b)(1)(i) or (b)(1)(ii).

b. The affected tanks are not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subpart Ka, because the affected tanks were constructed prior to May 18, 1978 or have capacities of less than 40,000 gal.

c. The affected tanks are not subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subpart Kb,

because the affected tanks were constructed prior to July 23, 1984.

d. The affected tanks are not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119, because the material stored in each affected tank has a maximum true vapor pressure of less than 0.5 psia.

e. The affected tanks are not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(6), which exempts stationary storage tanks in which volatile petroleum liquid is not stored. Number 2 through Number 6 fuel oils are not included in the definition of VPL, pursuant to 35 IAC 211.4610 and 211.7170.

f. The affected tanks are not subject to the requirements of 35 IAC 218.122, Loading Operations, because pursuant to 35 IAC 218.122(c), if no odor nuisance exists the limitations of 35 IAC 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3$^{o}$K (70$^{o}$F).

7.1.5 Operational and Production Limits and Work Practices

a. The affected tanks shall only be used for the storage of materials with maximum true vapor pressures of less than 0.5 psia.

b. The Permittee shall follow good operating practices for the fume systems associated with the affected tanks, including periodic inspection, routine maintenance and prompt repair of defects.

7.1.6 Emission Limitations

There are no specific emission limitations for these units, however, there are source wide emission limitations in Condition 5.5 that include these units.

7.1.7 Testing Requirements

None

7.1.8 Monitoring Requirements

None

7.1.9 Recordkeeping Requirements

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

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

b. Records addressing use of good operating practices for the fume systems:

   i. Records for periodic inspection of the fume systems with date, individual performing the inspection, and nature of inspection; and

   ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

c. Identification of the material stored in each affected tank;

d. Maximum true vapor pressure of each material stored in the affected tanks, psia;

e. The throughput of each affected tank, gal/mo and gal/yr; and

f. The monthly and aggregate annual VOM emissions for the affected tanks based on material stored, tank throughput, and applicable emission factors and formulas with supporting calculations.

7.1.10 Reporting Requirements

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

The storage of any VOL or VPL other than the material specified in Condition 7.1.5 within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

7.1.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.1.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.1.9 and the emission factors and formulas listed below:

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

## 7.2 Units TPT-2 Tar Plant Tanks Group 2 Controls FS-2 & FS-5 Fume Systems

### 7.2.1 Description

These Tar Plant tanks were constructed between 1978 and 1984 and each has a capacity of more than 40,000 gallons.

### 7.2.2 List of Emission Units and Pollution Control Equipment

| Emission Unit | Description | Emission Control Equipment |
|---|---|---|
| 41 | 55,000 Gallon Carbon Pitch Storage Tank (Tank 41) | Fume System #5 |
| 42 | 58,000 Gallon Raw Material/Crude Tar/Pitch Storage Tank (Tank 42) | Fume System #2 |
| 49 | 50,000 Gallon Carbon Pitch/Petroleum Pitch Storage Tank (Tank 49) | Fume System #5 |
| 301 | 376,000 Gallon Distillate Oil/P1/P13/P2-88 Storage Tank (Tank 301) | None |
| 302 | 376,000 Gallon Distillate Oil/P1/P13/P2-88 Storage Tank (Tank 301) | None |
| 303-TP | 350,000 Gallon Distillate Oil/P2/P88 Storage Tank (Tar Plant Tank 303) | None |

### 7.2.3 Applicability Provisions and Applicable Regulations

a. The Tar Plant tanks listed in Condition 7.2.2 are “affected tanks" for the purpose of these unit-specific conditions.

b. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

7.2.4 Non-Applicability of Regulations of Concern

a. The affected tanks are not subject to the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry, 40 CFR 63 Subparts F, G, and H because the affected tanks are not used to manufacture as a primary product one or more of the chemicals listed in 40 CFR 63.100(b)(1)(i) or (b)(1)(ii).

b. The affected tanks are not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subpart Ka. Pursuant to 40 CFR 60.110a(b), each petroleum liquid storage vessel with a capacity of less than 1,589,873 liters (420,000 gallons) used for petroleum or condensate stored, processed, or treated prior to custody transfer is not an affected facility and, therefore, is exempt from the requirements of 40 CFR 60 Subpart Ka.

c. The affected tanks are not subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subpart Kb, because the affected tanks were constructed prior to July 23, 1984.

d. The affected tanks are not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119, because the material stored in the affected tank has a maximum true vapor pressure of less than 0.5 psia.

e. The affected tanks are not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(6), which exempts stationary storage tanks in which volatile petroleum liquid is not stored. Number 2 through Number 6 fuel oils are not included in the definition of VPL, pursuant to 35 IAC 211.4610 and 211.7170.

f. The affected tanks are not subject to the requirements of 35 IAC 218.122, Loading Operations,

because pursuant to 35 IAC 218.122(c), if no odor nuisance exists the limitations of 35 IAC 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F).

7.2.5 Operational and Production Limits and Work Practices

a. The affected tanks shall only be used for the storage of materials with maximum true vapor pressures of less than 0.5 psia.

b. The Permittee shall follow good operating practices for the fume systems associated with the affected tanks, including periodic inspection, routine maintenance and prompt repair of defects.

7.2.6 Emission Limitations

There are no specific emission limitations for these units, however, there are source wide emission limitations in Condition 5.5 that include these units.

7.2.7 Testing Requirements

None

7.2.8 Monitoring Requirements

None

7.2.9 Recordkeeping Requirements

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

a. Records addressing use of good operating practices for the fume systems:

i. Records for periodic inspection of the fume systems with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

b. Identification of the material stored in each affected tank;

c. Maximum true vapor pressure of each material stored in the affected tanks, psia;

d. The throughput of each affected tank, gal/mo and gal/yr; and

e. The monthly and aggregate annual VOM emissions for the affected tanks based on material stored, tank throughput, and applicable emission factors and formulas with supporting calculations.

7.2.10 Reporting Requirements

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

The storage of any VOL or VPL other than the material specified in Condition 7.2.5 within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

7.2.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.2.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.2.9 and the emission factors and formulas listed below:

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

## 7.3 Unit TPT-3 Tar Plant Tanks Group 3 Control FS-2 Fume System

### 7.3.1 Description

These Tar Plant tanks were constructed after 1984 and each has a capacity of more than 40,000 gallons.

### 7.3.2 List of Emission Units and Pollution Control Equipment

| Emission Unit | Description | Emission Control Equipment |
|---|---|---|
| 25 | 158,000 Gallon Distillate Oil/Refined Chemical Oil Storage Tank (Tank 25) | Fume System #2 |
| 102 | 1,000,000 Gallon Raw Material/Crude Tar Storage Tank (Tank 102) | None |

### 7.3.3 Applicability Provisions and Applicable Regulations

a. The Tar Plant tanks listed in Condition 7.2.2 is an “affected tanks" for the purpose of these unit-specific conditions.

b. The affected tanks are subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subpart Kb, because each affected tank has a capacity greater than or equal to 40 $m^3$ and is used to store VOL's for which construction, reconstruction, or modification is commenced after July 23, 1984.

c. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

7.3.4 Non-Applicability of Regulations of Concern

a. The affected tanks are not subject to the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry, 40 CFR 63 Subparts F, G, and H because the affected tanks are not used to manufacture as a primary product one or more of the chemicals listed in 40 CFR 63.100(b)(1)(i) or (b)(1)(ii).

b. The affected tanks are not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subpart Ka, because each affected tank was constructed after July 23, 1984.

c. Except as specified in Conditions 7.3.9(a) and (b) (see also 40 CFR 60.116b(a) and (b)), vessels either with a capacity greater than or equal to 151 $m^3$ storing a liquid with a maximum true vapor pressure less than 3.5 kPa or with a capacity greater than or equal to 75 $m^3$ but less than 151 $m^3$ storing a liquid with a maximum true vapor pressure less than 15.0 kPa are exempt from the General Provisions (40 CFR part 60, subpart A) and from the provisions of 40 CFR 60 Subpart Kb [40 CFR 60.110b(c)].

d. The affected tanks are not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119, because each material stored in the affected tanks has a maximum true vapor pressure of less than 0.5 psia.

e. The affected tanks are not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(6), which exempts stationary storage tanks in which volatile petroleum liquid is not stored. Number 2 through Number 6 fuel oils are not included in the definition of VPL, pursuant to 35 IAC 211.4610 and 211.7170.

f. The affected tanks are not subject to the requirements of 35 IAC 218.122, Loading Operations, because pursuant to 35 IAC 218.122(c), if no odor

nuisance exists the limitations of 35 IAC 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F).

7.3.5 Operational and Production Limits and Work Practices

a. The affected tanks shall only be used for the storage of materials with maximum true vapor pressures of less than 0.5 psia.

b. The Permittee shall follow good operating practices for the fume system associated with Tank 25, including periodic inspection, routine maintenance and prompt repair of defects.

7.3.6 Emission Limitations

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

a. This permit is issued based on negligible emissions of VOM from tar storage tank number 102. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/year.

b. The above limitations were established in Permit 98100031, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

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

7.3.7 Testing Requirements

None

7.3.8 Monitoring Requirements

None

7.3.9 Recordkeeping Requirements

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

a. The owner or operator shall keep copies of all records required by this Condition (see also 40 CFR 63.116b), except for the record required by Condition 7.3.9(b) (see also 40 CFR 63.116(b)), for at least 2 years. The record required by Condition 7.3.9(b) (see also 40 CFR 63.116(b)) will be kept for the life of the source [40 CFR 63.116b(a)]

b. The owner or operator of each storage vessel as specified in Condition 7.3.3(b) (see also 40 CFR 60.110b(a)) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Each storage vessel with a design capacity less than 75 $m^3$ (19,815.75 gallons) is subject to no provision of 40 CFR 63 Subpart Kb other than those required by this Condition [40 CFR 63.116b(b)].

c. Records addressing use of good operating practices for the fume system:

   i. Records for periodic inspection of the fume system with date, individual performing the inspection, and nature of inspection; and

   ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

d. Identification of the material stored in each affected tank;

e. Maximum true vapor pressure of each material stored in each affected tank, psia;

f. The throughput of the affected tank, gal/mo and gal/yr; and

g. The monthly and aggregate annual VOM emissions for the affected tank based on material stored, tank throughput, and applicable emission factors and formulas with supporting calculations.

7.3.10 Reporting Requirements

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

The storage of any VOL or VPL other than the material specified in Condition 7.3.5 within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

7.3.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.3.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.3.9 and the emission factors and formulas listed below:

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

7.4 Units TPDS1 & TPDS2 Tar Plant Distillation Stills
Controls F101, F201, Flare, FS-2 Tube Heaters, Flare, and Fume System

7.4.1 Description

The raw materials are crude tars from the steel industry which are fed into a series of storage tanks. The crude tars are then fed to a dehydrator to remove water in the crude tar. Once the water has been removed, the dehydrated coal tars are sent to a tar fractionator. The recovered water is steam stripped and sent to the wastewater treatment plant. The lighter ends from the tar fractionator are further fractionated to produce a distillate light, a distillate medium, and bottoms which are sent to a flash unit. The flash produces a distillate heavy and a pitch. The dehydrator, tar fractionator, distillate fractionator, and flash are physically one unit. There are two fractionator systems at the source. The distillate light, distillate medium, and distillate heavy are combined with other materials which are brought in via rail, truck, or barge to produce a wide slate of products. The pitch materials can also be adjusted to create specific products ranging from carbon pitch to bitumen, PSB, and other materials.

7.4.2 List of Emission Units and Pollution Control Equipment

| Emission Unit | Description | Emission Control Equipment |
|---|---|---|
| TPDS1 | Tar Plant Distillation Still #1 (Dehydrator, Fractionators, Flash, and Decanter) | Tube Heaters F101 and F201, Flare, and Fume System #2 |
| TPDS2 | Tar Plant Distillation Still #2 (Dehydrator, Fractionators, Flash, and Decanter) | Tube Heaters F101 and F201, Flare, and Fume System #2 |

7.4.3 Applicability Provisions and Applicable Regulations

a. Tar Plant Distillation Stills #1 and #2 are “affected stills” for the purpose of these unit-specific conditions.

b. Each affected still is subject to the emission limits identified in Condition 5.2.2.

c. The affected stills are subject to 35 IAC 212.321(a), which provides that:

   i. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

   ii. Because the expected process weight rate for the affected stills is 91,324 pounds per hour, combined, the allowable PM emission rate for the affected stills set by 35 IAC 212.321 is 19.55 pounds per hour, combined.

d. No person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission unit to exceed 2000 ppm, [35 IAC 214.301].

e. The affected stills are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

   i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.4.3(e)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

   ii. Pursuant to 35 IAC 218.302, emissions of organic material in excess of those permitted by Condition 7.4.3(e)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by one of the following methods:

      A. Flame, thermal or catalytic incineration so as either to reduce such emissions to

10 ppm equivalent methane (molecular weight 16) or less, or to convert 85 percent of the hydrocarbons to carbon dioxide and water [35 IAC 218.302(a)]; or

B. A vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)]; or

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

f. The affected stills are subject to 35 IAC 218 Subpart RR, Miscellaneous Organic Chemical Manufacturing Processes, which provides that, pursuant to 35 IAC 218.966, every owner or operator of a miscellaneous organic chemical manufacturing process emission unit subject to 35 IAC 218 Subpart RR shall comply with the requirements of Conditions 7.4.3(f)(i), (ii), or (iii) (see also 35 IAC 218.966 (a), (b), or (c)):

i. Emission capture and control techniques which achieve an overall reduction in uncontrolled VOM emissions of at least 81 percent from each emission unit [35 IAC 218.966(a)]; or

ii. An equivalent alternative control plan which has been approved by the Illinois EPA and USEPA in a federally enforceable permit or as a SIP revision [35 IAC 218.966(b)]; or

iii. Pursuant to 35 IAC 218.966(c), any leaks from components subject to the control requirements of 35 IAC 218 Subpart RR shall be subject to the following control measures by March 15, 1995:

Repair any component from which a leak of VOL can be observed. The repair shall be

completed as soon as practicable but no later than 15 days after the leak is found, unless the leaking component cannot be repaired until the process unit is shut down, in which case the leaking component must be repaired before the unit is restarted [35 IAC 218.966(c)(1)].

7.4.4 Non-Applicability of Regulations of Concern

a. The affected stills are not subject to the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry, 40 CFR 63 Subparts F, G, and H because the affected stills are not used to manufacture as a primary product one or more of the chemicals listed in 40 CFR 63.100(b)(1)(i) or (b)(1)(ii).

b. The affected stills are not subject to the NSPS for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations, 40 CFR 60 Subpart NNN because construction of the affected stills were commenced prior to December 30, 1983.

c. The affected stills are not subject to 35 IAC 212.324, Process Emission Units In Certain Areas, because the source is not located in a non-attainment area for $PM_{10}$, as identified in 35 IAC 212.324(a)(1).

d. The tube heaters associated with the affected stills are not subject to 35 IAC 216.121, emissions of carbon monoxide from fuel combustion emission units, because the actual heat input of each tube heater is less than 2.9 MW (10 mmBtu/hr) and the tube heaters are not by definition fuel combustion emission units.

e. The tube heaters associated with the affected stills are not subject to 35 IAC 217.121, emissions of nitrogen oxides from new fuel combustion emission sources, because the actual heat input of each tube heater is less than 73.2 MW (250 mmBtu/hr) and the tube heaters are not by definition fuel combustion emission units.

f. The affected stills are not to the requirements of 35 IAC 218 Subpart Q, Leaks from Synthetic Organic Chemical and Polymer Manufacturing Plant because the affected stills are used to produce heavy liquid chemicals from heavy liquid feed or raw materials.

7.4.5 Operational and Production Limits and Work Practices

a. Startup Provisions

The Permittee is authorized to operate an affected still in violation of the applicable limit of 35 IAC 218.302 during startup pursuant to 35 IAC 201.262, as the Permittee has affirmatively demonstrated that all reasonable efforts have been made to minimize startup emissions, duration of individual starts, and frequency of startups. This authorization is subject to the following:

i. This authorization only extends for a period of up to 12 hours following initial startup of the tar plant during each startup event.

ii. The Permittee shall take the following measures to minimize startup emissions, the duration of startups and minimize the frequency of startups:

Implementation of established startup procedures, including venting the process emission units through fume system #2.

iii. The Permittee shall fulfill applicable recordkeeping requirements of Condition 7.4.9(a).

b. The Permittee shall follow good operating practices for the tube heaters, flare, and fume system associated with the affected stills, including periodic inspection, routine maintenance and prompt repair of defects.

c. The tube heaters associated with the affected stills shall only be operated with natural gas as the fuel.

7.4.6 Emission Limitations

There are no specific emission limitations for these units, however, there are source wide emission limitations in Condition 5.5 that include these units.

7.4.7 Testing Requirements

a. When in the opinion of the Illinois EPA it is necessary to conduct testing to demonstrate compliance with Condition 7.4.3(f) (see also 35 IAC 218.966), the owner or operator of a VOM emission unit subject to the requirements of 35 IAC 218 Subpart RR shall, at his own expense, conduct such tests in accordance with the applicable test methods and procedures specified in 35 IAC 218.105 [35 IAC 218.968(a)].

b. Pursuant to 35 IAC 218.105(d)(1) and Section 39.5(7)(b) of the Act, the control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified below (see also 35 IAC 218.105(f)):

i. Volatile Organic Material Gas Phase Source Test Methods The methods in 40 CFR Part 60, Appendix A, delineated below shall be used to determine control device efficiencies [35 IAC 218.105(f)].

A. CFR Part 60, Appendix A, Method 18, 25 or 25A, as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. The test shall consist of three separate runs, each lasting a minimum of 60 min, unless the Illinois EPA and the USEPA determine that process variables dictate shorter sampling times [35 IAC 218.105 (f)(1)].

B. 40 CFR Part 60, Appendix A, Method 1 or 1A shall be used for sample and velocity traverses [35 IAC 218.105(f)(2)].

C. 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D shall be used for velocity and volumetric flow rates [35 IAC 218.105 (f)(3)].

D. 40 CFR Part 60, Appendix A, Method 3 shall be used for gas analysis [35 IAC 218.105 (f)(4)].

E. 40 CFR Part 60, Appendix A, Method 4 shall be used for stack gas moisture [35 IAC 218.105(f)(5)].

F. 40 CFR Part 60, Appendix A, Methods 2, 2A, 2C, 2D, 3 and 4 shall be performed, as applicable, at least twice during each test run [35 IAC 218.105(f)(6)].

G. Use of an adaptation to any of the test methods specified in Conditions 7.4.7 (b)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) may not be used unless approved by the Illinois EPA and the USEPA on a case by case basis. An owner or operator must submit sufficient documentation for the Illinois EPA and the USEPA to find that the test methods specified in Conditions 7.4.7(b)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) will yield inaccurate results and that the proposed adaptation is appropriate [35 IAC 218.105(f)(7)].

ii. Notwithstanding other requirements of 35 IAC Part 218, upon request of the Illinois EPA where it is necessary to demonstrate compliance, an owner or operator of an emission unit which is subject to 35 IAC Part 218 shall, at his own expense, conduct tests

in accordance with the applicable test methods and procedures specific in 35 IAC Part 218. Nothing in this Condition (see also 35 IAC 218.105) shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing [35 IAC 218.105(i)].

7.4.8 Monitoring Requirements

Pursuant to 35 IAC 218.105(g), leak detection methods for volatile organic material owners or operators required by 35 IAC Part 218 to carry out a leak detection monitoring program shall comply with the following requirements:

a. Leak Detection Monitoring:

i. Monitoring shall comply with 40 CFR 60, Appendix A, Method 21 [35 IAC 218.105(g)(1)(A)];

ii. The detection instrument shall meet the performance criteria of Method 21 [35 IAC 218.105(g)(1)(B)];

iii. The instrument shall be calibrated before use on each day of its use by the methods specified in Method 21 [35 IAC 218.105(g)(1)(C)];

iv. Calibration gases shall be:

A. Zero air (less than 10 ppm of hydrocarbon in air) [35 IAC 218.105(g)(1)(D)(i)]; and

B. A mixture of methane or n-hexane and air at a concentration of approximately, but no less than, 10,000 ppm methane or n-hexane [35 IAC 218.105(g)(1)(D)(ii)].

v. The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Method 21 [35 IAC 218.105(g)(1)(E)].

b. Pursuant to 35 IAC 218.105(g)(2), when equipment is tested for compliance with no detectable emissions as required, the test shall comply with the following requirements:

i. The requirements of Conditions 7.1.8(a)(i) through (a)(v) (see also 35 IAC 218.105(g)(1)(A) through (g)(1)(E)) above shall apply [35 IAC 218.105(g)(2)(A)]; and

ii. The background level shall be determined as set forth in Method 21 [35 IAC 218.105(g)(2)(B)].

c. Pursuant to 35 IAC 218.105(g)(3),leak detection tests shall be performed consistent with:

i. "APTI Course SI 417 controlling Volatile Organic Compound Emissions from Leaking Process Equipment", EPA-450/2-82-015 [35 IAC 218.105 (g)(3)(A)];

ii. "Portable Instrument User's Manual for Monitoring VOC Sources", EPA-340/1-86-015 [35 IAC 218.105(g)(3)(B)];

iii. "Protocols for Generating Unit-Specific Emission Estimates for Equipment Leaks of VOC and VHAP", EPA-450/3-88-010 [35 IAC 218.105(g)(3)(C)]; and/or

iv. "Petroleum Refinery Enforcement Manual", EPA-340/1-80-008 [35 IAC 218.105(g)(3)(D)].

7.4.9 Recordkeeping Requirements

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

a. Records for Startup

The Permittee shall maintain the following records, pursuant to Section 39.5(7)(b) of the Act, for each

affected still subject to Condition 7.4.3(e), which at a minimum shall include:

i. The following information for each startup of the Tar Plant:

A. Date and duration of the startup, i.e., start time and time normal operation achieved, stable operation at load;

B. If normal operation was not achieved within 12 hours, an explanation why startup could not be achieved in 12 hours;

C. A detailed description of the startup, including reason for operation and whether emissions were vented through fume system #2;

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

ii. A maintenance and repair log for each tube heater, listing each activity performed with date.

b. Records of the testing of the efficiency of each capture system and control device pursuant to Condition 7.4.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

c. Pursuant to 35 IAC 218.966(c)(2), any leaks from components subject to the control requirements of 35 IAC 218 Subpart RR shall be subject to the following control measures by March 15, 1995:

For any leak which cannot be readily repaired within one hour after detection, the following records, as set forth in this subsection, shall be kept. These records shall be maintained by the owner or operator for a minimum of two years after the date on which they are made. Copies of the records shall be made available to the Illinois EPA or USEPA upon verbal or written request.

i. The name and identification of the leaking component [35 IAC 218.966(c)(2)(A)];

ii. The date and time the leak is detected [35 IAC 218.966(c)(2)(B)];

iii. The action taken to repair the leak [35 IAC 218.966(c)(2)(C)]; and

iv. The date and time the leak is repaired [35 IAC 218.966(c)(2)(D)].

d. Pursuant to 35 IAC 218.991(a)(2), any owner or operator of a VOM emission unit which is subject to the requirements of 35 IAC 218 Subpart, RR and complying by the use of emission capture and control equipment shall collect and record all of the following information each day and maintain the information at the source for a period of three years:

i. Control device monitoring data [35 IAC 218.991 (a)(2)(A)];

ii. A log of operating time for the capture system, control device, monitoring equipment and the associated emission source [35 IAC 218.991 (a)(2)(B)]; and

iii. A maintenance log for the capture system, control device and monitoring equipment

detailing all routine and non-routine maintenance performed including dates and duration of any outages [35 IAC 218.991 (a)(2)(C)].

e. Records addressing use of good operating practices for the tube heaters, flare, and fume system:

i. Records for periodic inspection of the tube heaters, flare, and fume system with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

f. Crude tar production rate, gal/mo and gal/yr;

g. Natural gas consumption for the tube heaters, therms/mo and therms/yr;

h. The operating schedule of affected stills; and

i. The monthly and aggregate annual $NO_x$, PM, $SO_2$, and VOM emissions from the affected stills based on crude tar production rate, natural gas usage, and operating schedule, with supporting calculations.

7.4.10 Reporting Requirements

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

Any owner or operator of a VOM emission unit which is subject to the requirements of 35 IAC 218 Subpart RR and complying by the use of emission capture and control equipment shall notify the Illinois EPA of any violation of the requirements of 35 IAC 218 Subpart RR by sending a copy of any record showing a violation to the Illinois EPA within 30 days

following the occurrence of the violation [35 IAC 218.991(a)(3)(A)];

7.4.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.4.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.4.9 and the emission factors and formulas listed below:

a. Compliance with Conditions 7.4.3(b) and (c) is assumed to be achieved by proper operation of the tube heaters, flare, and fume system, as addressed by Condition 7.4.5(b).

b. Compliance with Condition 7.4.3(d) is assured to be achieved by the work-practices inherent in operation of natural gas-fired tube heaters.

c. To determine compliance with Condition 5.5.1 and 7.4.3(e) and (f), VOM emissions from the affected stills shall be calculated based on the following:

i. Volatile Organic Material Emissions:

VOM emissions (lb/yr) = (Stack Tested Emission Rate*, lb/still-hr) x (Production Multiplier) x (1 - (Tube Heater, Flare, and Fume System Efficiency* (%)/100)] x (Operating Schedule, hr/yr)

*As specified by stack testing performed on December 15, 1995 in the absence of more recent testing pursuant to Condition 7.4.7.

ii. Production Multiplier:

Production Multiplier = (Stack Test Production Rate, Gal) / (Actual Production Rate, Gal)

d. To determine compliance with Condition 5.5.1, natural gas combustion emissions from the tube heaters

associated with the affected stills shall be calculated based on the following emission factors:

| Pollutant | Emission Factor ($lb/Mft^3$) |
|---|---|
| $NO_x$ | 100 |
| PM | 7.6 |
| $SO_2$ | 0.6 |
| VOM | 5.5 |

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

Natural Gas Emissions (lb) = (Natural Gas Consumed, Therms) x (100 $ft^3$/Therm) x (1 $Mft^3$/1,000,000 $ft^3$) x (The Appropriate Emission Factor, $lb/Mft^3$)

## 7.5 Units PAA-UL Barge, Tank Car, and Tank Truck Unloading Control SB-1 Sublimation Box

### 7.5.1 Description

Naphthalene is unloaded from barges, railroad tank cars, and tank trucks to storage tanks. Material is recovered from the unloading of railroad tank cars using a sublimation box.

