217/782-2113

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

PERMITTEE

JLM Chemicals, Inc.
Attn: Plant Manager
3350 West 131st Street
Blue Island, Illinois 60406

Application No.: 96030067
I.D. No.: 031824AAE
Applicant's Designation:
Date Received: March 6, 1996
Operation of: Synthetic Organic Chemical Manufacturing
Date Issued: May 25, 2000
Expiration Date[2]: May 25, 2005
Source Location: 3350 West 131st Street, Alsip, Cook County
Responsible Official: W. J. Kimball, President/Chief Operating Officer

This permit is hereby granted to the above-designated Permittee to OPERATE a synthetic organic chemical manufacturing source, pursuant to the above referenced permit application. This permit is subject to the conditions contained herein.

Revision Date Received: January 18, 2001
Revision Date Issued: May 9, 2001
Purpose of Revision: Minor Modification

This minor modification revises the short term emission limits in Condition 7.8.6 to allow flexibility in monthly fuel oil usage. Please note that a request to increase annual fuel oil usage is being processed separately.

This document only contains those portions of the entire CAAPP permit that have been revised as a result of this permitting action. If a conflict exists between this document and previous versions of the CAAPP permit, this document supersedes those terms and conditions of the permit for which the conflict exists. The previous permit issued May 25, 2000 is incorporated herein by reference.

Please attach a copy of this amendment and the following revised pages to the front of the most recently issued entire permit.

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

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

DES:JS:psj

cc: Illinois EPA, FOS, Region 1
USEPA

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

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

TABLE OF CONTENTS

		PAGE
1.0	SOURCE IDENTIFICATION	4
	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	5
3.0	INSIGNIFICANT ACTIVITIES	7
	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	17
5.0	OVERALL SOURCE CONDITIONS	21
	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	
6.0	EMISSIONS REDUCTION MARKET SYSTEM (ERMS)	32
	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	
	6.9 Recordkeeping for ERMS	
	6.10 Federal Enforceability	
	6.11 Exclusions from Further Reductions	
7.0	UNIT SPECIFIC CONDITIONS	40
	7.1 Cumene Process Units and Flare	
	7.2 Phenol Process Units and Thermal Oxidizers	
	7.3 Group 1 Benzene Storage Tanks	

PAGE

7.4 Group 2 Storage Tanks with capacity less than 40,000 gallons
7.5 Group 2 Storage Tanks with capacity greater than or equal to 40,000 gallons
7.6 Group 2 Loading Operations
7.7 Group 2 Wastewater Streams
7.8 Fuel Combustion Units

8.0 GENERAL PERMIT CONDITIONS 121

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 126

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 Requirements 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 - Certification by a Responsible Official 1-1
10.2 Attachment 2 - Permit Condition/Federal Rule Reference 2-1

1.0 SOURCE IDENTIFICATION

1.1 Source

JLM Chemicals, Inc.
3350 West 131st Street
Alsip, Illinois 60658
PHONE: 708/388-9373

I.D. No.: 031824AAE
Standard Industrial Classification: 2869, Industrial Organic Chemicals

1.2 Owner/Parent Company

JLM Chemicals, Inc.
3350 West 131st Street
Blue Island, Illinois 60406

1.3 Operator

JLM Chemicals, Inc.
3350 West 131st Street
Blue Island, Illinois 60658

CONTACT PERSON: Plant Manager
CONTACT PHONE: 708/388-9373

1.4 General Source Description

The JLM Chemicals, Inc. is located at 3350 West 131st Street, Alsip in Cook County. The source manufactures synthetic organic chemicals. In addition, the source operates storage tanks for the storage of raw materials and products and loading operations for offsite transport.

2.0 LIST OF ABBREVIATIONS/ACRONYMS USED IN THIS PERMIT

ACMA	Alternative Compliance Market Account
Act	Illinois Environmental Protection Act [415 ILCS 5/1 et seq.]
AMS	Alpha Methyl Styrene (also Isopropenyl Benzene)
AP	Acetophenone (also Methyl Phenyl Ketone)
AP-42	Compilation of Air Pollutant Emission Factors, Volume 1, Stationary Point and Other Sources (and Supplements A through F), USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711
API	American Petroleum Institute
ASTM	American Society for Testing and Materials
ATU	Allotment Trading Unit
BAT	Best Available Technology
Btu	British thermal unit
ºC	degrees Celsius
CAA	Clean Air Act [42 U.S.C. Section 7401 et seq.]
CAAPP	Clean Air Act Permit Program
CEMS	continuous emissions monitoring system
CFR	Code of Federal Regulations
CHP