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

| Emission Unit | Description | Emission Control Equipment |
|---|---|---|
| PAA-BU | Barge Unloading of Naphthalene to Tanks | None |
| PAA-RRTCU | Railroad Tank Car Unloading of Naphthalene to Tanks | Sublimation Box No. 1 |
| PAA-TTU | Tank Truck Unloading of Naphthalene to Tanks | None |

### 7.5.3 Applicability Provisions and Applicable Regulations

a. Barge, Railroad Tank Car, and Tank Truck unloading of naphthalene to tanks are “affected unloading operations” for the purpose of these unit-specific conditions.

b. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

### 7.5.4 Non-Applicability of Regulations of Concern

a. The affected unloading operations are not subject to the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry, 40 CFR 63 Subparts F, G, and H because the affected unloading operations are not included in the definitions of chemical manufacturing process unit, storage vessel, process unit, and process vents in 40 CFR 63.101, 63.111, and 63.161.

b. The affected unloading operations are not subject to the NSPS for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry, 40 CFR 60 Subparts A and VV because the affected unloading operations do not meet the definition of a process unit in 40 CFR 60.161.

c. The affected unloading operations are not to the requirements of 35 IAC 218.122, Loading Operations, because pursuant to 35 IAC 218.122(c), if no odor nuisance exists the limitations of 35 IAC 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3$^{o}$K (70$^{o}$F).

d. The affected unloading operations are not to the requirements of 35 IAC 218 Subpart Q, Leaks from Synthetic Organic Chemical and Polymer Manufacturing Plant because the affected unloading operations do not meet the definition of a process unit in 35 IAC 211.5210.

7.5.5 Operational and Production Limits and Work Practices

a. The affected unloading operations shall only be used for the loading of materials maximum true vapor pressures of less than 2.5 psia at 70$^{o}$F.

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

7.5.6 Emission Limitations

There are no specific emission limitations for these units, however, there are source wide emission limitations in Condition 5.5 that include these units.

7.5.7 Testing Requirements

None

7.5.8 Monitoring Requirements

None

7.5.9 Recordkeeping Requirements

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

a. Records addressing use of good operating practices for the sublimation box:

   i. Records for periodic inspection of the sublimation box with date, individual performing the inspection, and nature of inspection; and

   ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

b. Amount and type of material unloaded, lb/mo and ton/yr;

c. Maximum true vapor pressure of each material unloaded using the affected unloading operations, psia;

d. The operating schedule of affected unloading operations; and

e. The monthly and aggregate annual VOM emissions from the affected unloading operations based on amount and type of material unloaded, and operating schedule, with supporting calculations.

7.5.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected unloading operation 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:

The loading of any VOL or VPL other than the material specified in Condition 7.5.5 into a storage tank not in compliance with 35 IAC 218.122(b) (i.e., permanent submerged loading pipe requirement) within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

7.5.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.5.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.5.9 and the emission factors and formulas listed below:

To determine compliance with Conditions 5.5.1 and 7.5.3(b), VOM emissions from the affected unloading operations shall be calculated based on the following:

a. Volatile Organic Material Emissions:

VOM emissions (lb/yr) = (Stack Tested Emission Rate*, lb/unloading operation-hr) x (Production Multiplier) x (1 - (Sublimation Box Efficiency* (%)/100)] x (Operating Schedule, hr/yr)

*As specified by stack testing performed on December 18, 1995.

b. Production Multiplier:

Production Multiplier = (Stack Test Production Rate, lb) / (Actual Production Rate, lb)

## 7.6 Units PAA-NT, PAA-OXT Naphthalene and O-Xylene Storage Tanks Controls SB-2 and SB-3 Sublimation Boxes

### 7.6.1 Description

After being unloaded from barges, railroad tank cars, and tank trucks, naphthalene is stored in one of three tanks and o-xylene is stored in one of four tanks. Vapors from the naphthalene tanks is recovered using sublimation boxes, which cause the naphthalene vapors go from the gaseous state to solid state.

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

| Emission Unit | Description | Emission Control Equipment |
|---|---|---|
| 7 | 522,000 Gallon Naphthalene Storage Tank (Tank 7) | Sublimation Box No. 3 |
| 300 | 827,000 Gallon O-Xylene Storage Tank (Tank 300) | None |
| 303-PAA | 826,000 Gallon O-Xylene Storage Tank (PAA Plant Tank 303) | None |
| 304A | 84,000 Gallon O-Xylene Storage Tank (Tank 304A) | None |
| 304B | 84,000 Gallon O-Xylene Storage Tank (Tank 304B) | None |
| 305 | 822,000 Gallon Naphthalene Storage Tank (Tank 305) | Sublimation Box No. 2 |

### 7.6.3 Applicability Provisions and Applicable Regulations

a. Naphthalene Tanks 7 and 305, and O-Xylene Tanks 300, 303, 304A, and 304B are “affected tanks” for the purpose of these unit-specific conditions.

b. The affected tanks are subject to the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater, 40 CFR 63 Subparts A and G, specifically sections 40 CFR 63.120 through 63.123 for storage vessels. The Illinois EPA is administering the NESHAP in Illinois under a delegation agreement. For purposes of 40 CFR 63 Subpart G, the affected tanks are Group 2 Storage Vessels because the capacity of each affected tank is greater than 151 $m^3$ and are

used to store a liquid with maximum true vapor pressure of the total organic hazardous air pollutants in the liquid of less than 5.2 kPa. Pursuant to 40 CFR 63.119(a), for each storage vessel to which 40 CFR 63 Subpart G applies, the owner or operator shall comply with the requirements of Conditions 7.6.3(b)(i) and (b)(ii) (see also 40 CFR 63.119(a)(1), (a)(2), (a)(3), and (a)(4)) no later than April 22, 1997 (the schedule provision of 40 CFR 63.100(k)(2)(i) of 40 CFR 63 Subpart F).

i. For each Group 2 storage vessel that is not part of an emissions average as described in 40 CFR 63.150, the owner or operator shall comply with the recordkeeping requirement in Condition 7.6.9(a) (see also 40 CFR 63.123(a)) and is not required to comply with any other provisions in 40 CFR 63.119 through 63.123 [40 CFR 63.119 (a)(3)].

ii. For each Group 2 storage vessel that is part of an emissions average, the owner or operator shall comply with the emissions averaging provisions in 40 CFR 63.150 [40 CFR 63.119 (a)(4)].

c. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

7.6.4 Non-Applicability of Regulations of Concern

a. The affected tanks are not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subpart Ka. Pursuant to 40 CFR 60.112a(a) and (b), the owner or operator of each storage vessel to which 40 CFR 60 Subpart Ka applies contains a petroleum liquid which, as stored, has a true vapor pressure equal to or greater than 10.3 kPa (1.5 psia). The true vapor pressure of the material

stored in the affected tanks is less than 1.5 psia, therefore, the affected tanks are exempt from the requirements of 40 CFR 60 Subpart Ka.

b. The affected tanks are not subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subpart Kb, because the affected tanks were constructed prior to July 23, 1984.

c. The affected tanks are not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119(e), which exempts vessels storing petroleum liquids.

d. The affected tanks are not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(6), which exempts stationary storage tanks in which volatile petroleum liquid is not stored. Pursuant to 35 IAC 211.7170, a volatile petroleum liquid means any petroleum liquid with a true vapor pressure that is greater than 1.5 psia (78 mmHg) at standard conditions. The affected tanks are used to store petroleum liquids with vapor pressures of less than 1.5 psia at standard conditions.

e. The affected tanks are not subject to the requirements of 35 IAC 218.122, Loading Operations, because pursuant to 35 IAC 218.122(c), if no odor nuisance exists the limitations of 35 IAC 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3$^{o}$K (70$^{o}$F).

7.6.5 Operational and Production Limits and Work Practices

a. The affected tanks shall only be used for the storage of petroleum liquids with true vapor pressures of less than 1.5 psia at standard conditions.

b. The Permittee shall follow good operating practices for the sublimation boxes associated with the

naphthalene tanks, including periodic inspection, routine maintenance and prompt repair of defects.

7.6.6 Emission Limitations

There are no specific emission limitations for these units, however, there are source wide emission limitations in Condition 5.5 that include these units.

7.6.7 Testing Requirements

None

7.6.8 Monitoring Requirements

The Permittee shall fulfill all the applicable leak inspection provisions as specified by 40 CFR 63.148.

7.6.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected tanks to demonstrate compliance with Conditions 5.5.1, 7.6.3, and 7.6.5, pursuant to Section 39.5(7)(b) of the Act:

a. Each owner or operator of a Group 1 or Group 2 storage vessel shall keep readily accessible records showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel. This record shall be kept as long as the storage vessel retains Group 1 or Group 2 status and is in operation. For each Group 2 storage vessel, the owner or operator is not required to comply with any other provisions of 40 CFR 63.119 through 63.123 other than those required by this Condition unless such vessel is part of an emissions average as described in 40 CFR 63.150 [40 CFR 63.123(a)].

b. Records addressing use of good operating practices for the sublimation boxes associated with the naphthalene tanks:

i. Records for periodic inspection of the sublimation boxes associated with the naphthalene tanks with date, individual

performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

c. Identification of the material stored in each affected tank;

d. Maximum true vapor pressure of each material stored in the affected tanks, psia;

e. The throughput of each affected tank, gal/mo and gal/yr; and

f. The monthly and aggregate annual VOM emissions for the affected tanks based on material stored, tank throughput, and applicable emission factors and formulas with supporting calculations.

7.6.10 Reporting Requirements

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

The storage of any VOL or VPL other than the material specified in Condition 7.6.5 within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

7.6.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.6.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.6.9 and the emission factors and formulas listed below:

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

7.7 Units A, B, C, & D-Trains Controls RTO1 - 4 and ES2 — Phthalic Anhydride Reactor Trains Regenerative Thermal Oxidizers and Entrainment System

7.7.1 Description

Raw material feedstocks for the production of phthalic anhydride are either o-xylene or naphthalene. In phthalic anhydride production using o-xylene as the feedstock, filtered air is preheated, compressed, and mixed with vaporized o-xylene and fed into the reactors. The reactors contain a catalyst, vanadium pentoxide. Exothermic heat is removed by a molten salt bath circulated around the reactor tubes and transferred to a steam generation system.

When naphthalene is used, it is sent to vaporizers to vaporize the naphthalene. The naphthalene and compressed air are fed into reactors and oxidized in the presence of a catalyst, vanadium pentoxide. Cooling tubes located in the catalyst bed remove the exothermic heat, which is used to produce high pressure steam. The reactor effluent consists of phthalic anhydride vapors and various byproducts and nonreactant gas.

The reactor effluent containing crude phthalic anhydride plus products from side reactions and excess oxygen pass to a series of switch condensers, where the crude phthalic anhydride cools and crystallizes. The condensers are alternatively cooled and then heated, allowing the phthalic anhydride crystals to form and then melt from the condenser tube fins. The switch condensers provide intermediate crude phthalic anhydride, which is currently stored in tanks MF-4150 and MF301B. The crude phthalic then goes through a refining process. All process gases from the reactor trains are passed through regenerative thermal oxidizers (RTO).

7.7.2 List of Emission Units and Pollution Control Equipment

| Emission Unit | Description | Emission Control Equipment |
|---|---|---|
| A-Train | Phthalic Anhydride Reactor Train (A-Train) | Regenerative Thermal Oxidizer No. 1 |

| Emission Unit | Description | Emission Control Equipment |
|---|---|---|
| B-Train | Phthalic Anhydride Reactor Train (B-Train) | Regenerative Thermal Oxidizer No. 2 |
| C-Train | Phthalic Anhydride Reactor Train (C-Train) | Regenerative Thermal Oxidizer No. 3 and Entrainment System No. 2 |
| D-Train | Phthalic Anhydride Reactor Train (D-Train) | Regenerative Thermal Oxidizer No. 4 and Entrainment System No. 2 |

7.7.3 Applicability Provisions and Applicable Regulations

a. Phthalic Anhydride Reactor Trains A, B, C, and D are “affected reactor trains” for the purpose of these unit-specific conditions.

b. The affected reactor trains are subject to the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry; the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater; and the NESHAP for Equipment Leaks; 40 CFR 63 Subparts A, F, G and H, specifically 40 CFR 63.113 for Process Vents. The Illinois EPA is administering the NESHAP in Illinois under a delegation agreement. For purposes of 40 CFR 63 Subpart G, the process vents associated with the affected reactor trains are Group 1 Process Vents because the flow rate is greater than or equal to 0.005 standard cubic meter per minute, the total organic HAP concentration is greater than or equal to 50 parts per million by volume, and the total resource effectiveness index value, calculated according to Condition 7.7.12(a) (see also 40 CFR 63.115), is less than or equal to 1.0. Pursuant to 40 CFR 63.113 (a)(2), the owner or operator of a Group 1 process vent as defined in 40 CFR 63 Subpart G shall reduce emissions of total organic hazardous

air pollutants by 98 weight-percent or to a concentration of 20 parts per million by volume, whichever is less stringent. For combustion devices, the emission reduction or concentration shall be calculated on a dry basis, corrected to 3-percent oxygen, and compliance can be determined by measuring either organic hazardous air pollutants or total organic carbon using the procedures in Conditions 7.7.7 and 7.7.12 (see also 40 CFR 63.116).

i. Compliance with Condition 7.7.3(b) (see also 40 CFR 63.113(a)(2)) may be achieved by using any combination of combustion, recovery, and/or recapture devices, except that a recovery device may not be used to comply with Condition 7.7.3(b) (see also 40 CFR 63.113(a)(2)) by reducing emissions of total organic hazardous air pollutants by 98 weight-percent, except as provided in Condition 7.7.3(b)(ii) (see also 40 CFR 63.113(a)(2)(ii)) [40 CFR 63.113(a)(2)(i)].

ii. Pursuant to 40 CFR 63.113(a)(2)(ii), an owner or operator may use a recovery device, alone or in combination with one or more combustion or recapture devices, to reduce emissions of total organic hazardous air pollutants by 98 weight-percent if all the conditions of Conditions 7.7.3(b)(ii)(A) through (D) (see also 40 CFR 63.113(a)(2)(ii)(A) through (a)(2)(ii)(D)) are met.

A. The recovery device (and any combustion device or recapture device which operates in combination with the recovery device to reduce emissions of total organic hazardous air pollutants by 98 weight-percent) was installed before the date of proposal of 40 CFR 63 Subpart F (the subpart of 40 CFR Part 63 that makes 40 CFR 63 Subpart G applicable to process vents in the chemical manufacturing process unit) [40 CFR 63.113 (a)(2)(ii)(A)].

B. The recovery device that will be used to reduce emissions of total organic hazardous air pollutants by 98 weight-percent is the last recovery device before emission to the atmosphere [40 CFR 63.113 (a)(2)(ii)(B)].

C. The recovery device, alone or in combination with one or more combustion or recapture devices, is capable of reducing emissions of total organic hazardous air pollutants by 98 weight-percent, but is not capable of reliably reducing emissions of total organic hazardous air pollutants to a concentration of 20 parts per million by volume [40 CFR 63.113(a)(2)(ii)(C)].

D. If the owner or operator disposed of the recovered material, the recovery device would comply with the requirements of 40 CFR 63 Subpart G for recapture devices [40 CFR 63.113(a)(2)(ii)(D)].

c. The affected reactor trains are subject to the NSPS for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry, 40 CFR 60 Subparts A and VV because the affected reactor trains were modified after January 5, 1981. The Illinois EPA is administering the NSPS in Illinois under a delegation agreement. Pursuant to 40 CFR 63.160(c), if a process unit is subject to the provisions of 40 CFR 63 Subpart H has equipment subject to 40 CFR 60 Subpart VV, the owner or operator may elect to apply 40 CFR 63 Subpart to all such equipment in the process unit. If the owner or operator elects to this method of compliance, all VOC in such equipment shall be considered, for purposes of applicability and compliance with 40 CFR 63 Subpart H as if it were organic hazardous air pollutant (HAP). Compliance with the provisions of 40 CFR 63 Subpart H, in the manner described in this Condition, shall be deemed compliance with 40 CFR 60 Subpart VV.

d. The affected reactor trains are subject to the NSPS for Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry

(SOCMI) Air Oxidation Unit Processes, 40 CFR 60 Subparts A and III because the affected reactor trains were modified after October 21, 1983. The Illinois EPA is administering the NSPS in Illinois under a delegation agreement. Pursuant to 40 CFR 63.110(d)(1), after the compliance dates specified in 40 CFR 63.100, a Group 1 process vent that is also subject to the provisions of 40 CFR 60 Subpart III is required to comply only with the provisions of 40 CFR 63 Subpart G.

e. No person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission unit to exceed 2000 ppm, [35 IAC 214.301].

f. The affected reactor trains are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

   i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.7.3 (f)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

   ii. Emissions of organic material in excess of those permitted by Condition 7.7.3(g)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by flame, thermal or catalytic incineration so as either to reduce such emissions to 10 ppm equivalent methane (molecular weight 16) or less, or to convert 85 percent of the hydrocarbons to carbon dioxide and water [35 IAC 218.302(a)].

g. The affected reactor trains are subject to 35 IAC 218 Subpart V, Air Oxidation Processes, which provides that:

   i. Pursuant to 35 IAC 218.520(a), no person shall cause or allow the emission of VOM from any process vent stream unless the process vent

stream is vented to a combustion device which is designed and operated either:

A. To reduce the volatile organic emissions vented to it with an efficiency of at least ninety eight percent (98%) by weight [35 IAC 218.520(a)(1)]; or

B. To emit VOM at a concentration less than twenty parts per million by volume, dry basis [35 IAC 218.520(a)(2)].

ii. Combustion Device at a Phthalic Anhydride Air Oxidation Process

A. Pursuant to 35 IAC 218.520(b)(1), notwithstanding Condition 7.7.3(g)(i) (see also 35 IAC 218.520(a)), and subject to Condition 7.7.3(g)(ii)(B) (see also 35 IAC 218.520(b)(2)), no person shall cause or allow the emissions of VOM through an existing combustion device at a phthalic anhydride air oxidation process, unless the combustion device is operated to achieve:

I. 90% control of the volatile organic emissions vented to it [35 IAC 218.520(b)(1)(A)]; or

II. VOM emissions concentration of less than 50 parts per million by volume, dry basis [35 IAC 218.520(b)(1)(B)].

B. Pursuant to 35 IAC 218.520(b)(2), any existing combustion device subject to Condition 7.7.3(g)(ii)(A) (see also 35 IAC 218.520(b)(1)) is required to meet the 98 percent emissions limit set forth in Condition 7.7.3(g)(i) (see also 35 IAC 218.520(a)) either upon replacing the combustion device for any reasons, including, but not be limited to, normal maintenance, malfunction, accident, and obsolescence, or the date of December 31,

1999, whichever comes first. A combustion device is considered to be replaced when:

I. All of the device is replaced [35 IAC 218.520(b)(2)(A)]; or

II. When the cost of the repair of the device or the cost of replacement of part of the device exceeds 50% of the cost of replacing the entire device with a device which complies [35 IAC 218.520(b)(2)(B)].

iii. The owner or operator of an air oxidation process with a TRE of 1.0 or less shall have complied with the requirements of Condition 7.7.3(g)(i) (see also 35 IAC 218.520(a)) by the dates set forth in 35 IAC 218.106(a) and (b). Sources that are subject to Condition 7.7.3 (g)(ii) (see also 35 IAC 218.520(b)) that become subject to the control requirements of Condition 7.7.3(g)(i) (see also 35 IAC 218.520(a)) after the compliance dates set out in 35 IAC 218.106(a) and (b) shall comply with the timetable set forth within Condition 7.7.3 (g)(ii) (see also 35 IAC 218.520(b)) [35 IAC 218.522].

iv. Pursuant to 35 IAC 218.523, the emissions limitations for air oxidation processes located in Condition 7.7.3(g)(i) (see also 35 IAC 218.520(a)) are applicable to air oxidation processes on October 25, 1994.

A. An owner or operator of an air oxidation process with a TRE of 6.0 or less that is subject to the requirements of Condition 7.7.3(g)(i) (see also 35 IAC 218.520(a)) on October 25, 1994 shall comply with the provisions of Condition 7.7.3(g)(i) (see also 35 IAC 218.520(a)) by December 31, 1999, or upon startup of the emission unit, whichever comes first. This subsection does not supersede the Savings Clause in Condition 7.7.3(g)(iii) (see also 35 IAC 218.522) [35 IAC 218.523(a)].

B. An owner or operator of an air oxidation process that becomes subject to the requirements of Condition 7.7.3(g)(i) (see also 35 IAC 218.520(a)) after October 25, 1994 shall comply with the requirements of Condition 7.7.3(g)(i) (see also 35 IAC 218.520(a)) upon startup of the emission unit [35 IAC 218.523(b)].

v. Sources subject to the requirements of Condition 7.7.3(g)(i) (see also 35 IAC 218.520(a)) either through application of Condition 7.7.12(b) (see also 35 IAC 218.520(c)) or through continued application under Condition 7.7.3(g)(iii) (see also 35 IAC 218.522) shall continue to be subject to the applicable limitations even if operations change so as to result in a TRE that is above that which initially made the regulation applicable to the source's operations [35 IAC 218.524(a)].

vi. Notwithstanding Condition 7.7.12(b) (see also 35 IAC 218.520(c)), any air oxidation process that utilizes a combustion device to control process vent streams at any time shall maintain the process in compliance with the provisions of Condition 7.7.3(g)(i) (see also 35 IAC 218.520(a)) at all times thereafter [35 IAC 218.524(b)].

7.7.4 Non-Applicability of Regulations of Concern

a. The affected reactor trains are not subject to the Control Requirements for Batch Operations, pursuant to 35 IAC 218.500(b)(2), which exempts any emission unit included within the category specified in 35 IAC 218.520 through 218.527 from the requirements of 35 IAC 218.500 through 218.506.

b. The regenerative thermal oxidizers associated with the affected reactor trains are not subject to 35 IAC 216.121, emissions of carbon monoxide from fuel combustion emission units, because the regenerative

thermal oxidizers are not by definition fuel combustion emission units.

c. The regenerative thermal oxidizers associated with the affected reactor trains are not subject to 35 IAC 217.121, emissions of nitrogen oxides from new fuel combustion emission sources, because the regenerative thermal oxidizers associated with the affected reactor trains are not by definition fuel combustion emission units.

7.7.5 Operational and Production Limits and Work Practices

a. The Permittee shall follow good operating practices for the thermal oxidizers and entrainment system associated with the affected reactor trains, including periodic inspection, routine maintenance and prompt repair of defects.

b. The combustion chambers of the thermal oxidizers shall be preheated to at least the manufacturer's recommended temperature but no less than the temperature at which compliance was demonstrated in the most recent compliance test, or 1400°F in the absence of a compliance test. This temperature shall be maintained during operation of the affected reactor trains.

7.7.6 Emission Limitations

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

a. Emissions and operation of the affected reactor trains shall not exceed the following limits:

i. Operation of reactor trains A, B, C, & D shall not exceed the following limits:

A. Feed rates of raw material shall be limited such that emissions of sulfur dioxide do not exceed 260 lb/hr.

B. The Permittee shall not accept naphthalene feedstock with more than 0.8% by wt. sulfur for phthalic anhydride production.

C. The above conditions represent the application of the Best Available Control Technology (BACT) as required by Section 165 of the CAA.

ii. Emissions from the affected reactor trains shall not exceed the following limits:

A. Sulfur Dioxide -- 1,140 tons/year. This limit is based on maximum emission rates of 260 lb/hr, which occurs with the use of the napthalene feed stock in Reactor Trains A and B and the use of o-xylene in either Reactor Train C or D, and 8,760 hours/year of operation.

B. Volatile Organic Material --

| Mode of Operation | Operating Hours (hr/yr) | VOM Emissions lb/hr | VOM Emissions ton/yr |
|---|---|---|---|
| Normal | -- | 66.4 | 291.0 |
| Outage of Both Trains | 100 | 46.4 | 2.3 |

The limits for normal operation are based on the maximum emission rate of 66. lb/hr, which occurs with the use of O-xylene in Trains A, B, C, and D and 8,760 hours/year of operation.

C. Carbon Monoxide -- 17,400 tons/year. This limit is based on maximum emission rate of 3,970 lb/hr, which occurs with the use of o-xylene in Reactor Trains A, B, C, and D and 8,760 hours/year of operation.

iii. The above limitations were established in Permits 82050034 and 72120652, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not

constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

b. Emissions and operation of Reactor Train D shall not exceed the following limits:

i. This permit is issued based on replacement of the existing scrubber control system on Reactor Train D with the regenerative thermal oxidizer which results in no change in emissions of sulfur dioxide, nitrogen oxide, volatile organic material, and carbon monoxide.

ii. The above limitations contain revisions to previously issued Permit 97020080. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, the limit for CO and VOM emissions from Reactor Train D were deemed inappropriate for the addition of a thermal oxidizer because there was no increase in potential CO or VOM emissions and no offsets or reductions for CO or VOM were

needed for this project or any related project [T1R].

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

7.7.7 Testing Requirements

a. Pursuant to 40 CFR 63.116(c), except as provided in 40 CFR 63.116(a) and (b), an owner or operator using a control device to comply with the organic HAP concentration limit or percent reduction efficiency requirements in Condition 7.7.3(b) (see also 40 CFR 63.113(a)(2)) shall conduct a performance test using the procedures in Conditions 7.7.7(a)(i) through (a)(iv) (see also 40 CFR 63.116(c)(1) through (c)(4)). The organic HAP concentration and percent reduction may be measured as either total organic HAP or as TOC minus methane and ethane according to the procedures specified.

i. Pursuant to 40 CFR 63.116(c)(1), Method 1 or 1A of 40 CFR part 60, appendix A, as appropriate, shall be used for selection of the sampling sites.

A. Pursuant to 40 CFR 63.116(c)(1)(i), for determination of compliance with the 98 percent reduction of total organic HAP requirement of Condition 7.7.3(b) (see also 40 CFR 63.113(a)(2)), sampling sites shall be located at the inlet of the control device as specified in Conditions 7.7.7(a)(i)(A)(I) and (a)(i)(A)(II) (see also 40 CFR 63.116(c)(1)(i)(A) and (c)(1)(i)(B)), and at the outlet of the control device.

I. The control device inlet sampling site shall be located after the final product recovery device [40 CFR 63.116(c)(1)(i)(A)].

II. If a process vent stream is introduced with the combustion air or as a secondary fuel into a boiler or process heater with a design capacity less than 44 megawatts, selection of the location of the inlet sampling sites shall ensure the measurement of total organic HAP or TOC (minus methane and ethane) concentrations in all process vent streams and primary and secondary fuels introduced into the boiler or process heater [40 CFR 63.116 (c)(1)(i)(B)].

B. For determination of compliance with the 20 parts per million by volume total organic HAP limit in Condition 7.7.3(b) (see also 40 CFR 63.113(a)(2)), the sampling site shall be located at the outlet of the control device [40 CFR 63.116(c)(1)(ii)].

ii. The gas volumetric flow rate shall be determined using Method 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as appropriate [40 CFR 63.116 (c)(2)].

iii. Pursuant to 40 CFR 63.116(c)(3), to determine compliance with the 20 parts per million by volume total organic HAP limit in Condition 7.7.3(b) (see also 40 CFR 63.113(a)(2)), the owner or operator shall use Method 18 of 40 CFR part 60, appendix A to measure either TOC minus methane and ethane or total organic HAP. Alternatively, any other method or data that has been validated according to the applicable procedures in Method 301 of appendix A of 40 CFR Part 63, may be used. The following procedures shall be used to calculate parts per million by volume concentration, corrected to 3 percent oxygen:

A. The minimum sampling time for each run shall be 1 hour in which either an integrated sample or a minimum of four

grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time, such as 15 minute intervals during the run [40 CFR 63.116(c)(3)(i)].

B. Pursuant to 40 CFR 63.116(c)(3)(ii), the concentration of either TOC (minus methane or ethane) or total organic HAP shall be calculated according to Condition 7.7.7 (a)(iii)(B)(I) or (a)(iii)(B)(II) (see also 40 CFR 63.116(c)(3)(ii)(A) or (c)(3)(ii)(B)).

I. Pursuant to 40 CFR 63.116 (c)(3)(ii)(A), the TOC concentration ($C_{TOC}$) is the sum of the concentrations of the individual components and shall be computed for each run using the following equation:

$$C_{TOC} = \sum_{i=1}^{x} \frac{\left(\sum_{j=1}^{n} C_{ji}\right)}{x}$$

where:

$C_{TOC}$ = Concentration of TOC (minus methane and ethane), dry basis, parts per million by volume.

$C_{ji}$ = Concentration of sample components j of sample i, dry basis, parts per million by volume.

n = Number of components in the sample.

x = Number of samples in the sample run.

II. The total organic HAP concentration ($C_{HAP}$) shall be computed according to the equation in Condition 7.7.7 (a)(iii)(B)(I) (see also 40 CFR 63.116(c)(3)(ii)(A)) except that only the organic HAP species shall be summed. The list of organic HAP's is provided in table 2 of 40 CFR 63 Subpart F [40 CFR 63.116 (c)(3)(ii)(B)].

C. Pursuant to 40 CFR 63.116(c)(3)(iii), the concentration of TOC or total organic HAP shall be corrected to 3 percent oxygen if a combustion device is the control device.

I. The emission rate correction factor or excess air, integrated sampling and analysis procedures of Method 3B of 40 CFR part 60, appendix A shall be used to determine the oxygen concentration ($\%O_{2d}$). The samples shall be taken during the same time that the TOC (minus methane or ethane) or total organic HAP samples are taken [40 CFR 63.116 (c)(3)(iii)(A)].

II. Pursuant to 40 CFR 63.116 (c)(3)(iii)(B), the concentration corrected to 3 percent oxygen ($C_c$) shall be computed using the following equation:

$$C_C = C_m\left(\frac{17.9}{20.9 - \%O_{2d}}\right)$$

Where:

$C_c$ = Concentration of TOC or organic HAP corrected to 3 percent oxygen, dry basis, parts per million by volume.

$C_m$ = Concentration of TOC (minus methane and ethane) or organic HAP, dry basis, parts per million by volume.

$\%O_{2d}$ = Concentration of oxygen, dry basis, percent by volume.

iv. Pursuant to 40 CFR 63.116(c)(4), to determine compliance with the 98 percent reduction requirement of Condition 7.7.3(b) (see also 40 CFR 63.113(a)(2)), the owner or operator shall use Method 18 of 40 CFR part 60, appendix A; alternatively, any other method or data that has been validated according to the applicable procedures in Method 301 of appendix A 40 CFR part 63 may be used. The following procedures shall be used to calculate percent reduction efficiency:

A. The minimum sampling time for each run shall be 1 hour in which either an integrated sample or a minimum of four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time such as 15 minute intervals during the run [40 CFR 63.116(c)(4)(i)].

B. Pursuant to 40 CFR 63.116(c)(4)(ii), the mass rate of either TOC (minus methane and ethane) or total organic HAP ($E_i$, $E_o$) shall be computed.

I. Pursuant to 40 CFR 63.116 (c)(4)(ii)(A), the following equations shall be used:

$$E_i = K_2\left(\sum_{j=1}^{n} C_{ij}M_{ij}\right)Q_i$$

$$E_o = K_2\left(\sum_{j=1}^{n} C_{oj}M_{oj}\right)Q_o$$

where:

$C_{ij}$, $C_{oj}$ = Concentration of sample component j of the gas stream at the inlet and outlet of the control device, respectively, dry basis, parts per million by volume.

$E_i$, $E_o$ = Mass rate of TOC (minus methane and ethane) or total organic HAP at the inlet and outlet of the control device, respectively, dry basis, kilogram per hour.

$M_{ij}$, $M_{oj}$ = Molecular weight of sample component j of the gas stream at the inlet and outlet of the control device, respectively, gram/gram-mole.

$Q_i$, $Q_o$ = Flow rate of gas stream at the inlet and outlet of the control device, respectively, dry standard cubic meter per minute.

$K_2$ = Constant, $2.494 \times 10^{-6}$ (parts per million)$^{-1}$ (gram-mole per standard cubic meter) (kilogram/gram) (minute/hour), where standard temperature (gram-mole per standard cubic meter) is 20°C.

II. Where the mass rate of TOC is being calculated, all organic compounds (minus methane and ethane) measured by Method 18 of 40 CFR part 60, appendix A are summed using the equation in Condition 7.7.7 (a)(iv)(B)(I) (see also 40 CFR 63.116(c)(4)(ii)(A)) [40 CFR 63.116 (c)(4)(ii)(B)].

III. Where the mass rate of total organic HAP is being calculated, only the

organic HAP species shall be summed using the equation in Condition 7.7.7(a)(iv)(B)(I) (see also 40 CFR 63.116(c)(4)(ii)(A)). The list of organic HAP's is provided in table 2 of 40 CFR 63 Subpart F [40 CFR 63.116(c)(4)(ii)(C)].

C. Pursuant to 40 CFR 63.116(c)(4)(iii), the percent reduction in TOC (minus methane and ethane) or total organic HAP shall be calculated as follows:

$$R = \frac{E_i - E_o}{E_i}(100)$$

where:

R = Control efficiency of control device, percent.

$E_i$ = Mass rate of TOC (minus methane and ethane) or total organic HAP at the inlet to the control device as calculated under Condition 7.7.7 (a)(iv)(B) (see also 40 CFR 63.116 (c)(4)(ii)), kilograms TOC per hour or kilograms organic HAP per hour.

$E_o$ = Mass rate of TOC (minus methane and ethane) or total organic HAP at the outlet of the control device, as calculated under Condition 7.7.7 (a)(iv)(B) (see also 40 CFR 63.116 (c)(4)(ii)), kilograms TOC per hour or kilograms organic HAP per hour.

D. If the process vent stream entering a boiler or process heater with a design capacity less than 44 megawatts is introduced with the combustion air or as a secondary fuel, the weight-percent reduction of total organic HAP or TOC (minus methane and ethane) across the device shall be determined by comparing the TOC (minus methane and ethane) or

total organic HAP in all combusted vent streams and primary and secondary fuels with the TOC (minus methane and ethane) or total organic HAP exiting the combustion device, respectively [40 CFR 63.116 (c)(4)(iv)].

b. Upon reasonable request by the Illinois EPA, the owner or operator of an air oxidation process shall demonstrate compliance with 35 IAC 218 Subpart V by use of the methods specified in Appendix C of 35 IAC Part 218. This Condition does not limit the USEPA's authority, under the Clean Air Act, to require demonstrations of compliance [35 IAC 218.526(a)].

7.7.8 Monitoring Requirements

a. Pursuant to 40 CFR 63.114(a), each owner or operator of a process vent that uses a combustion device to comply with the requirements in 40 CFR 63.113(a)(1) or Condition 7.7.3(b) (see also 40 CFR 63.113(a)(2)), or that uses a recovery device or recapture device to comply with the requirements in Condition 7.7.3(b) (see also 40 CFR 63.113(a)(2)), shall install monitoring equipment specified in Condition 7.7.8 (a)(i), or (a)(ii) (see also 40 CFR 63.114(a)(1) or (a)(4)), 40 CFR 63.114(a)(2), (a)(3), or (a)(5), depending on the type of device used. All monitoring equipment shall be installed, calibrated, maintained, and operated according to manufacturer's specifications or other written procedures that provide adequate assurance that the equipment would reasonably be expected to monitor accurately.

i. A. Where an incinerator is used, a temperature monitoring device equipped with a continuous recorder is required [40 CFR 63.114(a)(1)].

B. Where an incinerator other than a catalytic incinerator is used, a temperature monitoring device shall be installed in the firebox or in the ductwork immediately downstream of the firebox in a position before any

substantial heat exchange occurs [40 CFR 63.114(a)(1)(ii)].

ii. Pursuant to 40 CFR 63.114(a)(4), where a scrubber is used with an incinerator, boiler, or process heater in the case of halogenated vent streams, the following monitoring equipment is required for the scrubber.

A. A pH monitoring device equipped with a continuous recorder shall be installed to monitor the pH of the scrubber effluent [40 CFR 63.114(a)(4)(i)].

B. Pursuant to 40 CFR 63.114(a)(4)(ii), a flow meter equipped with a continuous recorder shall be located at the scrubber influent for liquid flow. Gas stream flow shall be determined using one of the procedures specified in Condition 7.7.8 (a)(ii)(B)(I) through (a)(ii)(B)(III) (see also 40 CFR 63.114(a)(4)(ii)(A) through (a)(4)(ii)(C)).

I. The owner or operator may determine gas stream flow using the design blower capacity, with appropriate adjustments for pressure drop [40 CFR 63.114(a)(4)(ii)(A)].

II. If the scrubber is subject to regulations in 40 CFR parts 264 through 266 that have required a determination of the liquid to gas (L/G) ratio prior to the applicable compliance date for 40 CFR 63 Subpart G specified in 40 CFR 63.100(k), the owner or operator may determine gas stream flow by the method that had been utilized to comply with those regulations. A determination that was conducted prior to the compliance date for 40 CFR 63 Subpart G may be utilized to comply with 40 CFR 63 Subpart G if

it is still representative [40 CFR 63.114(a)(4)(ii)(B)].

III. The owner or operator may prepare and implement a gas stream flow determination plan that documents an appropriate method which will be used to determine the gas stream flow. The plan shall require determination of gas stream flow by a method which will at least provide a value for either a representative or the highest gas stream flow anticipated in the scrubber during representative operating conditions other than start-ups, shutdowns, or malfunctions. The plan shall include a description of the methodology to be followed and an explanation of how the selected methodology will reliably determine the gas stream flow, and a description of the records that will be maintained to document the determination of gas stream flow. The owner or operator shall maintain the plan as specified in Condition 5.6.3 (see also 40 CFR 63.103(c)) [40 CFR 63.114 (a)(4)(ii)(C)].

b. The Permittee shall fulfill all the applicable leak inspection provisions as specified by 40 CFR 63.148.

c. An owner or operator that uses an afterburner to comply with any Section of 35 IAC Part 218 shall use Illinois EPA and USEPA approved continuous monitoring equipment which is installed, calibrated, maintained, and operated according to vendor specifications at all times the afterburner is in use. The continuous monitoring equipment must monitor for each afterburner which does not have a catalyst bed, the combustion chamber temperature of each afterburner [35 IAC 218.105(d)(2)(A)(i)].

d. Pursuant to Section 39.5(7)(d) of the Act, Section 165 of the CAA, and Permits 72120652 and 82050034,

the affected reactor trains shall be equipped with a continuous emissions monitoring system (CEMS) to monitor and record sulfur dioxide emissions.

i. The CEMS shall be operated to provide permanent records of the hourly average $SO_2$ emissions based upon three minute samples of air flows and $SO_2$ concentrations.

ii. Upon sudden failure of the CEMS, the reactor feeds shall be maintained at previous feed rates. Within 24 hours of sudden CEMS failure, the feed stock shall be sampled and analyzed for sulfur content. Compliance with the $SO_2$ emissions limits in Condition 7.7.6(a)(ii)(A), shall be determined by multiplying sulfur content with the feed rates until the CEMS is repaired.

7.7.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected reactor train to demonstrate compliance with Conditions 5.5.1, 7.7.3, 7.7.5, and 7.7.6, pursuant to Section 39.5(7)(b) of the Act:

a. Pursuant to 40 CFR 63.117(a), each owner or operator subject to the control provisions for Group 1 vent streams in Condition 7.7.3(b) (see also 40 CFR 63.113(a)) or the provisions for Group 2 vent streams with a TRE index value greater than 1.0 but less than or equal to 4.0 in 40 CFR 63.113(d) shall:

i. Keep an up-to-date, readily accessible record of the data specified in Condition 7.7.9(a)(ii) through (a)(iv) (see also 40 CFR 63.117(a)(4) through (a)(8)), as applicable [40 CFR 63.117 (a)(1)]; and

ii. Pursuant to 40 CFR 63.117(a)(4), record the following when using a combustion device to achieve a 98 weight percent reduction in organic HAP or an organic HAP concentration of 20 parts per million by volume, as specified

in Condition 7.7.3(b) (see also 40 CFR 63.113(a)(2)):

A. The parameter monitoring results for incinerators, catalytic incinerators, boilers or process heaters specified in table 3 of 40 CFR 63 Subpart G and averaged over the same time period of the performance testing [40 CFR 63.117 (a)(4)(i)].

B. For an incinerator, the percent reduction of organic HAP or TOC achieved by the incinerator determined as specified in Condition 7.7.7(a) (see also 40 CFR 63.116(c)), or the concentration of organic HAP or TOC (parts per million by volume, by compound) determined as specified in Condition 7.7.7(a) (see also 40 CFR 63.116(c)) at the outlet of the incinerator on a dry basis corrected to 3 percent oxygen [40 CFR 63.117(a)(4)(ii)].

b. Pursuant to 40 CFR 63.118(a), each owner or operator using a control device to comply with 40 CFR 63.113 (a)(1) or Condition 7.7.3(b) (see also 40 CFR 63.113 (a)(2)) shall keep the following records up-to-date and readily accessible:

i. Continuous records of the equipment operating parameters specified to be monitored under Condition 7.7.8 (see also 40 CFR 63.114(a)) and listed in table 3 of 40 CFR 63 Subpart G or specified by the Illinois EPA or USEPA in accordance with 40 CFR 63.114(c) and 63.117(e). For flares, the hourly records and records of pilot flame outages specified in table 3 of 40 CFR 63 Subpart G shall be maintained in place of continuous records [40 CFR 63.118(a)(1)].

ii. Pursuant to 40 CFR 63.118(a)(2), records of the daily average value of each continuously monitored parameter for each operating day determined according to the procedures specified in Condition 5.6.4(a) (see also 40

CFR 63.152(f)). For flares, records of the times and duration of all periods during which all pilot flames are absent shall be kept rather than daily averages.

A. The daily average shall be calculated as the average of all values for a monitored parameter recorded during the operating day, except as provided in Condition 7.7.9 (b)(ii)(B) (see also 40 CFR 63.118 (a)(2)(ii)). The average shall cover a 24-hour period if operation is continuous, or the number of hours of operation per operating day if operation is not continuous [40 CFR 63.118(a)(2)(i)].

B. Monitoring data recorded during periods of monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments shall not be included in computing the hourly or daily averages. Records shall be kept of the times and durations of all such periods and any other periods of process or control device operation when monitors are not operating [40 CFR 63.118(a)(2)(ii)].

C. The operating day shall be the period defined in the operating permit or the Notification of Compliance Status in Condition 5.7.4(b) (see also 40 CFR 63.152(b)). It may be from midnight to midnight or another daily period [40 CFR 63.118(a)(2)(iii)].

D. If all recorded values for a monitored parameter during an operating day are within the range established in the Notification of Compliance Status in Condition 5.7.4(b) (see also 40 CFR 63.152(b)) or operating permit, the owner or operator may record that all values were within the range rather than calculating and recording a daily average for that operating day [40 CFR 63.118 (a)(2)(iv)].

c. Records of the testing of the efficiency of each capture system and control device pursuant to Condition 7.7.7(c), which include the following [Section 39.5(7)(e) of the Act]:

   i. The date, place and time of sampling or measurements;

   ii. The date(s) analyses were performed;

   iii. The company or entity that performed the analyses;

   iv. The analytical techniques or methods used;

   v. The results of such analyses; and

   vi. The operating conditions as existing at the time of sampling or measurement.

d. Records addressing use of good operating practices for the thermal oxidizers and entrainment system:

   i. Records for periodic inspection of the thermal oxidizers and entrainment system with date, individual performing the inspection, and nature of inspection; and

   ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

e. Phthalic anhydride production rate, lb/day, ton/mo, and tons/yr;

f. Total sulfur content of napthalene feed based upon daily sampling;

g. Amount of napthalene fed to each affected reactor train, lb/day, ton/mo, and tons/yr;

h. Amount of O-xylene fed to each affected reactor train, lb/day, ton/mo, and tons/yr;

i. The operating schedule of the affected reactor trains;

j. Average hourly $SO_2$ emissions from the affected reactor trains based on three minute samples of air flows and sulfur dioxide concentrations;

k. The daily, monthly, and aggregate annual $SO_2$ emissions from the affected reactor trains based on the average hourly $SO_2$ emissions and the operating schedule of the affected reactor trains; and

l. The daily, monthly, and aggregate annual CO, $NO_x$, and VOM emissions from the affected reactor trains based on the phthalic anhydride production rate, the thermal oxidizer and entrainment system efficiencies, and applicable emission factors and formulas with supporting calculations.

7.7.10 Reporting Requirements

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

a. Pursuant to 40 CFR 63.117(a), each owner or operator subject to the control provisions for Group 1 vent streams in Condition 7.7.3(b) (see also 40 CFR 63.113(a)) or the provisions for Group 2 vent streams with a TRE index value greater than 1.0 but less than or equal to 4.0 in 40 CFR 63.113(d) shall:

i. Include the data in Conditions 7.7.10(a)(iii) through (v) (see also 40 CFR 63.117(a)(4) through (a)(8)) in the Notification of Compliance Status report as specified in Condition 5.7.4(b) (see also 40 CFR 63.152(b)) [40 CFR 63.117(a)(2)].

ii. If any subsequent TRE determinations or performance tests are conducted after the Notification of Compliance Status has been submitted, report the data in Conditions

7.7.10 (a)(iii) through (v) (see also 40 CFR 63.117 (a)(4) through (a)(8)) in the next Periodic Report as specified in Condition 5.7.4(c) (see also 40 CFR 63.152(c)) [40 CFR 63.117(a)(3)].

iii. Pursuant to 40 CFR 63.117(a)(4), report the following when using a combustion device to achieve a 98 weight percent reduction in organic HAP or an organic HAP concentration of 20 parts per million by volume, as specified in Condition 7.7.3(b) (see also 40 CFR 63.113(a)(2)):

A. The parameter monitoring results for incinerators, catalytic incinerators, boilers or process heaters specified in table 3 of 40 CFR 63 Subpart G and averaged over the same time period of the performance testing [40 CFR 63.117 (a)(4)(i)].

B. For an incinerator, the percent reduction of organic HAP or TOC achieved by the incinerator determined as specified in Condition 7.7.7(a) (see also 40 CFR 63.116(c)), or the concentration of organic HAP or TOC (parts per million by volume, by compound) determined as specified in Condition 7.7.7(a) (see also 40 CFR 63.116(c)) at the outlet of the incinerator on a dry basis corrected to 3 percent oxygen [40 CFR 63.117(a)(4)(ii)].

iv. Pursuant to 40 CFR 63.117(a)(6), report the following when using a scrubber following a combustion device to control a halogenated process vent stream:

A. The percent reduction or scrubber outlet mass emission rate of total hydrogen halides and halogens as specified in Condition 7.7.7(b) (see also 40 CFR 63.116(d)) [40 CFR 63.117(a)(6)(i)];

B. The pH of the scrubber effluent [40 CFR 63.117(a)(6)(ii)]; and

C. The scrubber liquid to gas ratio [40 CFR 63.117(a)(6)(iii)].

v. Record and report the halogen concentration in the process vent stream determined according to the procedures specified in Condition 7.7.12 (a)(ii)(B)(V)(1) (see also 63.115(d)(2)(v)) [40 CFR 63.117(a)(8)].

b. Pursuant to 40 CFR 63.118(f), each owner or operator who elects to comply with the requirements of Condition 7.7.3(b) (see also 40 CFR 63.113) shall submit to the Illinois EPA or USEPA Periodic Reports of the following recorded information according to the schedule in Condition 5.7.4 (see also 40 CFR 63.152).

i. Reports of daily average values of monitored parameters for all operating days when the daily average values recorded under Condition 7.7.9(b) (see also 40 CFR 63.118(a)) and 40 CFR 63.118(b) were outside the ranges established in the Notification of Compliance Status or operating permit [40 CFR 63.118(f)(1)].

ii. For Group 1 points, reports of the duration of periods when monitoring data is not collected for each excursion caused by insufficient monitoring data as defined in Condition 5.7.4 (c)(ii)(B)(I) (see also 40 CFR 63.152 (c)(2)(ii)(A)) [40 CFR 63.118(f)(2)].

c. A person planning to conduct a VOM emissions test to demonstrate compliance with 35 IAC 218 Subpart V shall notify the Illinois EPA of that intent not less than 30 days before the planned initiation of the tests so that the Illinois EPA may observe the test [35 IAC 218.526(b)].

d. Emissions of CO and/or $SO_2$ from the affected reactor trains in excess of the limits in Condition 7.7.6(a) based on the current month's records plus the

preceding 11 months within 30 days of such an occurrence.

e. Emissions of CO and/or VOM from Reactor Train D in excess of the limits in Condition 7.7.6(b) based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.7.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.7.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.7.9 and the emission factors and formulas listed below:

a. NESHAP Process Vent Provisions - Methods and Procedures for Process Vent Group Determination

i. Pursuant to 40 CFR 63.115(a), for purposes of determining process vent stream flow rate, total organic hazardous air pollutants or total organic carbon concentration or TRE index value, as specified under Condition 7.7.12(a)(ii) (see also 40 CFR 63.115(d)), the sampling site shall be after the last recovery device (if any recovery devices are present) but prior to the inlet of any control device that is present and prior to release to the atmosphere.

A. Method 1 or 1A of 40 CFR part 60, appendix A, as appropriate, shall be used for selection of the sampling site [40 CFR 63.115(a)(1)].

B. No traverse site selection method is needed for vents smaller than 0.10 meter in diameter [40 CFR 63.115(a)(2)].

ii. Pursuant to 40 CFR 63.115(d), to determine the TRE index value, the owner or operator shall conduct a TRE determination and calculate the TRE index value according to the procedures in

Condition 7.7.12(a)(ii)(A) or (a)(ii)(B) (see also 40 CFR 63.115(d)(1) or (d)(2)) and the TRE equation in Condition 7.7.12(a)(ii)(C) (see also 40 CFR 63.115(d)(3)).

A. Pursuant to 40 CFR 63.115(d)(1), engineering assessment may be used to determine process vent stream flow rate, net heating value, TOC emission rate, and total organic HAP emission rate for the representative operating condition expected to yield the lowest TRE index value.

I. If the TRE value calculated using such engineering assessment and the TRE equation in Condition 7.7.12 (a)(ii)(C) (see also 40 CFR 63.115 (d)(3)) is greater than 4.0, then the owner or operator is not required to perform the measurements specified in Condition 7.7.12 (a)(ii)(B) (see also 40 CFR 63.115 (d)(2)) [40 CFR 63.115(d)(1)(i)].

II. If the TRE value calculated using such engineering assessment and the TRE equation in Condition 7.7.12 (a)(ii)(C) (see also 40 CFR 63.115 (d)(3)) is less than or equal to 4.0, then the owner or operator is required to perform the measurements specified in Condition 7.7.12 (a)(ii)(B) (see also 40 CFR 63.115 (d)(2)) for group determination or consider the process vent a Group 1 vent and comply with the emission reduction specified in Condition 7.7.3(b) (see also 40 CFR 63.113(a)) [40 CFR 63.115(d)(1)(ii)].

III. Pursuant to 40 CFR 63.115 (d)(1)(iii), engineering assessment includes, but is not limited to, the following:

(1) Previous test results provided the tests are representative of current operating practices at the process unit [40 CFR 63.115(d)(1)(iii)(A)].

(2) Bench-scale or pilot-scale test data representative of the process under representative operating conditions [40 CFR 63.115 (d)(1)(iii)(B)].

(3) Maximum flow rate, TOC emission rate, organic HAP emission rate, or net heating value limit specified or implied within a permit limit applicable to the process vent [40 CFR 63.115(d)(1)(iii)(C)].

(4) Pursuant to 40 CFR 63.115 (d)(1)(iii)(D), design analysis based on accepted chemical engineering principles, measurable process parameters, or physical or chemical laws or properties. Examples of analytical methods include, but are not limited to:

(a) Use of material balances based on process stoichiometry to estimate maximum organic HAP concentrations [40 CFR 63.115 (d)(1)(iii)(D)(1)];

(b) Estimation of maximum flow rate based on physical equipment design such as pump or blower capacities [40

CFR 63.115 (d)(1)(iii)(D)(2)];

(c) Estimation of TOC or organic HAP concentrations based on saturation conditions [40 CFR 63.115 (d)(1)(iii)(D)(3)];

(d) Estimation of maximum expected net heating value based on the stream concentration of each organic compound or, alternatively, as if all TOC in the stream were the compound with the highest heating value [40 CFR 63.115 (d)(1)(iii)(D)(4)].

(5) All data, assumptions, and procedures used in the engineering assessment shall be documented [40 CFR 63.115 (d)(1)(iii)(E)].

B. Pursuant to 40 CFR 63.115(d)(2), except as provided in Condition 7.7.12(a)(ii)(A) (see also 40 CFR 63.115(d)(1)), process vent stream flow rate, net heating value, TOC emission rate, and total organic HAP emission rate shall be measured and calculated according to the procedures in Conditions 7.7.12(a)(ii)(B)(I) through (a)(ii)(B)(V) (see also 40 CFR 63.115 (d)(2)(i) through (d)(2)(v)) and used as input to the TRE index value calculation in Condition 7.7.12(a)(ii)(C) (see also 40 CFR 63.115(d)(3)).

I. The vent stream volumetric flow rate ($Q_s$), in standard cubic meters per minute at 20°C, shall be determined using Method 2, 2A, 2C, or 2D of 40

CFR part 60, appendix A, as appropriate. If the vent stream tested passes through a final steam jet ejector and is not condensed, the stream volumetric flow shall be corrected to 2.3 percent moisture [40 CFR 63.115(d)(2)(i)].

II. Pursuant to 40 CFR 63.115(d)(2)(ii), the molar composition of the process vent stream, which is used to calculate net heating value, shall be determined using the following methods:

(1) Method 18 of 40 CFR part 60, appendix A to measure the concentration of each organic compound [40 CFR 63.115 (d)(2)(ii)(A)].

(2) American Society for Testing and Materials D1946-77 to measure the concentration of carbon monoxide and hydrogen [40 CFR 63.115(d)(2)(ii)(B)].

(3) Method 4 of 40 CFR part 60, appendix A to measure the moisture content of the stack gas [40 CFR 63.115 (d)(2)(ii)(C)].

III. Pursuant to 40 CFR 63.115 (d)(2)(iii), the net heating value of the vent stream shall be calculated using the following equation:

$$H_T = K_1\left(\sum_{j=1}^{n} C_j H_j\right)(1 - B_{ws})$$

where:

$H_T$ = Net heating value of the sample, megaJoule per standard cubic meter, where the net enthalpy per mole of vent stream is based on combustion at 25°C and 760 millimeters of mercury, but the standard temperature for determining the volume corresponding to one mole is 20°C, as in the definition of $Q_s$ (vent stream flow rate).

$K_l$ = Constant, $1.74 \times 10^{-7}$ (parts per million)$^{-1}$ (gram-mole per standard cubic meter) (megaJoule per kilocalorie), where standard temperature for (gram-mole per standard cubic meter) is 20°C.

$B_{ws}$ = Water vapor content of the vent stream, proportion by volume; except that if the vent stream passes through a final steam jet and is not condensed, it shall be assumed that $B_{ws}$ = 0.023 in order to correct to 2.3 percent moisture.

$C_j$ = Concentration on a dry basis of compound j in parts per million, as measured for all organic compounds by Method 18 to 40 CFR part 60, appendix A and measured for hydrogen and carbon monoxide by American Society for Testing and Materials D1946-77 as indicated in Condition 7.7.12 (a)(ii)(B)(II) (see also 40 CFR 63.115(d)(2)(ii)).

$H_j$ = Net heat of combustion of compound j, kilocalorie per

gram-mole, based on combustion at 25°C and 760 millimeters mercury. The heats of combustion of vent stream components shall be determined using American Society for Testing and Materials D2382-76 if published values are not available or cannot be calculated.

IV. Pursuant to 40 CFR 63.115(d)(2)(iv), the emission rate of TOC (minus methane and ethane) ($E_{TOC}$) and the emission rate of total organic HAP ($E_{HAP}$) in the vent stream shall both be calculated using the following equation:

$$E = K_2 \left[ \sum_{j=1}^{n} C_j M_j \right] Q_s$$

where:

E = Emission rate of TOC (minus methane and ethane) or emission rate of total organic HAP in the sample, kilograms per hour.

$K_2$ = Constant, $2.494 \times 10^{-6}$ (parts per million)$^{-1}$ (gram-mole per standard cubic meter) (kilogram/gram) (minutes/hour), where standard temperature for (gram-mole per standard cubic meter) is 20°C.

$C_j$ = Concentration on a dry basis of organic compound j in parts per million as measured by Method 18 of 40 CFR part 60, appendix A, as indicated in Condition 7.7.12(a)(2)(B)(II) (see also 40 CFR 63.115

(d)(2)(ii)). If the TOC emission rate is being calculated, $C_j$ includes all organic compounds measured minus methane and ethane; if the total organic HAP emission rate is being calculated, only organic HAP compounds listed in table 2 in 40 CFR 63 Subpart F are included.

$M_j$ = Molecular weight or organic compound j, gram/gram-mole.

$Q_s$ = Vent stream flow rate, dry standard cubic meter per minute, at a temperature of 20°C.

V. Pursuant to 40 CFR 63.115(d)(2)(v), in order to determine whether a vent stream is halogenated, the mass emission rate of halogen atoms contained in organic compounds shall be calculated.

(1) Pursuant to 40 CFR 63.115 (d)(2)(v)(A), the vent stream concentration of each organic compound containing halogen atoms (parts per million by volume, by compound) shall be determined based on the following procedures:

(a) Process knowledge that no halogen or hydrogen halides are present in the process [40 CFR 63.115(d)(2)(v)(A)(1)]; or

(b) Applicable engineering assessment as discussed in Condition 7.7.12 (a)(ii)(A)(III) (see

also 40 CFR 63.115 (d)(1)(iii)) [40 CFR 63.115(d)(2)(v)(A)(2)]; or

(c) Concentration of organic compounds containing halogens measured by Method 18 of 40 CFR part 60, appendix A [40 CFR 63.115(d)(2)(v)(A)(3)]; or

(d) Any other method or data that has been validated according to the applicable procedures in Method 301 of appendix A of 40 CFR part 63 [40 CFR 63.115 (d)(2)(v)(A)(4)].

(2) Pursuant to 40 CFR 63.115 (d)(2)(v)(B), the following equation shall be used to calculate the mass emission rate of halogen atoms:

$$E = K_2 Q \left( \sum_{j=1}^{n} \sum_{i=1}^{m} C_j \times L_{j,i} \times M_{j,i} \right)$$

where:

E = mass of halogen atoms, dry basis, kilogram per hour.

$K_2$ = Constant, $2.494 \times 10^{-6}$ (parts per million)$^{-1}$ (kilogram-mole per standard cubic meter) (minute/hour), where standard temperature is 20°C.

$C_j$ = Concentration of halogenated compound j in the gas stream, dry basis, parts per million by volume.

$M_{ji}$ = Molecular weight of halogen atom i in compound j of the gas stream, kilogram per kilogram-mole.

$L_{ji}$ = Number of atoms of halogen i in compound j of the gas stream.

Q = Flow rate of gas stream, dry standard cubic meters per minute, determined according to Condition 7.7.12 (a)(ii)(A) or (a)(ii)(B) (see also 40 CFR 63.115 (d)(1) or (d)(2)(i)).

j = Halogenated compound j in the gas stream.

i = Halogen atom in i compound j of the gas stream.

n = Number of halogenated compounds j in the gas stream.

m = Number of different halogens i in each compound j of the gas stream.

C. Pursuant to 40 CFR 63.115(d)(3), the owner or operator shall calculate the TRE index value of the vent stream using the equations and procedures in this Condition.

I. Pursuant to 40 CFR 63.115(d)(3)(i), the equation for calculating the TRE index for a vent stream controlled by a flare or incinerator is as follows:

$$TRE = \frac{1}{E_{HAP}}\left[a + b(Q_s) + c(H_T) + d(E_{TOC})\right]$$

where:

TRE = TRE index value.

$E_{HAP}$ = Hourly emission rate of total organic HAP, kilograms per hour, as calculated in Condition 7.7.12(a)(ii)(A) or (a)(ii)(B)(IV) (see also 40 CFR 63.115(d)(1) or (d)(2)(iv)).

$Q_s$ = Vent stream flow rate, standard cubic meters per minute, at a standard temperature of 20°C, as calculated in Condition 7.7.12 (a)(ii)(A) or (a)(ii)(B)(I) (see also 40 CFR 63.115(d)(1) or (d)(2)(i)).

$H_T$ = Vent stream net heating value, megaJoules per standard cubic meter, as calculated in Condition 7.7.12(a)(ii)(A) or (a)(ii)(B)(III) (see also 40 CFR 63.115(d)(1) or (d)(2)(iii)).

$E_{TOC}$ = Emission rate of TOC (minus methane and ethane), kilograms per hour, as calculated in Condition 7.7.12(a)(ii)(A) or (a)(ii)(B)(IV) (see also 40 CFR 63.115(d)(1) or (d)(2)(iv)).

a,b,c,d = Coefficients presented in table 1 of 40 CFR 63 Subpart G, selected in accordance with Conditions 7.7.12 (a)(ii)(C)(II) and (III) (see also 40 CFR 63.115(d)(3)(ii) and (iii)).

II. The owner or operator of a nonhalogenated vent stream shall calculate the TRE index value based on the use of a flare, a thermal incinerator with 0 percent heat recovery, and a thermal incinerator with 70 percent heat recovery and shall select the lowest TRE index value. The owner or operator shall use the applicable coefficients in table 1 of 40 CFR 63 Subpart G for nonhalogenated vent streams located within existing sources and the applicable coefficients in table 2 of 40 CFR 63 Subpart G for nonhalogenated vent streams located within new sources [40 CFR 63.115 (d)(3)(ii)].

III. The owner or operator of a halogenated vent stream shall calculate the TRE index value based on the use of a thermal incinerator with 0 percent heat recovery, and a scrubber. The owner or operator shall use the applicable coefficients in table 1 of 40 CFR 63 Subpart G for halogenated vent streams located within existing sources and the applicable coefficients in table 2 of 40 CFR 63 Subpart G for halogenated vent streams located within new sources [40 CFR 63.115(d)(3)(iii)].

b. Pursuant to 35 IAC 218.520(c), the limitations of Condition 7.7.3(g)(i) (see also 35 IAC 218.520(a))

shall apply to any process vent stream or combination of process vent streams with a Total Resource Effectiveness Index (TRE) less than or equal to 6.0. TRE shall be determined by the following methods:

i. If an air oxidation process has more than one process vent stream, TRE shall be the more stringent of either the TRE based upon a combination of the process vent streams or the TRE based upon each individual process vent stream [35 IAC 218.520(c)(i)].

ii. Pursuant to 35 IAC 218.520(c)(ii), the TRE of a process vent stream and the TRE of a combination of process vent streams, whichever is applicable, shall be determined according to the following equation:

$$TRE = E^{(-1)} [a + bF(n) + cF + dFH + e(FxH)(n) + fF(0.5)]$$

where:

n = 0.88;

TRE= Total resource effectiveness index;

F = Vent stream flowrate (scm/min), at a standard temperature of 20°C;

E = Hourly measured emissions in kg/hr;

H = Net heating value of vent stream (MJ/scm), where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 mmHg, but the standard temperature for determining the volume corresponding to one mole is 20°C, as in the definition of "Flow";

a,b,c,d,e and f= Coefficients obtained by use of Appendix D.

iii. Pursuant to 35 IAC 218.520(c)(3), for nonchlorinated process vent streams, if the net heating value, H, is greater than 3.6

MJ/scm, F shall be replaced by F' for purposes of calculating TRE. F' is computed as follows:

$$F' = FH / 3.6$$

where

F and H are as defined in Condition 7.7.12 (b)(ii) (see also 35 IAC 218.520(c)(2)).

iv. Pursuant to 35 IAC 218.520(c)(4), the actual numerical values used in the equation described in Condition 7.7.12(b)(ii) (see also 35 IAC 218.520(c)(2)) shall be determined as follows:

A. All reference methods and procedures for determining the flow (F), hourly emissions (E), and net heating (H), value shall be in accordance with Appendix C [35 IAC 218.520(c)(4)(A)].

B. All coefficients described in Condition 7.7.12(b)(ii) (see also 35 IAC 218.520 (c)(2)) shall be in accordance with Appendix D [35 IAC 218.520(c)(4)(B)].

c. Compliance with Conditions 7.7.3(d) and 7.7.6(a) is assumed to be achieved by proper operation of the CEMS, as addressed by Condition 7.7.8(c).

d. To determine compliance with Conditions 5.5.1, 5.5.3, 7.7.3(f) and 7.7.6(b), VOM emissions from the affected reactor trains shall be calculated based on the following:

i. Reactor Train Emissions:

Reactor Train Emissions (lb/yr) = (Stack Tested Emission Rate*, lb/reactor-hr) x (Production Multiplier) x [1 - (Thermal Oxidizer Efficiency* (%)/100)] x [1 - (Entrainment System Efficiency* (%)/100)] x (Operating Schedule, hr/yr)

*As specified by stack testing performed on June 6 - 9, 1995 in the absence of more recent testing pursuant to Condition 7.7.7.

ii. Production Multiplier:

Production Multiplier = (Stack Test Production Rate, lb) / (Actual Production Rate, lb)

## 7.8 Unit MF-106 Vaporizer Bottoms Tank Control SB-4 Sublimitation Box

### 7.8.1 Description

The Napthalene Vaporizer Oil Tank was constructed after 1972 and has capacity of less than 10,000 gallons.

### 7.8.2 List of Emission Units and Pollution Control Equipment

| Emission Unit | Description | Emission Control Equipment |
|---|---|---|
| MF-106 | 5,100 Gallon Napthalene Vaporizer Oil Tank (Tank MF-106) | Sublimation Box No. 4 |

### 7.8.3 Applicability Provisions and Applicable Regulations

a. Tank MF-106 is an “affected tank" for the purpose of these unit-specific conditions.

b. The affected tank is subject to the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater, 40 CFR 63 Subparts A and G, specifically sections 40 CFR 63.120 through 63.123 for storage vessels. The Illinois EPA is administering the NESHAP in Illinois under a delegation agreement. For purposes of 40 CFR 63 Subpart G, the affected tanks are Group 2 Storage Vessels because the capacity of each affected tank is less than 75 $m^3$. Pursuant to 40 CFR 63.119(a), for each storage vessel to which 40 CFR 63 Subpart G applies, the owner or operator shall comply with the requirements of Conditions 7.8.3(b)(i) and (b)(ii) (see also 40 CFR 63.119(a)(1), (a)(2), (a)(3), and (a)(4)) no later than April 22, 1997 (the schedule provision of 40 CFR 63.100(k)(2)(i) of 40 CFR 63 Subpart F).

i. For each Group 2 storage vessel that is not part of an emissions average as described in 40 CFR 63.150, the owner or operator shall comply with the recordkeeping requirement in Condition 7.8.9(a) (see also 40 CFR 63.123(a)) and is not required to comply with any other

provisions in 40 CFR 63.119 through 63.123 [40 CFR 63.119(a)(3)].

ii. For each Group 2 storage vessel that is part of an emissions average, the owner or operator shall comply with the emissions averaging provisions in 40 CFR 63.150 [40 CFR 63.119(a)(4)].

c. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301]

7.8.4 Non-Applicability of Regulations of Concern

a. The affected tank is not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subpart Ka because the affected tank has a storage capacity less than 151,416 liters (40,000 gallons).

b. The affected tank is not subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subpart Kb, because the affected tank has a capacity less than 40 $m^3$ (10,566.8 gallons).

c. The affected tank is not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119(e), which exempts vessels storing petroleum liquids.

d. The affected tank is not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(6), which exempts stationary storage tanks in which volatile petroleum liquid is not stored. Pursuant to 35 IAC 211.7170, a volatile petroleum liquid means any petroleum liquid

with a true vapor pressure that is greater than 1.5 psia (78 mmHg) at standard conditions. The affected tank is used to store petroleum liquids with vapor pressures of less than 1.5 psia at standard conditions.

e. The affected tank is not subject to the requirements of 35 IAC 218.122, Loading Operations, because pursuant to 35 IAC 218.122(c), if no odor nuisance exists the limitations of 35 IAC 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3$^{o}$K (70$^{o}$F).

7.8.5 Operational and Production Limits and Work Practices

a. The affected tank shall only be used for the storage of petroleum liquids with true vapor pressures of less than 1.5 psia at standard conditions.

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

7.8.6 Emission Limitations

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.8.7 Testing Requirements

None

7.8.8 Monitoring Requirements

The Permittee shall fulfill all the applicable leak inspection provisions as specified by 40 CFR 63.148.

7.8.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected tank to demonstrate compliance with Conditions 5.5.1 and 7.8.3, pursuant to Section 39.5(7)(b) of the Act:

a. Each owner or operator of a Group 1 or Group 2 storage vessel shall keep readily accessible records showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel. This record shall be kept as long as the storage vessel retains Group 1 or Group 2 status and is in operation. For each Group 2 storage vessel, the owner or operator is not required to comply with any other provisions of 40 CFR 63.119 through 63.123 other than those required by this Condition unless such vessel is part of an emissions average as described in 40 CFR 63.150 [40 CFR 63.123(a)].

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

c. Records addressing use of good operating practices for the sublimation box:

   i. Records for periodic inspection of the sublimation box with date, individual performing the inspection, and nature of inspection; and

   ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

d. Identification of the material stored in the affected tank;

e. Maximum true vapor pressure of each material stored in the affected tank, psia;

f. The throughput of the affected tank, gal/mo and gal/yr; and

g. The monthly and aggregate annual VOM emissions for the affected tank based on material stored, tank

throughput, and applicable emission factors and formulas with supporting calculations.

7.8.10 Reporting Requirements

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

The storage of any VOL or VPL other than the material specified in Condition 7.8.5 within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

7.8.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.8.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.8.9 and the emission factors and formulas listed below:

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

7.9 Units PAA-CST and PAA-RST — Intermediate Crude and Refined Phthalic Anhydride Storage Tanks

Controls PAA-TFSC — PAA Tank Farm Switch Condensers

7.9.1 Description

These tanks were constructed prior to 1978 and each has a capacity of greater than 40,000 gallons. Crude phthalic anhydride is stored in tanks MF-4150 and MF301B after the phthalic anhydride vapors are recovered using the switch condensers. Refined phthalic anhydride is stored in tanks MF301A, MF302A, MF302B, MF311 and MS-308. Emissions from these tanks were previously controlled by sublimation boxes, which have now been replaced with switch condensers.

7.9.2 List of Emission Units and Pollution Control Equipment

| Emission Unit | Description | Emission Control Equipment |
|---|---|---|
| MF301A | 202,000 Gallon Refined Phthalic Anhydride Storage Tank (Tank 301A) | PAA Tank Farm Switch Condensers |
| MF301B | 202,000 Gallon Intermediate Crude Phthalic Anhydride Storage Tank (Tank 301B) | PAA Tank Farm Switch Condensers |
| MF302A | 54,000 Gallon Refined Phthalic Anhydride Storage Tank (Tank 302A) | PAA Tank Farm Switch Condensers |
| MF302B | 54,000 Gallon Refined Phthalic Anhydride Storage Tank (Tank 302B) | PAA Tank Farm Switch Condensers |
| MF-4150 | 240,000 Gallon Intermediate Crude Phthalic Anhydride Storage Tank (Tank MF-4150) | PAA Tank Farm Switch Condensers |

7.9.3 Applicability Provisions and Applicable Regulations

a. The intermediate crude and refined phthalic anhydride storage tanks are “affected tanks” for the purpose of these unit-specific conditions.

b. The affected tanks are subject to the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process

Vents, Storage Vessels, Transfer Operations, and Wastewater, 40 CFR 63 Subparts A and G, specifically sections 40 CFR 63.120 through 63.123 for storage vessels. The Illinois EPA is administering the NESHAP in Illinois under a delegation agreement. For purposes of 40 CFR 63 Subpart G, the affected tanks are Group 2 Storage Vessels because the capacity of each affected tank is greater than 151 $m^3$ and are used to store a liquid with maximum true vapor pressure of the total organic hazardous air pollutants in the liquid of less than 5.2 kPa. Pursuant to 40 CFR 63.119(a), for each storage vessel to which 40 CFR 63 Subpart G applies, the owner or operator shall comply with the requirements of Conditions 7.9.3(b)(i) and (b)(ii) (see also 40 CFR 63.119(a)(1), (a)(2), (a)(3), and (a)(4)) no later than April 22, 1997 (the schedule provision of 40 CFR 63.100(k)(2)(i) of 40 CFR 63 Subpart F).

i. For each Group 2 storage vessel that is not part of an emissions average as described in 40 CFR 63.150, the owner or operator shall comply with the recordkeeping requirement in Condition 7.9.9(a) (see also 40 CFR 63.123(a)) and is not required to comply with any other provisions in 40 CFR 63.119 through 63.123 [40 CFR 63.119 (a)(3)].

ii. For each Group 2 storage vessel that is part of an emissions average, the owner or operator shall comply with the emissions averaging provisions in 40 CFR 63.150 [40 CFR 63.119 (a)(4)].

c. The affected tanks are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.9.3 (c)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

ii Emissions of organic material in excess of those permitted by Condition 7.9.3(c)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by a vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)].

7.9.4 Non-Applicability of Regulations of Concern

a. The affected tanks are not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subpart Ka because construction of each affected tank was commenced prior to 1978.

b. The affected tanks are not subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subpart Kb, because each affected tank was constructed prior to July 23, 1984.

c. The affected tanks are not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119(e), which exempts vessels storing petroleum liquids.

d. The affected tanks are not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(6), which exempts stationary storage tanks in which volatile petroleum liquid is not stored. Pursuant to 35 IAC 211.7170, a volatile petroleum liquid means any petroleum liquid with a true vapor pressure that is greater than 1.5 psia (78 mmHg) at standard conditions. The affected tanks are used to store petroleum liquids with a vapor pressure of less than 1.5 psia at standard conditions.

e. The affected tanks are not subject to the requirements of 35 IAC 218.122, Loading Operations,

because pursuant to 35 IAC 218.122(c), if no odor nuisance exists the limitations of 35 IAC 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F).

7.9.5 Operational and Production Limits and Work Practices

a. The affected tanks shall only be used for the storage of petroleum liquids with true vapor pressures of less than 1.5 psia at standard conditions.

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

7.9.6 Emission Limitations

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

a. Emissions and operation of the affected tanks shall not exceed the following limits:

i. The switching condensers shall achieve a recovery efficiency of 80% or greater at all times phthalic anhydride is present in the storage vessels and/or liquid loading operations occur.

ii. This permit is issued based upon replacement of the sublimation boxes with switching condensers which will result in no increase of VOM emissions to the atmosphere.

iii. Annual emissions of VOM from the storage vessels and loading operations utilizing the switching condensers shall not exceed 9.0 tons/year.

b. The above limitations were established in Permit 97120034, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not

constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

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

7.9.7 Testing Requirements

Pursuant to 35 IAC 218.105(d)(1) and Section 39.5(7)(b) of the Act, the control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified below (see also 35 IAC 218.105(f)):

a. Volatile Organic Material Gas Phase Source Test Methods The methods in 40 CFR Part 60, Appendix A, delineated below shall be used to determine control device efficiencies [35 IAC 218.105(f)].

i. CFR Part 60, Appendix A, Method 18, 25 or 25A, as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. The test shall consist of three separate runs, each lasting a minimum of 60 min, unless the Illinois EPA and the USEPA determine that process variables dictate shorter sampling times [35 IAC 218.105(f)(1)].

ii. 40 CFR Part 60, Appendix A, Method 1 or 1A shall be used for sample and velocity traverses [35 IAC 218.105(f)(2)].

iii. 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D shall be used for velocity and volumetric flow rates [35 IAC 218.105(f)(3)].

iv. 40 CFR Part 60, Appendix A, Method 3 shall be used for gas analysis [35 IAC 218.105(f)(4)].

v. 40 CFR Part 60, Appendix A, Method 4 shall be used for stack gas moisture [35 IAC 218.105 (f)(5)].

vi. 40 CFR Part 60, Appendix A, Methods 2, 2A, 2C, 2D, 3 and 4 shall be performed, as applicable, at least twice during each test run [35 IAC 218.105(f)(6)].

vii. Use of an adaptation to any of the test methods specified in Conditions 7.9.7(a)(i), (ii), (iii), (iv), (v) and (vi) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) may not be used unless approved by the Illinois EPA and the USEPA on a case by case basis. An owner or operator must submit sufficient documentation for the Illinois EPA and the USEPA to find that the test methods specified in Conditions 7.9.7 (a)(i), (ii), (iii), (iv), (v) and (vi) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) will yield inaccurate results and that the proposed adaptation is appropriate [35 IAC 218.105(f)(7)].

b. Notwithstanding other requirements of 35 IAC Part 218, upon request of the Illinois EPA where it is necessary to demonstrate compliance, an owner or operator of an emission unit which is subject to 35 IAC Part 218 shall, at his own expense, conduct tests in accordance with the applicable test methods and procedures specific in this Part. Nothing in this Condition (see also 35 IAC 218.105) shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing [35 IAC 218.105(i)].

7.9.8 Monitoring Requirements

The Permittee shall fulfill all the applicable leak inspection provisions as specified by 40 CFR 63.148.

7.9.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items

for each affected tank to demonstrate compliance with Conditions 5.5.1, 7.9.3, and 7.9.5, pursuant to Section 39.5(7)(b) of the Act:

a. Each owner or operator of a Group 1 or Group 2 storage vessel shall keep readily accessible records showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel. This record shall be kept as long as the storage vessel retains Group 1 or Group 2 status and is in operation. For each Group 2 storage vessel, the owner or operator is not required to comply with any other provisions of 40 CFR 63.119 through 63.123 other than those required by this Condition unless such vessel is part of an emissions average as described in 40 CFR 63.150 [40 CFR 63.123(a)].

b. Records of the testing of the efficiency of each capture system and control device pursuant to Condition 7.9.7, which include the following [Section 39.5(7)(e) of the Act]:

   i. The date, place and time of sampling or measurements;

   ii. The date(s) analyses were performed;

   iii. The company or entity that performed the analyses;

   iv. The analytical techniques or methods used;

   v. The results of such analyses; and

   vi. The operating conditions as existing at the time of sampling or measurement.

c. Records addressing use of good operating practices for the switch condensers:

   i. Records for periodic inspection of the switch condensers with date, individual performing the inspection, and nature of inspection; and

   ii. Records for prompt repair of defects, with identification and description of defect,

effect on emissions, date identified, date repaired, and nature of repair.

d. Identification of the material stored in each affected tank;

e. Maximum true vapor pressure of each material stored in each affected tank, psia;

f. The throughput of each affected tank, gal/mo and gal/yr; and

g. The monthly and aggregate annual VOM emissions for the affected tanks based on material stored, tank throughput, and applicable emission factors and formulas with supporting calculations.

7.9.10 Reporting Requirements

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

a. The storage of any VOL or VPL other than the material specified in Condition 7.9.5 within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

b. Emissions of VOM from affected loading operations in excess of the limits in Condition 7.9.6(a) based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.9.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.9.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.9.9 and the emission factors and formulas listed below:

a. Compliance with Condition 7.9.3(c) is assumed to be achieved by proper operation of the switch condensers, as addressed by Conditions 7.9.5(b) and 7.9.9(c).

b. For the purpose of estimating VOM emissions from the affected tanks, the version 3.1 of the TANKS program is acceptable.

## 7.10 Units MF-311 and MS-303 Refined Phthalic Anhydride Storage Tanks Controls SB-14 and MSC Sublimation Box 14 and Mini-Switch Condenser System

### 7.10.1 Description

These tanks were constructed prior to 1978 and each has a capacity of 10,000 gallons. Refined phthalic anhydride is stored in these tanks. Emissions from these tanks are controlled by sublimation boxes, which cause phthalic anhydride to sublime, or go from gaseous state to the solid state without passing through the liquid state.

### 7.10.2 List of Emission Units and Pollution Control Equipment

| Emission Unit | Description | Emission Control Equipment |
|---|---|---|
| MF-311 | 10,000 Gallon Refined Phthalic Anhydride Storage Tank (Tank MF-311) | Mini-Switch Condenser System |
| MS-308 | 10,000 Gallon Refined Phthalic Anhydride Flaker Feed Storage Tank (Tank MS-308) | Sublimation Box No. 14 |

### 7.10.3 Applicability Provisions and Applicable Regulations

a. Tanks MF-311 and MS-308 are “affected tanks” for the purpose of these unit-specific conditions.

b. The affected tanks are subject to the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater, 40 CFR 63 Subparts A and G, specifically sections 40 CFR 63.120 through 63.123 for storage vessels. The Illinois EPA is administering the NESHAP in Illinois under a delegation agreement. For purposes of 40 CFR 63 Subpart G, the affected tanks are Group 2 Storage Vessels because the capacity of each affected tank is less than 75 $m^3$. Pursuant to 40 CFR 63.119(a), for each storage vessel to which 40 CFR 63 Subpart G applies, the owner or operator shall comply with the requirements of Conditions 7.9.3(b)(i) and (b)(ii) (see also 40 CFR 63.119(a)(1), (a)(2), (a)(3), and (a)(4)) no later

than April 22, 1997 (the schedule provision of 40 CFR 63.100(k)(2)(i) of 40 CFR 63 Subpart F).

i. For each Group 2 storage vessel that is not part of an emissions average as described in 40 CFR 63.150, the owner or operator shall comply with the recordkeeping requirement in Condition 7.10.9(a) (see also 40 CFR 63.123(a)) and is not required to comply with any other provisions in 40 CFR 63.119 through 63.123 [40 CFR 63.119 (a)(3)].

ii. For each Group 2 storage vessel that is part of an emissions average, the owner or operator shall comply with the emissions averaging provisions in 40 CFR 63.150 [40 CFR 63.119 (a)(4)].

c. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301]

7.10.4 Non-Applicability of Regulations of Concern

a. The affected tanks are not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subpart Ka because each affected tank has a storage capacity less than 151,416 liters (40,000 gallons).

b. The affected tanks are not subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subpart Kb, because each affected tank has a capacity less than 40 $m^3$ (10,566.8 gallons).

c. The affected tanks are not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage

Containers of VOL, pursuant to 35 IAC 218.119(e), which exempts vessels storing petroleum liquids.

d. The affected tanks are not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(6), which exempts stationary storage tanks in which volatile petroleum liquid is not stored. Pursuant to 35 IAC 211.7170, a volatile petroleum liquid means any petroleum liquid with a true vapor pressure that is greater than 1.5 psia (78 mmHg) at standard conditions. The affected tank is used to store petroleum liquids with vapor pressures of less than 1.5 psia at standard conditions.

e. The affected tanks are not subject to the requirements of 35 IAC 218.122, Loading Operations, because pursuant to 35 IAC 218.122(c), if no odor nuisance exists the limitations of 35 IAC 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3$^{o}$K (70$^{o}$F).

7.10.5 Operational and Production Limits and Work Practices

a. The affected tanks shall only be used for the storage of petroleum liquids with true vapor pressures of less than 1.5 psia at standard conditions.

b. The Permittee shall follow good operating practices for the sublimation box and mini-switch condenser system, including periodic inspection, routine maintenance and prompt repair of defects.

7.10.6 Emission Limitations

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

a. The switching condenser system shall achieve a recovery efficiency of 80% or greater at all times phthalic anhydride is present in the storage vessels and/or liquid loading operations occur.

b. Annual emissions of VOM from the storage vessels and loading operations recovered by the switching condensers shall not exceed 9.0 tons/year.

c. This permit is issued based upon replacement of the sublimation boxes with switching condensers which will result in no increase of VOM emissions to the atmosphere.

d. The above limitations were established in Permit 97120034, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

e. There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.10.7 Testing Requirements

None

7.10.8 Monitoring Requirements

The Permittee shall fulfill all the applicable leak inspection provisions as specified by 40 CFR 63.148.

7.10.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected tanks to demonstrate compliance with Conditions 5.5.1, 7.10.3, and 7.10.6, pursuant to Section 39.5(7)(b) of the Act:

a. Each owner or operator of a Group 1 or Group 2 storage vessel shall keep readily accessible records showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel. This record shall be kept as long as the storage vessel retains Group 1 or Group 2 status and is in operation. For each Group 2 storage vessel, the owner or operator is not required to comply with any other

provisions of 40 CFR 63.119 through 63.123 other than those required by this Condition unless such vessel is part of an emissions average as described in 40 CFR 63.150 [40 CFR 63.123(a)].

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

c. Records addressing use of good operating practices for the sublimation box and mini-switch condenser system:

   i. Records for periodic inspection of the sublimation box and mini-switch condenser system with date, individual performing the inspection, and nature of inspection; and

   ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

d. Identification of the material stored in the affected tanks;

e. Maximum true vapor pressure of each material stored in the affected tanks, psia;

f. The throughput of the affected tanks, gal/mo and gal/yr; and

g. The monthly and aggregate annual VOM emissions for the affected tanks based on material stored, tank throughput, and applicable emission factors and formulas with supporting calculations.

7.10.10 Reporting Requirements

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

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

a. The storage of any VOL or VPL other than the material specified in Condition 7.8.5 within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

b. Emissions of VOM from affected tanks in excess of the limits in Condition 7.10.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.10.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.10.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.10.9 and the emission factors and formulas listed below:

a. Compliance with Condition 7.10.3(c) is assumed to be achieved by proper operation of the sublimation box and mini-switch condenser system, as addressed by Conditions 7.10.5(b) and 7.10.9(c).

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

7.11 Units PAA-R Phthalic Anhydride Refining
Controls PAA-FS Fume Scrubber

7.11.1 Description

Crude phthalic anhydride goes through a refining process, which is comprised of heat treaters, preflash, strippers, and a refining column (or residue still). The crude liquid is transferred to a pretreatment section in which dehydrated to anhydride. Water, maleic anhydride, and benzoic acid are partially evaporated. The liquid goes to a distillation section where pure phthalic anhydride is recovered. The product can be stored and shipped either as a liquid or a solid, in which it is dried, flaked, and packaged in drums. Refined phthalic anhydride is shipped via rail car, tank wagon, or as a flake.

7.11.2 List of Emission Units and Pollution Control Equipment

| Emission Unit | Description | Emission Control Equipment |
|---|---|---|
| PAA-R | Phthalic Anhydride Refining (Heat Treaters, Preflash, Strippers, Residue Still, and Drumming Operation) | Fume Scrubber |

7.11.3 Applicability Provisions and Applicable Regulations

a. The phthalic anhydride refining operation is an “affected refining process” for the purpose of these unit-specific conditions.

b. The affected refining process is subject to the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry; the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater; and the NESHAP for Equipment Leaks; 40 CFR 63 Subparts A, F, G and H, specifically 40 CFR 63.113 for Process Vents. The Illinois EPA is administering the NESHAP in Illinois under a delegation agreement. For purposes of 40 CFR 63 Subpart G, the process vents associated with the affected refining process are Group 1 Process Vents

because the flow rate is greater than or equal to 0.005 standard cubic meter per minute, the total organic HAP concentration is greater than or equal to 50 parts per million by volume, and the total resource effectiveness index value, calculated according to 40 CFR 63.115, is less than or equal to 1.0. Pursuant to 40 CFR 63.113(a)(2), the owner or operator of a Group 1 process vent as defined in 40 CFR 63 Subpart G shall reduce emissions of total organic hazardous air pollutants by 98 weight-percent or to a concentration of 20 parts per million by volume, whichever is less stringent. For combustion devices, the emission reduction or concentration shall be calculated on a dry basis, corrected to 3-percent oxygen, and compliance can be determined by measuring either organic hazardous air pollutants or total organic carbon using the procedures in 40 CFR 63.116.

i. Compliance with Condition 7.11.3(b) (see also 40 CFR 63.113(a)(2)) may be achieved by using any combination of combustion, recovery, and/or recapture devices, except that a recovery device may not be used to comply with Condition 7.11.3(b) (see also 40 CFR 63.113(a)(2)) by reducing emissions of total organic hazardous air pollutants by 98 weight-percent, except as provided in Condition 7.11.3(b)(ii) (see also 40 CFR 63.113(a)(2)(ii)) [40 CFR 63.113(a)(2)(i)].

ii. Pursuant to 40 CFR 63.113(a)(2)(ii), an owner or operator may use a recovery device, alone or in combination with one or more combustion or recapture devices, to reduce emissions of total organic hazardous air pollutants by 98 weight-percent if all the conditions of Conditions 7.11.3(b)(ii)(A) through (D) (see also 40 CFR 63.113(a)(2)(ii)(A) through (a)(2)(ii)(D)) are met.

A. The recovery device (and any combustion device or recapture device which operates in combination with the recovery device to reduce emissions of total organic hazardous air pollutants by 98 weight-

percent) was installed before the date of proposal of 40 CFR 63 Subpart F (the subpart of 40 CFR Part 63 that makes 40 CFR 63 Subpart G applicable to process vents in the chemical manufacturing process unit) [40 CFR 63.113 (a)(2)(ii)(A)].

B. The recovery device that will be used to reduce emissions of total organic hazardous air pollutants by 98 weight-percent is the last recovery device before emission to the atmosphere [40 CFR 63.113 (a)(2)(ii)(B)].

C. The recovery device, alone or in combination with one or more combustion or recapture devices, is capable of reducing emissions of total organic hazardous air pollutants by 98 weight-percent, but is not capable of reliably reducing emissions of total organic hazardous air pollutants to a concentration of 20 parts per million by volume [40 CFR 63.113(a)(2)(ii)(C)].

D. If the owner or operator disposed of the recovered material, the recovery device would comply with the requirements of 40 CFR 63 Subpart G for recapture devices [40 CFR 63.113(a)(2)(ii)(D)].

c. The affected refining process is subject to the NSPS for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry, 40 CFR 60 Subparts A and VV. The Illinois EPA is administering the NSPS in Illinois under a delegation agreement. Pursuant to 40 CFR 63.160(c), if a process unit is subject to the provisions of 40 CFR 63 Subpart H has equipment subject to 40 CFR 60 Subpart VV, the owner or operator may elect to apply 40 CFR 63 Subpart to all such equipment in the process unit. If the owner or operator elects to this method of compliance, all VOC in such equipment shall be considered, for purposes of applicability and compliance with 40 CFR 63 Subpart H as if it were organic hazardous air pollutant (HAP). Compliance with the provisions of

40 CFR 63 Subpart H, in the manner described in this Condition, shall be deemed compliance with 40 CFR 60 Subpart VV.

d. The affected refining process is subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.11.3 (d)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

ii Emissions of organic material in excess of those permitted by Condition 7.11.3(d)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by a vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)].

7.11.4 Non-Applicability of Regulations of Concern

a. The affected refining process is not subject to the Emission Limitations for Air Oxidation Processes because the affected refining process does not use a combination of air and oxygen as an oxidant in combination with one or more organic reactants to produce one or more organic compounds.

b. The affected refining process is not subject to the NSPS for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations, 40 CFR 60 Subpart NNN because construction of the affected refining process was commenced prior to December 30, 1983.

c. The affected refining process is not subject to 35 IAC 218 Subpart RR, Miscellaneous Organic Chemical

Manufacturing Processes because no chemical reactions are utilized by this manufacturing process.

d. The affected refining process is not subject to 35 IAC 218 Subpart TT, Other Emission Units, pursuant to 35 IAC 218.980(b)(1) and (b)(2) which exempts a source's VOM emissions units, which are included in the category of synthetic organic chemical manufacturing industry (SOCMI).

7.11.5 Operational and Production Limits and Work Practices

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

7.11.6 Emission Limitations

There are no specific emission limitations for these units, however, there are source wide emission limitations in Condition 5.5 that include these units.

7.11.7 Testing Requirements

a. The Permittee shall perform all the applicable performance testing as specified by 40 CFR 63.116.

b. Pursuant to 35 IAC 218.105(d)(1) and Section 39.5(7)(b) of the Act, the control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified below (see also 35 IAC 218.105(f)):

i. Volatile Organic Material Gas Phase Source Test Methods The methods in 40 CFR Part 60, Appendix A, delineated below shall be used to determine control device efficiencies [35 IAC 218.105(f)].

A. CFR Part 60, Appendix A, Method 18, 25 or 25A, as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be based on consideration of the diversity of

organic species present and their total concentration and on consideration of the potential presence of interfering gases. The test shall consist of three separate runs, each lasting a minimum of 60 min, unless the Illinois EPA and the USEPA determine that process variables dictate shorter sampling times [35 IAC 218.105 (f)(1)].

B. 40 CFR Part 60, Appendix A, Method 1 or 1A shall be used for sample and velocity traverses [35 IAC 218.105(f)(2)].

C. 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D shall be used for velocity and volumetric flow rates [35 IAC 218.105 (f)(3)].

D. 40 CFR Part 60, Appendix A, Method 3 shall be used for gas analysis [35 IAC 218.105 (f)(4)].

E. 40 CFR Part 60, Appendix A, Method 4 shall be used for stack gas moisture [35 IAC 218.105(f)(5)].

F. 40 CFR Part 60, Appendix A, Methods 2, 2A, 2C, 2D, 3 and 4 shall be performed, as applicable, at least twice during each test run [35 IAC 218.105(f)(6)].

G. Use of an adaptation to any of the test methods specified in Conditions 7.11.7 (b)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) may not be used unless approved by the Illinois EPA and the USEPA on a case by case basis. An owner or operator must submit sufficient documentation for the Illinois EPA and the USEPA to find that the test methods specified in Conditions 7.11.7(b)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) will yield inaccurate results and

that the proposed adaptation is appropriate [35 IAC 218.105(f)(7)].

ii. Notwithstanding other requirements of 35 IAC Part 218, upon request of the Illinois EPA where it is necessary to demonstrate compliance, an owner or operator of an emission unit which is subject to 35 IAC Part 218 shall, at his own expense, conduct tests in accordance with the applicable test methods and procedures specific in this Part. Nothing in this Condition (see also 35 IAC 218.105) shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing [35 IAC 218.105(i)].

7.11.8 Monitoring Requirements

a. The Permittee shall fulfill all the applicable monitoring requirements as specified by 40 CFR 63.114.

b. The Permittee shall fulfill all the applicable leak inspection provisions as specified by 40 CFR 63.148.

7.11.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected refining process to demonstrate compliance with Conditions 5.5.1, 5.5.3, and 7.11.3, pursuant to Section 39.5(7)(b) of the Act:

a. The Permittee shall fulfill all the applicable recordkeeping requirements as specified by 40 CFR 63.117 and 63.118.

b. Records of the testing of the efficiency of each capture system and control device pursuant to Condition 7.11.7(b), which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

c. Records addressing use of good operating practices for the fume scrubber:

i. Records for periodic inspection of the fume scrubber with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

d. Phthalic anhydride production rate, ton/mo, and tons/yr;

e. The operating schedule of the affected refining process; and

f. The monthly and aggregate annual VOM emissions from the affected refining process based on the phthalic anhydride production rate and applicable emission factors and formulas with supporting calculations.

7.11.10 Reporting Requirements

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

The Permittee shall fulfill all the applicable reporting requirements as specified by 40 CFR 63.117 and 63.118.

7.11.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.11.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.11.9 and the emission factors and formulas listed below:

a. The Permittee shall fulfill all the applicable compliance and applicability determinations as specified by 40 CFR 63.115.

b. To determine compliance with Conditions 5.5.1, 5.5.3, and 7.11.3(d), VOM emissions from the affected refining process shall be calculated based on the following emission factors:

| Pollutant | Emission Factor (lb/ton) |
|---|---|
| VOM | 0.1 |

This is the emission factor for phthalic anhydride production, distillation with scrubber, Table 6.5-1, AP-42, Volume I, Fifth Edition, January, 1995.

Refining Process Emissions (lb) = (Phthalic Anhydride Production, ton) x (The Appropriate Emission Factor, lb/ton)

7.12 Units PAA-F Phthalic Anhydride Flaker
Control PAA-F-DC Flaker Dust Collector

7.12.1 Description

A drum flaker is used for the conversion of materials from the molten or liquid state to easy to handle solid flakes in a single operation. This change of state is achieved by applying a film of the material to be flaked to the outer surface of a horizontal rotating drum which is cooled internally by means of water, brine, glycol or any other suitable coolant. The flaker drum consists of two cylinders, the inner and outer cylinders being separated by a spiral rib or ribs creating an enclosed channel through which the coolant flows. As the drum rotates, the liquid film solidifies and is subsequently removed from the drum surface by a doctor blade or knife.

7.12.2 List of Emission Units and Pollution Control Equipment

| Emission Unit | Description | Emission Control Equipment |
|---|---|---|
| PAA-F | Phthalic Anhydride Flaker | Dust Collector |

7.12.3 Applicability Provisions and Applicable Regulations

a. The phthalic anhydride flaker is an “affected flaker” for the purpose of these unit-specific conditions.

b. The affected flaker is subject to the emission limits identified in Condition 5.2.2.

c. The affected flaker is subject to 35 IAC 212.322(a), which provides that:

i. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit for which construction or modification commenced prior to April 14, 1972, which, either alone or in combination with the emission of particulate matter from all other similar process emission at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 (see also Attachment 2) [35 IAC 212.322(a)].

ii. Because the expected process weight rate for the affected flaker is 14,466 pounds per hour, the allowable PM emission rate for the affected flaker set by 35 IAC 212.322 is 15.44 pounds per hour.

7.12.4 Non-Applicability of Regulations of Concern

a. The affected flaker is not subject to the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry, 40 CFR 63 Subparts F, G, and H because the affected flaker is not by itself a chemical manufacturing process unit nor is a component or part of any chemical manufacturing process unit, as defined in 40 CFR 63.111.

b. The affected flaker is not subject to 35 IAC 212.324, Process Emission Units In Certain Areas, because the source is not located in a non-attainment area for $PM_{10}$, as identified in 35 IAC 212.324(a)(1).

7.12.5 Operational and Production Limits and Work Practices

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

7.12.6 Emission Limitations

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.12.7 Testing Requirements

Pursuant to 35 IAC 212.110 and Section 39.5(7)(b) of the Act, testing for PM emissions shall be performed as follows:

a. Measurement of particulate matter emissions from stationary emission units subject to 35 IAC Part 212 shall be conducted in accordance with 40 CFR part 60, Appendix A, Methods 5, 5A, 5D, or 5E [35 IAC 212.110(a)].

b. The volumetric flow rate and gas velocity shall be determined in accordance with 40 CFR part 60, Appendix A, Methods 1, 1A, 2, 2A, 2C, 2D, 3, and 4 [35 IAC 212.110(b)].

c. Upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 IAC Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA [35 IAC 212.110(c)].

7.12.8 Monitoring Requirements

None

7.12.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected flaker to demonstrate compliance with Conditions 5.5.1 and 7.12.3, pursuant to Section 39.5(7)(b) of the Act:

a. Pursuant to 35 IAC 212.110(e) and Section 39.5(7)(e) of the Act, the owner or operator of an emission unit subject 35 IAC Part 212 shall retain records of all tests which are performed. These records shall be retained for at least three (3) years after the date a test is performed and shall include the following:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

b. Records addressing use of good operating practices for the dust collector:

i. Records for periodic inspection of the dust collector with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

c. Phthalic anhydride flake production rate, tons/mo and tons/yr;

d. The operating schedule of affected flaker; and

e. The monthly and aggregate annual PM emissions from the affected flaker based on phthalic anhydride production rate, natural gas usage, and operating schedule, with supporting calculations.

7.12.10 Reporting Requirements

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

a. A person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from Condition 7.12.7 (see also 35 IAC 212.110) that will be used [35 IAC 212.110(d)].

b. Continued operation of an affected flaker with defects in the dust collector that may result in emissions of PM in excess of the allowable limits specified in Condition 7.12.3(c) within 30 days of such an occurrence.

7.12.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.12.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.12.9 and the emission factors and formulas listed below:

a. Compliance with Conditions 7.12.3(b) and (c) is assumed to be achieved by proper operation of the dust collection, as addressed by Conditions 7.12.5 and 7.12.9(b).

b. To determine compliance with Condition 5.5.1, PM emissions from the affected flaker shall be calculated based on the following:

i. Particulate Matter Emissions:

PM Emissions (lb/yr) = (Stack Tested Emission Rate*, lb/dryer-hr) x (Production Multiplier) x (1 - (Dust Collector Efficiency* (%)/100)] x (Operating Schedule, hr/yr)

*As specified by stack testing performed on December 11, 1995 in the absence of more recent testing pursuant to Condition 7.12.7.

ii. Production Multiplier:

Production Multiplier = (Stack Test Production Rate, lb) / (Actual Production Rate, lb)

7.13 Unit MS-414 Flaked Phthalic Anhydride Storage Remelt Tank
Control PAA-F-DC Flaker Dust Collector

7.13.1 Description

Phthalic anhydride dust is recovered from the flaker dust collector and loaded into this tank, where it is remelted and then stored. Emissions of particulate matter from the loading of the tank are controlled by the flaker dust collector.

7.13.2 List of Emission Units and Pollution Control Equipment

| Emission Unit | Description | Emission Control Equipment |
|---|---|---|
| MS-414 | 10,000 Gallon Flaked Phthalic Anhydride Storage Remelt Tank (Tank MS-414) | Flaker Dust Collector |

7.13.3 Applicability Provisions and Applicable Regulations

a. Tank MS-414 is an “affected tank" for the purpose of these unit-specific conditions.

b. The affected tank is subject to the emission limits identified in Condition 5.2.2.

c. The affected tank is subject to the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater, 40 CFR 63 Subparts A and G, specifically sections 40 CFR 63.120 through 63.123 for storage vessels. The Illinois EPA is administering the NESHAP in Illinois under a delegation agreement. For purposes of 40 CFR 63 Subpart G, the affected tanks are Group 2 Storage Vessels because the capacity of each affected tank is less than 75 $m^3$. Pursuant to 40 CFR 63.119(a), for each storage vessel to which 40 CFR 63 Subpart G applies, the owner or operator shall comply with the requirements of Conditions 7.13.3(b)(i) and (b)(ii) (see also 40 CFR 63.119(a)(1), (a)(2), (a)(3), and (a)(4)) no later than April 22, 1997 (the schedule provision of 40 CFR 63.100(k)(2)(i) of 40 CFR 63 Subpart F).

i. For each Group 2 storage vessel that is not part of an emissions average as described in 40 CFR 63.150, the owner or operator shall comply with the recordkeeping requirement in Condition 7.13.9(a) (see also 40 CFR 63.123(a)) and is not required to comply with any other provisions in 40 CFR 63.119 through 63.123 [40 CFR 63.119 (a)(3)].

ii. For each Group 2 storage vessel that is part of an emissions average, the owner or operator shall comply with the emissions averaging provisions in 40 CFR 63.150 [40 CFR 63.119 (a)(4)].

d. The affected tank is subject to 35 IAC 212.321(a), which provides that:

i. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

ii. Because the expected process weight rate for the affected tank is less than pounds per hour, the allowable PM emission rate for the affected tank set by 35 IAC 212.321 is 0.55 pounds per hour.

e. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301]

7.13.4 Non-Applicability of Regulations of Concern

a. The affected tank is not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subpart Ka because the affected tank has a storage capacity less than 151,416 liters (40,000 gallons).

b. The affected tank is not subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subpart Kb, because the affected tank has a capacity less than 40 $m^3$ (10,566.8 gallons).

c. The affected tank is not subject to 35 IAC 212.324, Process Emission Units In Certain Areas, because the source is not located in a non-attainment area for $PM_{10}$, as identified in 35 IAC 212.324(a)(1).

d. The affected tank is not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119(e), which exempts vessels storing petroleum liquids.

e. The affected tank is not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(6), which exempts stationary storage tanks in which volatile petroleum liquid is not stored. Pursuant to 35 IAC 211.7170, a volatile petroleum liquid means any petroleum liquid with a true vapor pressure that is greater than 1.5 psia (78 mmHg) at standard conditions. The affected tank is used to store petroleum liquids with vapor pressures of less than 1.5 psia at standard conditions.

f. The affected tank is not subject to the requirements of 35 IAC 218.122, Loading Operations, because pursuant to 35 IAC 218.122(c), if no odor nuisance exists the limitations of 35 IAC 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3$^{o}$K (70$^{o}$F).

7.13.5 Operational and Production Limits and Work Practices

a. The affected tank shall only be used for the storage of petroleum liquids with true vapor pressures of less than 1.5 psia at standard conditions.

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

7.13.6 Emission Limitations

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.13.7 Testing Requirements

Pursuant to 35 IAC 212.110 and Section 39.5(7)(b) of the Act, testing for PM emissions shall be performed as follows:

a. Measurement of particulate matter emissions from stationary emission units subject to 35 IAC Part 212 shall be conducted in accordance with 40 CFR part 60, Appendix A, Methods 5, 5A, 5D, or 5E [35 IAC 212.110(a)].

b. The volumetric flow rate and gas velocity shall be determined in accordance with 40 CFR part 60, Appendix A, Methods 1, 1A, 2, 2A, 2C, 2D, 3, and 4 [35 IAC 212.110(b)].

c. Upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 IAC Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA [35 IAC 212.110(c)].

7.13.8 Monitoring Requirements

The Permittee shall fulfill all the applicable leak inspection provisions as specified by 40 CFR 63.148.

7.13.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected tank to demonstrate compliance with Conditions 5.5.1 and 7.13.9, pursuant to Section 39.5(7)(b) of the Act:

a. Each owner or operator of a Group 1 or Group 2 storage vessel shall keep readily accessible records showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel. This record shall be kept as long as the storage vessel retains Group 1 or Group 2 status and is in operation. For each Group 2 storage vessel, the owner or operator is not required to comply with any other provisions of 40 CFR 63.119 through 63.123 other than those required by this Condition unless such vessel is part of an emissions average as described in 40 CFR 63.150 [40 CFR 63.123(a)].

b. Pursuant to 35 IAC 212.110(e) and Section 39.5(7)(e) of the Act, the owner or operator of an emission unit subject 35 IAC Part 212 shall retain records of all tests which are performed. These records shall be retained for at least three (3) years after the date a test is performed and shall include the following:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

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

d. Records addressing use of good operating practices for the dust collector:

i. Records for periodic inspection of the dust collector with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

e. Identification of the material stored in the affected tank;

f. Maximum true vapor pressure of each material stored in the affected tank, psia;

g. The throughput of the affected tank, gal/mo and gal/yr; and

h. Phthalic anhydride flake production rate, tons/mo and tons/yr;

i. The operating schedule of affected tank

j. The monthly and aggregate annual VOM emissions for the affected tank based on material stored, tank throughput, and applicable emission factors and formulas with supporting calculations; and

k. The monthly and aggregate annual PM emissions from the affected tank based on phthalic anhydride production rate, natural gas usage, and operating schedule, with supporting calculations.

7.13.10 Reporting Requirements

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

a. A person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from Condition 7.12.7 (see also 35 IAC 212.110) that will be used [35 IAC 212.110(d)].

b. Continued operation of tank affected tank with defects in the dust collector that may result in emissions of PM in excess of the allowable limits specified in Condition 7.13.3(d) within 30 days of such an occurrence.

c. The storage of any VOL or VPL other than the material specified in Condition 7.13.5(a) within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

7.13.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.13.12 Compliance Procedures

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

a. Compliance with Conditions 7.13.3(b) and (d) is assumed to be achieved by proper operation of the

dust collection, as addressed by Conditions 7.13.5(b) and 7.13.9(d).

b. To determine compliance with Condition 5.5.1, PM emissions from the affected tank shall be calculated based on the following:

i. Particulate Matter Emissions:

PM Emissions (lb/yr) = (Stack Tested Emission Rate*, lb/dryer-hr) x (Production Multiplier) x (1 - (Dust Collector Efficiency* (%)/100)] x (Operating Schedule, hr/yr)

*As specified by stack testing performed on December 11, 1995 in the absence of more recent testing pursuant to Condition 7.12.7.

ii. Production Multiplier:

Production Multiplier = (Stack Test Production Rate, lb) / (Actual Production Rate, lb)

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

7.14 Unit PAA-L Refined Phthalic Anhydride Tank Wagon and Railcar Loading
Control MSC Mini-Switch Condenser System

7.14.1 Description

Refined phthalic anhydride is loaded into tank wagons and railcars for shipment. Emissions from these loading operations were previously controlled by sublimation boxes, which have now been replaced with switch condensers.

7.14.2 List of Emission Units and Pollution Control Equipment

| Emission Unit | Description | Emission Control Equipment |
|---|---|---|
| RCL-1 | Rail Car Loading Station No.1 | Mini-Switch Condenser System |
| RCL-2 | Rail Car Loading Station No.2 | Mini-Switch Condenser System |
| RCL-3 | Rail Car Loading Station No.3 | Mini-Switch Condenser System |
| RCL-4 | Rail Car Loading Station No.4 | Mini-Switch Condenser System |
| RCL-5 | Rail Car Loading Station No.5 | Mini-Switch Condenser System |
| TWL | Tank Wagon Loading | Mini-Switch Condenser System |

7.14.3 Applicability Provisions and Applicable Regulations

a. The tank wagon loading and railcar loading operations are “affected loading operations” for the purpose of these unit-specific conditions.

b. The affected loading operations are subject to the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry; the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater; and the NESHAP for Equipment Leaks; 40 CFR 63 Subparts A, F, G and H, specifically 40 CFR 63.126 for Transfer Operations. The Illinois EPA is administering the NESHAP in Illinois under a delegation agreement. For purposes

of 40 CFR 63 Subpart G, the affected loading operations are Group 2 transfer racks because the affected loading operations do not meet the definition of Group 1 transfer rack. Each transfer rack annually loads liquid products that contain organic hazardous air pollutants with a rack weighted average vapor pressure that is not greater than or equal to 10.3 kPa. Pursuant to 40 CFR 63.126(c), for each Group 2 transfer rack, the owner or operator shall maintain records as required in 40 CFR 63.130(f). No other provisions for transfer racks apply to the Group 2 transfer rack.

c. The affected loading operations are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.14.3 (c)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

ii Emissions of organic material in excess of those permitted by Condition 7.14.3(c)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by a vapor recovery system which adsorbs and/or condenses at least 85 percent of the total uncontrolled organic material that would otherwise be emitted to the atmosphere [35 IAC 218.302(b)].

7.14.4 Non-Applicability of Regulations of Concern

The affected loading operations are not subject to the requirements of 35 IAC 218.122, Loading Operations, because pursuant to 35 IAC 218.122(c), if no odor nuisance exists the limitations of 35 IAC 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3$^{o}$K (70$^{o}$F).

7.14.5 Operational And Production Limits And Work Practices

a. The affected loading operations shall only be used for the loading of VOL with vapor pressures of less than 2.5 psia at 70°F.

b. The Permittee shall follow good operating practices for the mini-switch condenser system, including periodic inspection, routine maintenance and prompt repair of defects.

7.14.6 Emission Limitations

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

a. The Permittee shall use only one rail car tanker and/or one tanker truck loading rack at any given time liquid phthalic anhydride is being loaded.

b. The switching condenser system shall achieve a recovery efficiency of 80% or greater at all times phthalic anhydride is present in the storage vessels and/or liquid loading operations occur.

c. This permit is issued based upon replacement of the sublimation boxes with switching condensers which will result in no increase of VOM emissions to the atmosphere.

d. Annual emissions of VOM from the storage vessels and loading operations utilizing the switching condensers shall not exceed 9.0 tons/year.

e. The above limitations were established in Permit 97120034, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the

current month plus the preceding 11 months (running 12 month total).

7.14.7 Testing Requirements

Pursuant to 35 IAC 218.105(d)(1) and Section 39.5(7)(b) of the Act, the control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified below (see also 35 IAC 218.105(f)):

a. Volatile Organic Material Gas Phase Source Test Methods The methods in 40 CFR Part 60, Appendix A, delineated below shall be used to determine control device efficiencies [35 IAC 218.105(f)].

i. CFR Part 60, Appendix A, Method 18, 25 or 25A, as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. The test shall consist of three separate runs, each lasting a minimum of 60 min, unless the Illinois EPA and the USEPA determine that process variables dictate shorter sampling times [35 IAC 218.105(f)(1)].

ii. 40 CFR Part 60, Appendix A, Method 1 or 1A shall be used for sample and velocity traverses [35 IAC 218.105(f)(2)].

iii. 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D shall be used for velocity and volumetric flow rates [35 IAC 218.105(f)(3)].

iv. 40 CFR Part 60, Appendix A, Method 3 shall be used for gas analysis [35 IAC 218.105(f)(4)].

v. 40 CFR Part 60, Appendix A, Method 4 shall be used for stack gas moisture [35 IAC 218.105 (f)(5)].

vi. 40 CFR Part 60, Appendix A, Methods 2, 2A, 2C, 2D, 3 and 4 shall be performed, as applicable, at least twice during each test run [35 IAC 218.105(f)(6)].

vii. Use of an adaptation to any of the test methods specified in Conditions 7.14.7(a)(i), (ii), (iii), (iv), (v) and (vi) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) may not be used unless approved by the Illinois EPA and the USEPA on a case by case basis. An owner or operator must submit sufficient documentation for the Illinois EPA and the USEPA to find that the test methods specified in Conditions 7.14.7 (a)(i), (ii), (iii), (iv), (v) and (vi) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) will yield inaccurate results and that the proposed adaptation is appropriate [35 IAC 218.105(f)(7)].

b. Notwithstanding other requirements of 35 IAC Part 218, upon request of the Illinois EPA where it is necessary to demonstrate compliance, an owner or operator of an emission unit which is subject to 35 IAC Part 218 shall, at his own expense, conduct tests in accordance with the applicable test methods and procedures specific in this Part. Nothing in this Condition (see also 35 IAC 218.105) shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing [35 IAC 218.105(i)].

7.14.8 Monitoring Requirements

The Permittee shall fulfill all the applicable leak inspection provisions as specified by 40 CFR 63.148.

7.14.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected loading operation to demonstrate compliance with Conditions 5.5.1, 7.14.3, and 7.14.6, pursuant to Section 39.5(7)(b) of the Act:

a. Pursuant to 40 CFR 63.130(f), each owner or operator of a Group 1 or Group 2 transfer rack shall record, update annually, and maintain the information specified in Conditions 7.14.9(a)(i) through (a)(iii) (see also 40 CFR 63.130(f)(1) through (f)(3)) in a readily accessible location on site:

i. An analysis demonstrating the design and actual annual throughput of the transfer rack [40 CFR 63.130(f)(1)];

ii. An analysis documenting the weight-percent organic HAP's in the liquid loaded. Examples of acceptable documentation include but are not limited to analyses of the material and engineering calculations [40 CFR 63.130(f)(2)].

iii. Pursuant to 40 CFR 63.130(f)(3), an analysis documenting the annual rack weighted average HAP partial pressure of the transfer rack.

A. For Group 2 transfer racks that are limited to transfer of organic HAP's with partial pressures less than 10.3 kilopascals, documentation is required of the organic HAP's (by compound) that are transferred. The rack weighted average partial pressure does not need to be calculated [40 CFR 63.130(f)(3)(i)].

B. For racks transferring one or more organic HAP's with partial pressures greater than 10.3 kilopascals, as well as one or more organic HAP's with partial pressures less than 10.3 kilopascals, a rack weighted partial pressure shall be documented. The rack weighted average HAP partial pressure shall be weighted by the annual throughput of each chemical transferred [40 CFR 63.130(f)(3)(ii)].

b. Records of the testing of the efficiency of each capture system and control device pursuant to Condition 7.14.7, which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

c. Records addressing use of good operating practices for the mini-switch condenser system:

i. Records for periodic inspection of the mini-switch condenser system with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

d. Phthalic anhydride production rate, ton/mo, and tons/yr;

e. The operating schedule of the affected loading operations; and

f. The monthly and aggregate annual VOM emissions from the affected loading operations based on the phthalic anhydride production rate and applicable emission factors and formulas with supporting calculations.

7.14.10 Reporting Requirements

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

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

Emissions of VOM from affected loading operations in excess of the limits in Condition 7.14.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.14.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.14.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.14.9 and the emission factors and formulas listed below:

a. Compliance with Condition 7.14.3(c) is assumed to be achieved by proper operation of the mini-switch condenser system, as addressed by Conditions 7.14.5(b) and 7.14.9(c).

b. For the purpose of estimating VOM emissions from the affected loading operations, to determine compliance with Conditions 5.5.1 and 7.14.6(a), the emission factors and formulas specified in Section 5.2, Transportation and Marketing of Petroleum Liquids, of AP-42, Volume I, Fifth Edition, January, 1995 are acceptable.

## 7.15 Unit WWTU Wastewater Treatment Unit

### 7.15.1 Description

Non-process wastewaters from the Phthalic Anhydride Plant are fed to the north sump, the south sump, or the quench tower blowdown sump. The feed of these sumps contain very low quantities of VOM and there are essentially no emissions from these sources. API separators are used to separate the dirt, and only in the case of major process upsets, to intercept and treat recovered materials. Neutralized waters from the Phthalic Anhydride Plant are combined with waters from the tar plant in a covered collection sump. A stormwater surge tank (T-8200) can be used to collect excess stormwater when required. Waters from the covered collection sump are combined with waters from the decanter/steam stripper in the tar plant and fed to Tanks 77 and 78. Tanks 75 and 76 provide batch storage during upset conditions only. The three API separators are emission sources for VOM and HAPs. Waters from the API separators are fed to two Dissolved Air Flotation (DAF) tanks. These tanks are housed in a building with six roof vents. The effluent from the DAF building is fed to an equalization tank (T-102), an aeration tank (T-8400) and a clarifier tank (T-8450). Tank 28, located at the Stickney Oil Terminal only handles condensate and stormwater.

### 7.15.2 List of Emission Units and Pollution Control Equipment

| Emission Unit | Description | Emission Control Equipment |
|---|---|---|
| 77 | Wastewater Storage Tank (Tank 77) | None |
| 78 | Wastewater Storage Tank (Tank 78) | None |
| API | Five API Wastewater Separators | None |
| DAF | 2 Dissolved Air Flotation (DAF) Wastewater Tanks | None |
| T-8102 | Wastewater Equalization Tank (Tank T-8102) | None |
| T-8200 | Stormwater Surge Tank (Tank T-8200) | None |
| T-8400 | Wastewater Biological/Aeration Tank (Tank T-8400) | None |

| Emission Unit | Description | Emission Control Equipment |
|---|---|---|
| T-8450 | Wastewater Clarifier Tank (Tank T-8450) | None |

7.15.3 Applicability Provisions and Applicable Regulations

a. The wastewater treatment tanks are “affected wastewater tanks” for the purpose of these unit-specific conditions.

b. No person shall use any single or multiple compartment effluent water separator which receives effluent water containing 757 l/day (200 gal/day) or more of organic material from any equipment processing, refining, treating, storing or handling organic material unless such effluent water separator is equipped with air pollution control equipment capable of reducing by 85 percent or more the uncontrolled organic material emitted to the atmosphere. Exception: If no odor nuisance exists the limitations of this subsection shall not apply if the vapor pressure of the organic material is below 17.24 kPa (2.5 psia) at 294.3$^{o}$K (70$^{o}$F) [35 IAC 218.141(a)].

c. No person shall cause or allow the discharge of more than 32.8 ml (2 in$^{3}$) of VOL with vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3$^{o}$K (70$^{o}$F) into the atmosphere from any pump or compressor in any 15 minute period at standard conditions [35 IAC 218.142].

d. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

7.15.4 Non-Applicability of Regulations of Concern

a. The affected wastewater tanks are not subject to the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry; the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater; and the NESHAP for Equipment Leaks; 40 CFR 63 Subparts A, F, G and H, specifically 40 CFR 63.132(a) for Process Wastewater at Existing Sources because the affected wastewater tanks are not used to treat process wastewater.

b. The affected wastewater tanks are not subject to the NSPS for Sewage Treatment Plants, 40 CFR 60 Subpart O, because there is no incinerator that combusts wastes containing more than 10 percent sewage sludge (dry basis) produced by municipal sewage treatment plants, or an incinerator that charges more than 1000 kg (2205 lb) per day municipal sewage sludge (dry basis) associated with these affected wastewater treatment operations.

c. The affected wastewater tanks are not subject to the NSPS for VOC Emissions From Petroleum Refinery Wastewater Systems, 40 CFR 60 Subpart QQQ, because the affected wastewater treatment operations are not located at a petroleum refinery.

d. The affected wastewater tanks are not subject to 35 IAC 218.443, Wastewater (Oil/Water) Separator, because the affected wastewater tanks are not located at a petroleum refinery.

e. This permit is issued based on the affected wastewater tanks not being subject to 35 IAC 218 Subpart TT, Other Emission Units, because the affected wastewater tanks do not meet the applicability of 35 IAC 218.980(a). In particular, the affected wastewater tanks have maximum theoretical emissions of VOM that are less than 90.7 Mg (100 tons) per year.

7.15.5 Operational and Production Limits and Work Practices

The affected wastewater tanks shall not be used to treat process wastewater from the phthalic anhydride plant.

7.15.6 Emission Limitations

There are no specific emission limitations for these units, however, there are source wide emission limitations in Condition 5.5 that include these units.

7.15.7 Testing Requirements

Pursuant to Section 39.5(7)(b) of the Act, testing for the vapor pressure of the organic material in the effluent water received by the effluent water separator or discharged from any pump or compressor shall be performed as follows:

Upon reasonable request by the Illinois EPA, the vapor pressure of the organic material in the effluent water received by the effluent water separator or discharged from any pump or compressor shall be determined according to ASTM D2879-83, Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope (see 40 CFR 60.17(a)(37))

7.15.8 Monitoring Requirements

None

7.15.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected wastewater tanks to demonstrate compliance with Conditions 5.5.1 and 7.15.3, pursuant to Section 39.5(7)(b) of the Act:

a. Records of the testing of the organic material in the effluent water pursuant to Condition 7.15.7, which include the following [Section 39.5(7)(e) of the Act]:

i. Identification of material tested;

ii. Results of analysis;

iii. Documentation of analysis methodology; and

iv. Person performing analysis.

b. The operating schedule of affected wastewater tanks; and

c. Monthly and annual aggregate VOM emissions from the affected wastewater tanks shall be maintained, based on the operating schedule and typical hourly emission rate, with supporting calculations.

7.15.10 Reporting Requirements

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

a. Upon request by the Illinois EPA, the owner or operator of an emission unit which is exempt from the requirements of 35 IAC 218 Subpart TT shall submit records to the Illinois EPA within 30 calendar days from the date of the request that document that the emission unit is exempt from those requirements [35 IAC 218.990].

b. The Permittee shall notify the Illinois EPA of a determination that vapor pressure of the organic material in the effluent water received by the effluent water separator is equal to or above 17.24 kPa (2.5 psia) at 294.3$^{o}$K (70$^{o}$F) within 30 calendar days of such an occurrence.

7.15.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.15.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.15.9 and the emission factors and formulas listed below:

a. Compliance with Conditions 7.15.3(a) and (b) is addressed by sampling the effluent water received by the effluent water separator or discharged from any pump or compressor to verify that the vapor pressure of the organic material is below 17.24 kPa (2.5 psia) at 294.3$^{o}$K (70$^{o}$F).

b. For the purpose of estimating VOM emissions from the affected wastewater tanks, to determine compliance with Condition 5.5.1, the emission factors and formulas specified in Section 4.3, Waste Water Collection, Treatment and Storage, of AP-42, Volume I, Fifth Edition, January, 1995 are acceptable.

## 7.16 Unit SF Startup Furance

### 7.16.1 Description

The Startup Furnace provides heated air to Phthalic Anhydride Reactors. The startup furnace directly heats air via direct heat transfer from the combustion of natural gas.

### 7.16.2 List of Emission Units and Pollution Control Equipment

| Emission Unit | Description | Emission Control Equipment |
|---|---|---|
| SF | Natural Gas-Fired Startup Furnace (Startup Furnace, 20 mmBtu/hr) | None |

### 7.16.3 Applicability Provisions and Applicable Regulations

a. The Startup Furnace is an “affected furnace” for the purpose of these unit-specific conditions.

b. The affected furnace is subject to the emission limits identified in Condition 5.2.2.

c. No person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission unit to exceed 2000 ppm, [35 IAC 214.301].

### 7.16.4 Non-Applicability of Regulations of Concern

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

b. The affected furnace is not subject to 35 IAC 217.121, emissions of nitrogen oxides from new fuel combustion emission sources, or 35 IAC 217.141, emissions of nitrogen oxides from existing fuel combustion emission sources in major metropolitan areas, because the actual heat input of each unit is less than 73.2 MW (250 mmBtu/hr) and the affected furnace is not by definition a fuel combustion emission unit.

c. This permit is issued based on the affected furnace not being subject to 35 IAC 212.321 or 212.322 because due to the unique nature of this process, such rules cannot reasonably be applied.

d. The affected furnace is not subject to 35 IAC 212.324, Process Emission Units In Certain Areas, because the source is not located in a non-attainment area for $PM_{10}$, as identified in 35 IAC 212.324(a)(1).

7.16.5 Operational and Production Limits and Work Practices

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

7.16.6 Emission Limitations

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.16.7 Testing Requirements

None

7.16.8 Monitoring Requirements

None

7.16.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected furnace to demonstrate compliance with Conditions 5.5.1 and 7.16.3, pursuant to Section 39.5(7)(b) of the Act:

a. Records of the fuel usage for the affected furnace, Therms/mo and Therms/yr;

b. Records of monthly and annual aggregate $NO_x$, PM, $SO_2$, and VOM emissions from the affected furnace shall be maintained, based on fuel usage and the applicable emission factors, with supporting calculations.

7.16.10 Reporting Requirements

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

None

7.16.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.16.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.2.9 and the emission factors and formulas listed below:

a. Compliance with Condition 7.16.3 is assumed by the work-practices inherent in operation of natural gas-fired furnace.

b. To determine compliance with Condition 5.5.1, fuel combustion emissions from the affected furnace shall be calculated based on the following emission factors:

| Pollutant | Emission Factor ($lb/Mft^3$) |
|---|---|
| $NO_x$ | 100 |
| PM | 7.6 |
| $SO_2$ | 0.6 |
| VOM | 5.5 |

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

Furnace Emissions (lb) = (Natural Gas Consumed, $Mft^3$) x (100 $ft^3$/Therm) x (1 $Mft^3$/1,000,000 $ft^3$) x (The Appropriate Emission Factor, $lb/Mft^3$)

## 7.17 Units B1 - B4 & SH Boilers #1 - #4 and Super Heater

### 7.17.1 Description

The Boilers and Super Heater burn natural gas to produce steam and power.

### 7.17.2 List of Emission Units and Pollution Control Equipment

| Emission Unit | Description | Emission Control Equipment |
|---|---|---|
| B1 | Cleaver Brooks Model DL-76 Natural Gas-Fired Boiler (Boiler #1, 85.0 mmBtu/hr) | None |
| B2 | Cleaver Brooks Model D-42 Natural Gas-Fired Boiler (Boiler #2, 32.850 mmBtu/hr) | None |
| B3 | Cleaver Brooks Model D-42 Natural Gas-Fired Boiler (Boiler #3, 32.850 mmBtu/hr) | None |
| B4 | Natural Gas-Fired Boiler (Boiler #4, 99.0 mmBtu/hr) | None |
| SH | RADCO Natural Gas-Fired Super Heater (Super Heater, 25.4 mmBtu/hr) | None |

### 7.17.3 Applicability Provisions and Applicable Regulations

a. Boilers #1, #2, #3, #4, and the Super Heater are “affected steam generation units” for the purpose of these unit-specific conditions.

b. Each affected steam generation unit is subject to the emission limits identified in Condition 5.2.2.

c. No person shall cause or allow the emission of carbon monoxide (CO) into the atmosphere from any fuel combustion emission unit with actual heat input greater than 2.9 MW (10 mmBtu/hr) to exceed 200 ppm, corrected to 50 percent excess air [35 IAC 216.121].

### 7.17.4 Non-Applicability of Regulations of Concern

a. The affected steam generation units are not subject to the NSPS for Small Industrial-Commercial-

Institutional Steam Generating Units, 40 CFR 60 Subparts A and Dc, because construction, modification, or reconstruction of each affected steam generation unit was commenced prior to June 9, 1989.

b. The affected steam generation units are not subject to 35 IAC 217.121, emissions or nitrogen oxides from new fuel combustion emission sources, or 35 IAC 217.141, emissions of nitrogen oxides from existing fuel combustion emission sources in major metropolitan areas, because the actual heat input of each affected steam generation unit is less than 73.2 MW (250 mmBtu/hr).

c. Pursuant to 35 IAC 218.303, fuel combustion emission units are not subject to 35 IAC 218.301, Use Of Organic Material.

7.17.5 Operational and Production Limits and Work Practices

The affected steam generation units shall only be operated with natural gas as the fuel.

7.17.6 Emission Limitations

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

a. Emissions and operation of the affected steam generation units shall not exceed the following limits:

i. Natural gas fired to the super heater shall be less than 254 therms per hour.

ii. Annual emissions from the super heater shall not exceed the amounts specified in the table below.

| | Annual Emissions (Tons/Year) | | | | |
|---|---|---|---|---|---|
| Emission Unit | PM | $SO_2$ | $NO_x$ | VOM | CO |
| Super Heater | 0.6 | 0.1 | 15.6 | 0.3 | 3.9 |

These limits are based on the maximum firing rate for natural gas and 8,760 operating hours per year.

b. The above limitations were established in Permit 88020022, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD) and 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 and 35 IAC Part 203 [T1].

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

7.17.7 Testing Requirements

None

7.17.8 Monitoring Requirements

None

7.17.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected steam generation units to demonstrate compliance with Conditions 5.5.1, 7.17.3, and 7.17.6, pursuant to Section 39.5(7)(b) of the Act:

a. Records of the fuel usage for the affected steam generation units, Therms/mo and Therms/yr; and

b. Records of the monthly and annual aggregate CO, $NO_x$, PM, $SO_2$, and VOM emissions from the affected steam generation units shall be maintained, based on fuel consumption and the applicable emission factors, with supporting calculations.

7.17.10 Reporting Requirements

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

Emissions of CO, $NO_x$, PM, $SO_2$, and/or VOM in excess of the limits in Condition 7.17.6(a)(ii) based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.17.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.17.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.17.9 and the emission factors and formulas listed below:

a. Compliance with Conditions 7.17.3(b) and (c) is assumed by the work-practices inherent in operation of a natural gas-fired steam generation unit, so that no compliance procedures are set in this permit addressing this regulation.

b. To determine compliance with Conditions 5.5.1 and 7.17.6, emissions from the affected steam generation units shall be calculated based on the following emission factors:

| Pollutant | Emission Factor ($lb/Mft^3$) |
|---|---|
| CO | 84 |
| $NO_x$ | 100 |
| PM | 7.6 |
| $SO_2$ | 0.6 |
| VOM | 5.5 |

These are the emission factors for uncontrolled natural gas combustion in small boilers (< 100

mmBtu/hr), Tables 1.4-1 and 1.4-2, AP-42, Volume I, Fifth Edition, Supplement D, March, 1998.

Natural Gas Combustion Emissions (lb) = (Natural Gas Consumed, $Mft^3$) x (100 $ft^3$/Therm) x (1 $Mft^3$/1,000,000 $ft^3$) x (The Appropriate Emission Factor, lb/$Mft^3$)

## 7.18 Units MHTS Marlotherm Heat Transfer System

### 7.18.1 Description

The Marlotherm Heat Transfer System provides hot oil for process use. The oil is heated via indirect heat transfer by the combustion of natural gas.

### 7.18.2 List of Emission Units and Pollution Control Equipment

| Emission Unit | Description | Emission Control Equipment |
|---|---|---|
| Bertram | Marlotherm Heat Transfer System Natural Gas-Fired Heater (Bertram Heater, 19 mmBtu/hr) | None |
| Born | Marlotherm Heat Transfer System Natural Gas-Fired Heater (Born Heater, 14.5 mmBtu/hr) | None |

### 7.18.3 Applicability Provisions and Applicable Regulations

a. The Bertram Heater and the Born Heater are “affected oil heaters” for the purpose of these unit-specific conditions.

b. Each affected oil heater is subject to the emission limits identified in Condition 5.2.2.

c. No person shall cause or allow the emission of carbon monoxide (CO) into the atmosphere from any fuel combustion emission unit with actual heat input greater than 2.9 MW (10 mmBtu/hr) to exceed 200 ppm, corrected to 50 percent excess air [35 IAC 216.121].

### 7.18.4 Non-Applicability of Regulations of Concern

a. The affected oil heaters are not subject to the NSPS for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60 Subparts A and Dc, because construction, modification, or reconstruction of each affected oil heater was commenced prior to June 9, 1989.

b. The affected oil heaters are not subject to 35 IAC 217.121, emissions or nitrogen oxides from new fuel

combustion emission sources, or 35 IAC 217.141, emissions of nitrogen oxides from existing fuel combustion emission sources in major metropolitan areas, because the actual heat input of each affected oil heater is less than 73.2 MW (250 mmBtu/hr).

c. Pursuant to 35 IAC 218.303, fuel combustion emission units are not subject to 35 IAC 218.301, Use Of Organic Material.

7.18.5 Operational and Production Limits and Work Practices

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

7.18.6 Emission Limitations

There are no specific emission limitations for these units, however, there are source wide emission limitations in Condition 5.5 that include these units.

7.18.7 Testing Requirements

None

7.18.8 Monitoring Requirements

None

7.18.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected oil heater to demonstrate compliance with Conditions 5.5.1 and 7.18.3, pursuant to Section 39.5(7)(b) of the Act:

a. Records of the fuel usage for the affected oil heaters, Therms/mo and Therms/yr; and

b. Records of the monthly and annual aggregate $NO_x$, PM, $SO_2$, and VOM emissions from the affected oil heaters shall be maintained, based on fuel consumption and the applicable emission factors, with supporting calculations.

7.18.10 Reporting Requirements

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

None

7.18.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.18.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.18.9 and the emission factors and formulas listed below:

a. Compliance with Conditions 7.18.3(b) and (c) is assumed by the work-practices inherent in operation of a natural gas-fired oil heater, so that no compliance procedures are set in this permit addressing this regulation.

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

| Pollutant | Emission Factor ($lb/Mft^3$) |
|---|---|
| $NO_x$ | 100 |
| PM | 7.6 |
| $SO_2$ | 0.6 |
| VOM | 5.5 |

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

Natural Gas Combustion Emissions (lb) = (Natural Gas Consumed, $Mft^3$) x (100 $ft^3$/Therm) x (1

$Mft^3/1,000,000\ ft^3$) x (The Appropriate Emission Factor, $lb/Mft^3$)

## 7.19 Unit STT-1 Stickney Terminal Tanks - Group 1

### 7.19.1 Description

Each of these tanks located at the Stickney Terminal were constructed prior to 1978 and have a capacity of greater than 40,000 gallons. The material contained in these tanks are used to store raw materials and refined chemicals for the Tar Plant.

### 7.19.2 List of Emission Units and Pollution Control Equipment

| Emission Unit | Description | Emission Control Equipment |
|---|---|---|
| OL12 | 2,284,000 Gallon Raw Material/Crude Tar Storage Tank (Tank OL12) | None |
| OL13 | 424,000 Gallon Raw Material/Carbon Black/Crude Tar Storage Tank (Tank OL13) | None |
| OL14 | 424,000 Gallon Raw Material/Crude Tar Storage Tank (Tank OL14) | None |
| OL15 | 2,286,000 Gallon Raw Material/Crude Tar Storage Tank (Tank OL15) | None |
| OL19 | 418,000 Gallon Raw Material/Crude Tar Storage Tank (Tank OL19) | None |
| OL20 | 969,000 Gallon Raw Material/Crude Tar Storage Tank (Tank OL20) | None |
| OL21 | 969,000 Gallon Raw Material/Crude Tar Storage Tank (Tank OL21) | None |
| OL22 | 2,284,000 Gallon Raw Material/Crude Tar Storage Tank (Tank OL22) | None |
| OL24 | 2,283,000 Gallon Carbon Black Storage Tank (Tank OL24) | None |
| OL25 | 2,284,000 Gallon Raw Material/Crude Tar Storage Tank (Tank OL25) | None |
| OL27 | 2,351,000 Gallon Refined Chemical Oil Storage Tank (Tank OL27) | None |

7.19.3 Applicability Provisions and Applicable Regulations

a. The Stickney Terminal tanks listed in Condition 7.0.2 are “affected tanks" for the purpose of these unit-specific conditions.

b. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

7.19.4 Non-Applicability of Regulations of Concern

a. The affected tanks are not subject to the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry, 40 CFR 63 Subparts F, G, and H because the affected tanks are not used to manufacture as a primary product one or more of the chemicals listed in 40 CFR 63.100(b)(1)(i) or (b)(1)(ii).

b. The affected tanks are not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subpart Ka because the affected tanks were constructed prior to May 18, 1978.

c. The affected tanks are not subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subpart Kb, because the affected tanks were constructed prior to July 23, 1984.

d. The affected tanks are not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119, because each material stored in the affected tank has a maximum true vapor pressure of less than 0.5 psia.

e. The affected tanks are not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(6), which exempts stationary storage tanks in which volatile petroleum liquid is not stored. Number 2 through Number 6 fuel oils are not included in the definition of VPL, pursuant to 35 IAC 211.4610 and 211.7170.

f. The affected tanks are not subject to the requirements of 35 IAC 218.122, Loading Operations, because pursuant to 35 IAC 218.122(c), if no odor nuisance exists the limitations of 35 IAC 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3$^{o}$K (70$^{o}$F).

7.19.5 Operational and Production Limits and Work Practices

The affected tanks shall only be used for the storage of materials with maximum true vapor pressures of less than 0.5 psia.

7.19.6 Emission Limitations

There are no specific emission limitations for these units, however, there are source wide emission limitations in Condition 5.5 that include these units.

7.19.7 Testing Requirements

None

7.19.8 Monitoring Requirements

None

7.19.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected tanks to demonstrate compliance with Conditions 5.5.1 and 7.19.3, pursuant to Section 39.5(7)(b) of the Act:

a. Identification of the material stored in each affected tank;

b. Maximum true vapor pressure of each material stored in the affected tanks, psia;

c. The throughput of each affected tank, gal/mo and gal/yr; and

d. The monthly and aggregate annual VOM emissions for the affected tanks based on material stored, tank throughput, and applicable emission factors and formulas with supporting calculations.

7.19.10 Reporting Requirements

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

The storage of any VOL or VPL other than the material specified in Condition 7.19.5 within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

7.19.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.19.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.19.9 and the emission factors and formulas listed below:

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

## 7.20 Unit OL-23 Stickney Terminal O-Xylene Tank

### 7.20.1 Description

This tank, which was constructed prior to 1978, is located at the Stickney Terminal and has a capacity of greater than 40,000 gallons. The material contained in this tank is used store raw materials for the PAA Plant.

### 7.20.2 List of Emission Units and Pollution Control Equipment

| Emission Unit | Description | Emission Control Equipment |
|---|---|---|
| OL-23 | 2,280,000 Gallon O-Xylene Storage Tank (Tank OL-23) | None |

### 7.20.3 Applicability Provisions and Applicable Regulations

a. Storage Tank OL-23 is an “affected tank” for the purpose of these unit-specific conditions.

b. The affected tank is subject to the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater, 40 CFR 63 Subparts A and G, specifically sections 40 CFR 63.120 through 63.123 for storage vessels. The Illinois EPA is administering the NESHAP in Illinois under a delegation agreement. For purposes of 40 CFR 63 Subpart G, the affected tank is a Group 2 Storage Vessel because the capacity of the affected tank is greater than 151 $m^3$ and is used to store a liquid with maximum true vapor pressure of the total organic hazardous air pollutants in the liquid of less than 5.2 kPa. Pursuant to 40 CFR 63.119(a), for each storage vessel to which 40 CFR 63 Subpart G applies, the owner or operator shall comply with the requirements of Conditions 7.20.3(b)(i) and (b)(ii) (see also 40 CFR 63.119(a)(1), (a)(2), (a)(3), and (a)(4)) no later than April 22, 1997 (the schedule provision of 40 CFR 63.100(k)(2)(i) of 40 CFR 63 Subpart F).

i. For each Group 2 storage vessel that is not part of an emissions average as described in

40 CFR 63.150, the owner or operator shall comply with the recordkeeping requirement in Condition 7.20.9(a) (see also 40 CFR 63.123(a)) and is not required to comply with any other provisions in 40 CFR 63.119 through 63.123 [40 CFR 63.119 (a)(3)].

ii. For each Group 2 storage vessel that is part of an emissions average, the owner or operator shall comply with the emissions averaging provisions in 40 CFR 63.150 [40 CFR 63.119 (a)(4)].

c. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

7.20.4 Non-Applicability of Regulations of Concern

a. The affected tank is not subject to the NSPS for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60 Subpart Ka because the affected tank was constructed prior to May 18, 1978.

b. The affected tank is not subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60 Subpart Kb, because the affected tank was constructed prior to July 23, 1984.

c. The affected tank is not subject to the limitations of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119(e), which exempts vessels storing petroleum liquids.

d. The affected tank is not subject to the requirements of 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(6), which exempts

stationary storage tanks in which volatile petroleum liquid is not stored. Pursuant to 35 IAC 211.7170, a volatile petroleum liquid means any petroleum liquid with a true vapor pressure that is greater than 1.5 psia (78 mmHg) at standard conditions. The affected tank is used to store petroleum liquids with vapor pressures of less than 1.5 psia at standard conditions.

e. The affected tank is not subject to the requirements of 35 IAC 218.122, Loading Operations, because pursuant to 35 IAC 218.122(c), if no odor nuisance exists the limitations of 35 IAC 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3$^{o}$K (70$^{o}$F).

7.20.5 Operational and Production Limits and Work Practices

The affected tank shall only be used for the storage of petroleum liquids with true vapor pressures of less than 1.5 psia at standard conditions.

7.20.6 Emission Limitations

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.20.7 Testing Requirements

None

7.20.8 Monitoring Requirements

The Permittee shall fulfill all the applicable leak inspection provisions as specified by 40 CFR 63.148.

7.20.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected tank to demonstrate compliance with Conditions 5.5.1, 7.20.3 and 7.20.5, pursuant to Section 39.5(7)(b) of the Act:

a. Each owner or operator of a Group 1 or Group 2 storage vessel shall keep readily accessible records showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel. This record shall be kept as long as the storage vessel retains Group 1 or Group 2 status and is in operation. For each Group 2 storage vessel, the owner or operator is not required to comply with any other provisions of 40 CFR 63.119 through 63.123 other than those required by this Condition unless such vessel is part of an emissions average as described in 40 CFR 63.150 [40 CFR 63.123(a)].

b. Identification of the material stored in the affected tank;

c. Maximum true vapor pressure of each material stored in the affected tank, psia;

d. The throughput of the affected tank, gal/mo and gal/yr; and

e. The monthly and aggregate annual VOM emissions for the affected tank based on material stored, tank throughput, and applicable emission factors and formulas with supporting calculations.

7.20.10 Reporting Requirements

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

The storage of any VOL or VPL other than the material specified in Condition 7.20.5 within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance.

7.20.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.20.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.20.9 and the emission factors and formulas listed below:

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

7.21 Units PAA-RE Phthalic Anhydride Recovery Exhausters
Controls RTO1 and RTO2 Regenerative Thermal Oxidizers

7.21.1 Description

This process consists of two steps. Phthalic anhydride distillate bottoms first enter the MS-330 process vessel. Emissions from the vessel go up to the mini-switch condenser system. Product then travels to the phthalic anhydride recovery exhauster, which is controlled by regenerative thermal oxidizer 1 and 2, depending on which reactor train (A or B) is operating.

7.21.2 List of Emission Units and Pollution Control Equipment

| Emission Unit | Description | Emission Control Equipment |
|---|---|---|
| PAA-RE | Phthalic Anhydride Recovery Exhausters | Regenerative Thermal Oxidizers No. 1 and 2 |

7.21.3 Applicability Provisions and Applicable Regulations

a. The Phthalic Anhydride Recovery Exhausters are “affected recovery exhausters” for the purpose of these unit-specific conditions.

b. The affected recovery exhausters are subject to the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry; the NESHAP for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater; and the NESHAP for Equipment Leaks; 40 CFR 63 Subparts A, F, G and H, specifically 40 CFR 63.113 for Process Vents. The Illinois EPA is administering the NESHAP in Illinois under a delegation agreement. For purposes of 40 CFR 63 Subpart G, the process vents associated with the affected recovery exhausters are Group 1 Process Vents because the flow rate is greater than or equal to 0.005 standard cubic meter per minute, the total organic HAP concentration is greater than or equal to 50 parts per million by volume, and the total resource effectiveness index value, calculated according to 40 CFR 63.115, is less than or equal to

1.0. Pursuant to 40 CFR 63.113(a)(2), the owner or operator of a Group 1 process vent as defined in 40 CFR 63 Subpart G shall reduce emissions of total organic hazardous air pollutants by 98 weight-percent or to a concentration of 20 parts per million by volume, whichever is less stringent. For combustion devices, the emission reduction or concentration shall be calculated on a dry basis, corrected to 3-percent oxygen, and compliance can be determined by measuring either organic hazardous air pollutants or total organic carbon using the procedures in 40 CFR 63.116.

c. The affected recovery exhausters are subject to the NSPS for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry, 40 CFR 60 Subparts A and VV. The Illinois EPA is administering the NSPS in Illinois under a delegation agreement. Pursuant to 40 CFR 63.160(c), if a process unit is subject to the provisions of 40 CFR 63 Subpart H has equipment subject to 40 CFR 60 Subpart VV, the owner or operator may elect to apply 40 CFR 63 Subpart to all such equipment in the process unit. If the owner or operator elects to this method of compliance, all VOC in such equipment shall be considered, for purposes of applicability and compliance with 40 CFR 63 Subpart H as if it were organic hazardous air pollutant (HAP). Compliance with the provisions of 40 CFR 63 Subpart H, in the manner described in this Condition, shall be deemed compliance with 40 CFR 60 Subpart VV.

d. The affected recovery exhausters are subject to the NSPS for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations, 40 CFR 60 Subparts A and NNN. The Illinois EPA is administering the NSPS in Illinois under a delegation agreement. Pursuant to 40 CFR 63.110(d)(4), After the compliance dates specified in 40 CFR 63.100, a Group 1 process vent that is also subject to the provisions of 40 CFR 60 Subpart NNN is required to comply only with the provisions of 40 CFR 63 Subpart G.

e. The affected recovery exhausters are subject to 35 IAC 218 Subpart G, Use of Organic Material, which provides that:

i. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in Condition 7.21.3 (e)(ii) (see also 35 IAC 218.302) and the following exception: If no odor nuisance exists the limitation of 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

ii Emissions of organic material in excess of those permitted by Condition 7.21.3(e)(i) (see also 35 IAC 218.301) are allowable if such emissions are controlled by flame, thermal or catalytic incineration so as either to reduce such emissions to 10 ppm equivalent methane (molecular weight 16) or less, or to convert 85 percent of the hydrocarbons to carbon dioxide and water [35 IAC 218.302(a)].

7.21.4 Non-Applicability of Regulations of Concern

a. The affected recovery exhausters are not subject to the Emission Limitations for Air Oxidation Processes because the affected recovery exhausters do not use a combination of air and oxygen as an oxidant in combination with one or more organic reactants to produce one or more organic compounds.

b. The affected recovery exhausters are not subject to 35 IAC 218 Subpart RR, Miscellaneous Organic Chemical Manufacturing Processes because no chemical reactions are utilized by this manufacturing process.

c. The affected recovery exhausters are not subject to 35 IAC 218 Subpart TT, Other Emission Units, pursuant to 35 IAC 218.980(b)(1) and (b)(2) which exempts a source's VOM emissions units, which are included in the category of synthetic organic chemical manufacturing industry (SOCMI).

7.21.5 Operational and Production Limits and Work Practices

a. The Permittee shall follow good operating practices for the thermal oxidizers associated with the affected recovery exhausters, including periodic inspection, routine maintenance and prompt repair of defects.

b. The combustion chambers of the thermal oxidizers shall be preheated to at least the manufacturer's recommended temperature but no less than the temperature at which compliance was demonstrated in the most recent compliance test, or 1400°F in the absence of a compliance test. This temperature shall be maintained during operation of the affected recovery exhausters.

7.21.6 Emission Limitations

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

a. This permit is issued based on negligible emissions of VOM from the PAA recovery exhauster system. For this purpose, emissions from this process shall not exceed nominal emission rates of 0.05 lb/hour and 0.22 ton/year.

b. The above limitations were established in Permit 99070061, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

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

7.21.7 Testing Requirements

a. The Permittee shall perform all the applicable performance testing as specified by 40 CFR 63.116.

b. Pursuant to 35 IAC 218.105(d)(1) and Section 39.5(7)(b) of the Act, the control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified below (see also 35 IAC 218.105(f)):

i. Volatile Organic Material Gas Phase Source Test Methods The methods in 40 CFR Part 60, Appendix A, delineated below shall be used to determine control device efficiencies [35 IAC 218.105(f)].

A. CFR Part 60, Appendix A, Method 18, 25 or 25A, as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. The test shall consist of three separate runs, each lasting a minimum of 60 min, unless the Illinois EPA and the USEPA determine that process variables dictate shorter sampling times [35 IAC 218.105 (f)(1)].

B. 40 CFR Part 60, Appendix A, Method 1 or 1A shall be used for sample and velocity traverses [35 IAC 218.105(f)(2)].

C. 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D shall be used for velocity and volumetric flow rates [35 IAC 218.105 (f)(3)].

D. 40 CFR Part 60, Appendix A, Method 3 shall be used for gas analysis [35 IAC 218.105 (f)(4)].

E. 40 CFR Part 60, Appendix A, Method 4 shall be used for stack gas moisture [35 IAC 218.105(f)(5)].

F. 40 CFR Part 60, Appendix A, Methods 2, 2A, 2C, 2D, 3 and 4 shall be performed, as applicable, at least twice during each test run [35 IAC 218.105(f)(6)].

G. Use of an adaptation to any of the test methods specified in Conditions 7.21.7 (b)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) may not be used unless approved by the Illinois EPA and the USEPA on a case by case basis. An owner or operator must submit sufficient documentation for the Illinois EPA and the USEPA to find that the test methods specified in Conditions 7.21.7(b)(i)(A), (B), (C), (D), (E) and (F) (see also 35 IAC 218.105(f)(1), (2), (3), (4), (5) and (6)) will yield inaccurate results and that the proposed adaptation is appropriate [35 IAC 218.105(f)(7)].

ii. Notwithstanding other requirements of 35 IAC Part 218, upon request of the Illinois EPA where it is necessary to demonstrate compliance, an owner or operator of an emission unit which is subject to 35 IAC Part 218 shall, at his own expense, conduct tests in accordance with the applicable test methods and procedures specific in this Part. Nothing in this Condition (see also 35 IAC 218.105) shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing [35 IAC 218.105(i)].

7.21.8 Monitoring Requirements

a. The Permittee shall fulfill all the applicable monitoring requirements as specified by 40 CFR 63.114.

b. The Permittee shall fulfill all the applicable leak inspection provisions as specified by 40 CFR 63.148.

c. An owner or operator that uses an afterburner to comply with any Section of 35 IAC Part 218 shall use Illinois EPA and USEPA approved continuous monitoring equipment which is installed, calibrated, maintained, and operated according to vendor specifications at all times the afterburner is in use. The continuous monitoring equipment must monitor for each afterburner which does not have a catalyst bed, the combustion chamber temperature of each afterburner [35 IAC 218.105(d)(2)(A)(i)].

7.21.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected recovery exhauster to demonstrate compliance with Conditions 5.5.1, 7.21.3, and 7.21.6, pursuant to Section 39.5(7)(b) of the Act:

a. The Permittee shall fulfill all the applicable recordkeeping requirements as specified by 40 CFR 63.117 and 63.118.

b. Records of the testing of the efficiency of each capture system and control device pursuant to Condition 7.21.7(b), which include the following [Section 39.5(7)(e) of the Act]:

i. The date, place and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

c. Records addressing use of good operating practices for the thermal oxidizers:

i. Records for periodic inspection of the thermal oxidizers with date, individual performing the inspection, and nature of inspection; and

ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

d. Phthalic anhydride production rate, ton/mo, and tons/yr;

e. The operating schedule of the affected recovery exhausters; and

f. The monthly and aggregate annual VOM emissions from the affected recovery exhausters based on the phthalic anhydride production rate and applicable emission factors and formulas with supporting calculations.

7.21.10 Reporting Requirements

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

a. The Permittee shall fulfill all the applicable reporting requirements as specified by 40 CFR 63.117 and 63.118.

b. Emissions of VOM from the affected recovery exhausters in excess of the limits in Condition 7.21.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.21.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.21.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.21.9 and the emission factors and formulas listed below:

a. The Permittee shall fulfill all the applicable compliance and applicability determinations as specified by 40 CFR 63.115.

b. To determine compliance with Conditions 5.5.1, 7.21.3(e), and 7.11.6, VOM emissions from the affected recovery exhausters shall be calculated based on the following emission factors:

| Pollutant | Emission Factor (lb/ton) |
|---|---|
| VOM | 2 |

This is the emission factor for phthalic anhydride production, distillation with thermal incinerator, Table 6.5-1, AP-42, Volume I, Fifth Edition, January, 1995.

Refining Process Emissions (lb) = (Phthalic Anhydride Production, ton) x (The Appropriate Emission Factor, lb/ton)

# 8.0 GENERAL PERMIT CONDITIONS

## 8.1 Permit Shield

Pursuant to Section 39.5(7)(j) of the Act, the Permittee has requested and has been granted a permit shield. This permit shield provides that compliance with the conditions of this permit shall be deemed compliance with applicable requirements which were applicable as of the date the proposed permit for this source was issued, provided that either the applicable requirements are specifically identified within this permit, or the Illinois EPA, in acting on this permit application, has determined that other requirements specifically identified are not applicable to this source and this determination (or a concise summary thereof) is included in this permit.

This permit shield does not extend to applicable requirements which are promulgated after _____**{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

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

| Monitoring Period | Report Due Date |
|---|---|
| January - June | September 1 |
| July - December | March 1 |

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

### 8.6.2 Test Notifications

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

a. The name and identification of the affected unit(s);

b. The person(s) who will be performing sampling and analysis and their experience with similar tests;

c. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and the means by which the operating parameters for the source and any control equipment will be determined;

d. The specific determination of emissions and operation which are intended to be made, including sampling and monitoring locations;

e. The test method(s) which will be used, with the specific analysis method, if the method can be used with different analysis methods;

f. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification; and

g. Any proposed use of an alternative test method, with detailed justification.

8.6.3 Test Reports

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

a. The name and identification of the affected unit(s);

b. The date and time of the sampling or measurements;

c. The date any analyses were performed;

d. The name of the company that performed the tests and/or analyses;

e. The test and analytical methodologies used;

f. The results of the tests including raw data, and/or analyses including sample calculations;

g. The operating conditions at the time of the sampling or measurements; and

h. The name of any relevant observers present including the testing company’s representatives, any Illinois EPA or USEPA representatives, and the representatives of the source.

8.6.4 Reporting Addresses

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

i. Illinois EPA - Air Compliance Section

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

ii. Illinois EPA - Air Regional Field Office

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

iii. Illinois EPA - Air Permit Section (MC 11)

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

iv. USEPA Region 5 - Air Branch

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

b. Unless otherwise specified in the particular provision of this permit, reports shall be sent to the Illinois EPA - Air Compliance Section with a copy sent to the Illinois EPA - Air Regional Field Office.

8.7 Obligation to Comply with Title I Requirements

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

# 9.0 STANDARD PERMIT CONDITIONS

## 9.1 Effect of Permit

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

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

a. The provisions of Section 303 (emergency powers) of the CAA, including USEPA's authority under that Section;

b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;

c. The applicable requirements of the acid rain program consistent with Section 408(a) of the CAA; and

d. The ability of USEPA to obtain information from a source pursuant to Section 114 (inspections, monitoring, and entry) of the CAA.

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

## 9.2 General Obligations of Permittee

9.2.1 Duty to Comply

The Permittee must comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the CAA and the Act, and is grounds for any or all of the following: enforcement action, permit termination, revocation and reissuance, modification, or

denial of a permit renewal application [Section 39.5(7)(o)(i) of the Act].

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

9.2.2 Duty to Maintain Equipment

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

9.2.3 Duty to Cease Operation

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

9.2.4 Disposal Operations

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

9.2.5 Duty to Pay Fees

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

9.3 Obligation to Allow Illinois EPA Surveillance

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

a. Enter upon the Permittee's premises where an actual or potential emission unit is located; where any regulated equipment, operation, or activity is located or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect during hours of operation any sources, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

d. Sample or monitor any substances or parameters at any location:

   i. At reasonable times, for the purposes of assuring permit compliance; or

   ii. As otherwise authorized by the CAA, or the Act.

e. Obtain and remove samples of any discharge or emission of pollutants; and

f. Enter and utilize any photographic, recording, testing, monitoring, or other equipment for the purposes of preserving, testing, monitoring, or recording any activity, discharge or emission at the source.

9.4 Obligation to Comply With Other Requirements

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

## 9.5 Liability

### 9.5.1 Title

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

### 9.5.2 Liability of Permittee

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

### 9.5.3 Structural Stability

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

### 9.5.4 Illinois EPA Liability

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

### 9.5.5 Property Rights

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

## 9.6 Recordkeeping

### 9.6.1 Control Equipment Maintenance Records

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

9.6.2 Records of Changes in Operation

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

9.6.3 Retention of Records

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

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

9.7 Annual Emissions Report

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

9.8 Requirements for Compliance Certification

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

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

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

b. All compliance certifications shall be submitted to USEPA Region 5 in Chicago as well as to the Illinois EPA.

c. All compliance reports required to be submitted shall include a certification in accordance with Condition 9.9.

9.9 Certification

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

9.10 Defense to Enforcement Actions

9.10.1 Need to Halt or Reduce Activity Not a Defense

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

9.10.2 Emergency Provision

a. An emergency shall be an affirmative defense to an action brought for noncompliance with the technology-based emission limitations under this permit if the following conditions are met through properly signed, contemporaneous operating logs, or other relevant evidence:

i. An emergency occurred as provided in Section 39.5(7)(k) of the Act and the Permittee can identify the cause(s) of the emergency. Normally, an act of God such as lightning or flood is considered an emergency;

ii. The permitted source was at the time being properly operated;

iii. The Permittee submitted notice of the emergency to the Illinois EPA within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken; and

iv. During the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission limitations, standards, or regulations in this permit.

b. This provision is in addition to any emergency or upset provision contained in any applicable requirement. This provision does not relieve a Permittee of any reporting obligations under existing federal or state laws or regulations.

9.11 Permanent Shutdown

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

9.12 Reopening and Reissuing Permit for Cause

9.12.1 Permit Actions

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

9.12.2 Reopening and Revision

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

a. Additional requirements become applicable to the equipment covered by this permit and three or more years remain before expiration of this permit;

b. Additional requirements become applicable to an affected source for acid deposition under the acid rain program;

c. The Illinois EPA or USEPA determines that this permit contains a material mistake or inaccurate statement when establishing the emission standards or limitations, or other terms or conditions of this permit; and

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

9.12.3 Inaccurate Application

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

9.12.4 Duty to Provide Information

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

9.13 Severability Clause

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

9.14 Permit Expiration and Renewal

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

# 10.0 ATTACHMENTS

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

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

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

b. Interpolated and extrapolated values of the data in subsection (c) of 35 IAC 212.321 shall be determined by using the equation [35 IAC 212.321(b)]:

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

where

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

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

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

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

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

c. Limits for Process Emission Units For Which Construction or Modification Commenced On or After April 14, 1972 [35 IAC 212.321(c)]:

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

## 10.2 Attachment 2 Emissions of Particulate Matter from Existing Process Emission Units

### 10.2.1 Process Emission Units for Which Construction or Modification Commenced Prior to April 14, 1972

a. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit for which construction or modification commenced prior to April 14, 1972, which, either alone or in combination with the emission of particulate matter from all other similar process emission at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 [35 IAC 212.322(a)].

b. Interpolated and extrapolated values of the data in subsection (c) of 35 IAC 212.322 shall be determined by using the equation [35 IAC 212.322(b)]:

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

where:

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

i. Up to process weight rates up to 27.2 Mg/hr (30 T/hr):

| | Metric | English |
|---|---|---|
| P | Mg/hr | T/hr |
| E | kg/hr | lb/hr |
| A | 1.985 | 4.10 |
| B | 0.67 | 0.67 |
| C | 0 | 0 |

ii. For process weight rate in excess of 27.2 Mg/hr (30 T/hr):

| | Metric | English |
|---|---|---|
| P | Mg/hr | T/hr |
| E | kg/hr | lb/hr |
| A | 25.21 | 55.0 |
| B | 0.11 | 0.11 |
| C | -18.4 | -40.0 |

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

| Metric | | English | |
|---|---|---|---|
| P | E | P | E |
| Mg/hr | kg/hr | T/hr | lb/hr |
| 0.05 | 0.27 | 0.05 | 0.55 |
| 0.1 | 0.42 | 0.10 | 0.87 |
| 0.2 | 0.68 | 0.2 | 1.40 |
| 0.3 | 0.89 | 0.30 | 1.83 |
| 0.4 | 1.07 | 0.40 | 2.22 |
| 0.5 | 1.25 | 0.50 | 2.58 |
| 0.7 | 1.56 | 0.75 | 3.38 |
| 0.9 | 1.85 | 1.00 | 4.10 |
| 1.8 | 2.9 | 2.00 | 6.52 |
| 2.7 | 3.9 | 3.00 | 8.56 |
| 3.6 | 4.7 | 4.00 | 10.40 |
| 4.5 | 5.4 | 5.00 | 12.00 |
| 9.0 | 8.7 | 10.00 | 19.20 |
| 13.0 | 11.1 | 15.00 | 25.20 |
| 18.0 | 13.8 | 20.00 | 30.50 |
| 23.0 | 16.2 | 25.00 | 35.40 |
| 27.2 | 18.15 | 30.00 | 40.00 |
| 32.0 | 18.8 | 35.00 | 41.30 |
| 36.0 | 19.3 | 40.00 | 42.50 |
| 41.0 | 19.8 | 45.00 | 43.60 |
| 45.0 | 20.2 | 50.00 | 44.60 |
| 90.0 | 23.2 | 100.00 | 51.20 |
| 140.0 | 25.3 | 150.00 | 55.40 |
| 180.0 | 26.5 | 200.00 | 58.60 |
| 230.0 | 27.7 | 250.00 | 61.00 |
| 270.0 | 28.5 | 300.00 | 63.10 |
| 320.0 | 29.4 | 350.00 | 64.90 |
| 360.0 | 30.0 | 400.00 | 66.20 |
| 400.0 | 30.6 | 450.00 | 67.70 |
| 454.0 | 31.3 | 500.00 | 69.00 |

10.3 Attachment 3 Example Certification by a Responsible Official

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature _____

Name _____

Official Title _____

Telephone No. _____

Date Signed _____

RWB:psj

## 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.

Koppers Industries, Inc. is located at 3900 South Laramie Avenue in Stickney, Illinois. The source includes a tar plant, phthalic anhydride plant, wastewater treatment plant, and the Stickney Oil Terminals. The source manufactures chemical oil products, creosotes, coal tar pitches, and phthalic anhydride from coal tar. Raw materials or products may be stored at the Stickney Oil Terminals.

## II. EMISSION UNITS

Significant emission units at this source are as follows:

| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|---|---|---|---|
| 1 | 522,000 Gallon Raw Material/Distillate Oil/Carbon Black Storage Tank (Tank 1) | 1922 | Fume System #2 |
| 2 | 522,000 Gallon Raw Material/Distillate Oil/Carbon Black/Refined Chemical Oil Storage Tank (Tank 2) | 1922 | Fume System #2 |
| 4 | 522,000 Gallon Raw Material Storage Tank (Tank 4) | 1922 | None |
| 5 | 522,000 Gallon Raw Material Storage Tank (Tank 5) | 1922 | None |
| 6 | 522,000 Gallon Raw Material Storage Tank (Tank 6) | 1922 | None |
| 7 | 522,000 Gallon Naphthalene Storage Tank (Tank 7) | December, 1978 | Sublimation Box No. 3 |
| 12 | 316,000 Gallon Refined Chemical Oil Storage Tank (Tank 12) | 1922 | Fume System #2 |
| 13 | 316,000 Gallon Tar/Water Storage Tank (Tank 13) | 1922 | Fume System #2 |
| 21 | 158,000 Gallon Distillate Oil Storage Tank (Tank 21) | 1922 | Fume System #2 |
| 22 | 158,000 Gallon Distillate Oil Storage Tank (Tank 22) | 1922 | Fume System #2 |

| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|---|---|---|---|
| 23 | 158,000 Gallon Distillate Oil Storage Tank (Tank 23) | 1970 | Fume System #2 |
| 24 | 158,000 Gallon Distillate Oil Storage Tank (Tank 24) | 1922 | Fume System #2 |
| 25 | 158,000 Gallon Distillate Oil/Refined Chemical Oil Storage Tank (Tank 25) | 1988 | Fume System #2 |
| 26 | 155,000 Gallon Light/Light Blend/Heavy Distillate Oil Storage Tank (Tank 26) | 1957 | Fume System #2 |
| 27 | 155,000 Gallon Light/Light Blend/Heavy Distillate Oil Storage Tank (Tank 27) | 1957 | Fume System #2 |
| 31 | 109,000 Gallon Heavy Distillate Oil Storage Tank (Tank 31) | 1955 | Fume System #1 |
| 32 | 109,000 Gallon Heavy Distillate Oil Storage Tank (Tank 32) | 1955 | Fume System #1 |
| 33 | 106,000 Gallon Pitch/Old Style Pitch/Bitumen Storage Tank (Tank 33) | 1957 | Fume System #4 |
| 40 | 44,000 Gallon Distillate Oil Storage Tank (Tank 40) | 1960 | Fume System #1 |
| 41 | 55,000 Gallon Carbon Pitch Storage Tank (Tank 41) | 1980 | Fume System #5 |
| 42 | 58,000 Gallon Raw Material/Crude Tar/Pitch Storage Tank (Tank 42) | 1980 | Fume System #2 |
| 43 | 37,000 Gallon Raw Material/Pitch/Crude Tar Storage Tank (Tank 43) | 1980 | Fume System #2 |
| 44 | 63,000 Gallon Carbon Pitch Storage Tank (Tank 44) | 1960 | Fume System #5 |
| 45 | 56,000 Gallon Pitch/Bitumen/PSB Storage Tank (Tank 45) | 1960 | Fume System #1 |
| 46 | 52,000 Gallon Carbon Pitch Storage Tank (Tank 46) | 1965 | Fume System #5 |
| 47 | 55,000 Gallon Carbon Pitch Storage Tank (Tank 47) | 1970 | Fume System #5 |
| 48 | 56,000 Gallon Carbon Pitch Storage Tank (Tank 48) | 1970 | Fume System #5 |

| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|---|---|---|---|
| 49 | 50,000 Gallon Carbon Pitch/Petroleum Pitch Storage Tank (Tank 49) | 1980 | Fume System #5 |
| 62 | 25,000 Gallon Pitch Storage Tank (Tank 62) | 1960 | Fume System #1 |
| 63 | 25,000 Gallon Pitch Storage Tank (Tank 63) | 1960 | Fume System #1 |
| 64 | 25,000 Gallon Pitch Storage Tank (Tank 64) | 1960 | Fume System #1 |
| 77 | Wastewater Storage Tank (Tank 77) | Unknown | None |
| 78 | Wastewater Storage Tank (Tank 78) | Unknown | None |
| 100 | 1,040,000 Gallon Raw Material Storage Tank (Tank 100) | 1957 | None |
| 101 | 1,040,000 Gallon Raw Material Storage Tank (Tank 101) | 1957 | None |
| 102 | 1,000,000 Gallon Raw Material/Crude Tar Storage Tank (Tank 102) | 1999 | None |
| 300 | 827,000 Gallon O-Xylene Storage Tank (Tank 300) | October, 1973 | None |
| 301 | 376,000 Gallon Distillate Oil/P1/P13/P2-88 Storage Tank (Tank 301) | 1979 | None |
| 302 | 376,000 Gallon Distillate Oil/P1/P13/P2-88 Storage Tank (Tank 301) | 1979 | None |
| 303-PAA | 826,000 Gallon O-Xylene Storage Tank (PAA Plant Tank 303) | December, 1970 | None |
| 303-TP | 350,000 Gallon Distillate Oil/P2/P88 Storage Tank (Tar Plant Tank 303) | 1979 | None |
| 304A | 84,000 Gallon O-Xylene Storage Tank (Tank 304A) | June, 1970 | None |
| 304B | 84,000 Gallon O-Xylene Storage Tank (Tank 304B) | June, 1970 | None |
| 305 | 822,000 Gallon Naphthalene Storage Tank (Tank 305) | June, 1970 | Sublimation Box No. 2 |
| API | Five API Wastewater Separators | Unknown | None |

| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|---|---|---|---|
| A-Train | Phthalic Anhydride Reactor Train (A-Train) | December, 1972 | Regenerative Thermal Oxidizer No. 1 |
| B1 | Cleaver Brooks Model DL-76 Natural Gas-Fired Boiler (Boiler #1, 85.0 mmBtu/hr) | Prior to February, 1973 | None |
| B2 | Cleaver Brooks Model D-42 Natural Gas-Fired Boiler (Boiler #2, 32.850 mmBtu/hr) | Prior to February, 1973 | None |
| B3 | Cleaver Brooks Model D-42 Natural Gas-Fired Boiler (Boiler #3, 32.850 mmBtu/hr) | Prior to February, 1973 | None |
| B4 | Natural Gas-Fired Boiler (Boiler #4, 99.0 mmBtu/hr) | 1979 | None |
| Bertram | Marlotherm Heat Transfer System Natural Gas-Fired Heater (Bertram Heater, 19 mmBtu/hr) | October, 1976 | None |
| Born | Marlotherm Heat Transfer System Natural Gas-Fired Heater (Born Heater, 14.5 mmBtu/hr) | October, 1970 | None |
| B-Train | Phthalic Anhydride Reactor Train (B-Train) | December, 1972 | Regenerative Thermal Oxidizer No. 2 |
| C-Train | Phthalic Anhydride Reactor Train (C-Train) | December, 1972 | Regenerative Thermal Oxidizer No. 3 and Entrainment System No. 2 |
| D-5 | 36,000 Gallon Pitch/Old Style Pitch/Bitumen Storage Tank (Tank D-5) | 1966 | Fume System #4 |
| DAF | 2 Dissolved Air Flotation (DAF) Wastewater Tanks | Unknown | None |
| D-Train | Phthalic Anhydride Reactor Train (D-Train) | December, 1972 | Regenerative Thermal Oxidizer No. 4 and Entrainment System No. 2 |
| MF-106 | 5,100 Gallon Napthalene Vaporizer Oil Tank (Tank MF-106) | Prior to April, 1978 | Sublimation Box No. 4 |
| MF301A | 202,000 Gallon Refined Phthalic Anhydride Storage Tank (Tank 301A) | June, 1970 | PAA Tank Farm Switch Condensers |

| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|---|---|---|---|
| MF301B | 202,000 Gallon Intermediate Crude Phthalic Anhydride Storage Tank (Tank 301B) | June, 1970 | PAA Tank Farm Switch Condensers |
| MF302A | 54,000 Gallon Refined Phthalic Anhydride Storage Tank (Tank 302A) | June, 1970 | PAA Tank Farm Switch Condensers |
| MF302B | 54,000 Gallon Refined Phthalic Anhydride Storage Tank (Tank 302B) | June, 1970 | PAA Tank Farm Switch Condensers |
| MF-311 | 10,000 Gallon Refined Phthalic Anhydride Storage Tank (Tank MF-311) | Prior to April, 1978 | Mini-Switch Condenser System |
| MF-4150 | 240,000 Gallon Intermediate Crude Phthalic Anhydride Storage Tank (Tank MF-4150) | November, 1975 | PAA Tank Farm Switch Condensers |
| MS-308 | 10,000 Gallon Refined Phthalic Anhydride Flaker Feed Storage Tank (Tank MS-308) | Prior to April, 1978 | Sublimation Box No. 14 |
| MS-414 | 10,000 Gallon Flaked Phthalic Anhydride Storage Remelt Tank (Tank MS-414) | Unknown | Flaker Dust Collector |
| OL12 | 2,284,000 Gallon Raw Material/Crude Tar Storage Tank (Tank OL12) | 1956 | None |
| OL13 | 424,000 Gallon Raw Material/Carbon Black/Crude Tar Storage Tank (Tank OL13) | 1956 | None |
| OL14 | 424,000 Gallon Raw Material/Crude Tar Storage Tank (Tank OL14) | 1956 | None |
| OL15 | 2,286,000 Gallon Raw Material/Crude Tar Storage Tank (Tank OL15) | 1956 | None |
| OL19 | 418,000 Gallon Raw Material/Crude Tar Storage Tank (Tank OL19) | 1949 | None |
| OL20 | 969,000 Gallon Raw Material/Crude Tar Storage Tank (Tank OL20) | 1949 | None |
| OL21 | 969,000 Gallon Raw Material/Crude Tar Storage Tank (Tank OL21) | 1949 | None |

| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|---|---|---|---|
| OL22 | 2,284,000 Gallon Raw Material/Crude Tar Storage Tank (Tank OL22) | 1949 | None |
| OL-23 | 2,280,000 Gallon O-Xylene Storage Tank (Tank OL-23) | 1949 | None |
| OL24 | 2,283,000 Gallon Carbon Black Storage Tank (Tank OL24) | 1950 | None |
| OL25 | 2,284,000 Gallon Raw Material/Crude Tar Storage Tank (Tank OL25) | 1950 | None |
| OL27 | 2,351,000 Gallon Refined Chemical Oil Storage Tank (Tank OL27) | 1952 | None |
| P8 | 55,000 Gallon Pitch Storage Tank (Tank P8) | 1953 | Fume System #1 |
| P9 | 55,000 Gallon Pitch Storage Tank (Tank P9) | 1953 | Fume System #1 |
| PAA-BU | Barge Unloading of Naphthalene to Tanks | April, 1978 | None |
| PAA-F | Phthalic Anhydride Flaker | Prior to April 14, 1972 | Dust Collector |
| PAA-R | Phthalic Anhydride Refining (Heat Treaters, Preflash, Strippers, and Residue Still) | October, 1970 | Fume Scrubber |
| PAA-RE | Phthalic Anhydride Recovery Exhausters | November, 1999 | Regenerative Thermal Oxidizers No. 1 and 2 |
| PAA-RRTCU | Railroad Tank Car Unloading of Naphthalene to Tanks | April, 1978 | Sublimation Box No. 1 |
| PAA-TTU | Tank Truck Unloading of Naphthalene to Tanks | April, 1978 | None |
| RCL-1 | Rail Car Loading Station No.1 | Prior to April, 1978 | Mini-Switch Condenser System |
| RCL-2 | Rail Car Loading Station No.2 | Prior to April, 1978 | Mini-Switch Condenser System |
| RCL-3 | Rail Car Loading Station No.3 | Prior to April, 1978 | Mini-Switch Condenser System |
| RCL-4 | Rail Car Loading Station No.4 | Prior to April, 1978 | Mini-Switch Condenser System |
| RCL-5 | Rail Car Loading Station No.5 | Prior to April, 1978 | Mini-Switch Condenser System |

| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|---|---|---|---|
| SF | Natural Gas-Fired Startup Furnace (Startup Furnace, 20 mmBtu/hr) | Unknown | None |
| SH | RADCO Natural Gas-Fired Super Heater (Super Heater, 25.4 mmBtu/hr) | 1988 | None |
| T-305 | 158,000 Gallon Raw Material Storage Tank (Tank T-305) | 1977 | None |
| T-306 | 200,000 Gallon Raw Material Storage Tank (Tank T-306) | 1977 | None |
| T-8102 | Wastewater Equalization Tank (Tank T-8102) | Unknown | None |
| T-8200 | Stormwater Surge Tank (Tank T-8200) | Unknown | None |
| T-8400 | Wastewater Biological/Aeration Tank (Tank T-8400) | 1990 | None |
| T-8450 | Wastewater Clarifier Tank (Tank T-8450) | Unknown | None |
| TP-701 | 526,000 Gallon Raw Material Storage Tank (Tank TP-701) | 1977 | None |
| TPDS1 | Tar Plant Distillation Still #1 (Dehydrator, Fractionators, Flash, and Decanter) | December, 1972 | Tube Heaters F101 and F201, Flare, and Fume System #2 |
| TPDS2 | Tar Plant Distillation Still #2 (Dehydrator, Fractionators, Flash, and Decanter) | December, 1972 | Tube Heaters F101 and F201, Flare, and Fume System #2 |
| TWL | Tank Wagon Loading | Prior to April, 1978 | Mini-Switch Condenser System |
| Fugitive PM Emissions | Paved/Unpaved Traffic Areas, Parking Lots, and Roadways | -- | None |
| Fugitive VOM/HAP Emissions | Equipment Leaks, Loading/Unloading Operations, and Cleanup Operations | -- | None |

## III. EMISSIONS

This source is required to have a CAAPP permit since it is a major source of emissions.

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

Permitted Emissions of Regulated Pollutants

| Pollutant | Tons/Year |
|---|---|
| Nitrogen Oxides ($NO_x$) | 650.31 |
| Particulate Matter (PM) | 146.55 |
| Sulfur Dioxide ($SO_2$) | 1,471.43 |
| Volatile Organic Material (VOM) | 629.06 |
| HAP, not included in VOM or PM | -- |
| TOTAL | 2,897.35 |

This permit is a combined Title I/CAAPP permit that 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 by T1, T1R, or T1N. 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. Any conditions established in a construction permit pursuant to Title I and not revised or deleted in this permit, remain in effect pursuant to Title I provisions until such time that the Illinois EPA revises or deletes them.

## 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

### CAAPP

A CAAPP permit contains all conditions that apply to a source and a listing of the applicable state and federal air pollution control

regulations that are the origin of the conditions. The permit also contains 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.

Title I

A combined Title I/CAAPP permit contains terms and conditions established by the Illinois EPA pursuant to authority found in Title I provisions, e.g., 40 CFR 52.21 - federal Prevention of Significant Deterioration (PSD) and 35 IAC Part 203 - Major Stationary Sources Construction and Modification. Notwithstanding the expiration date on the first page of the 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.

Because this source is located in the Chicago ozone non-attainment area and emits volatile organic material (VOM), the permit includes conditions to implement the Emissions Reduction Market System (ERMS). The ERMS is a market-based program designed to reduce VOM emissions from stationary sources to contribute to reasonable further progress toward attainment, as further described in Section 6.0 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 allotment 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 emissions 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.

RWB:96030134:psj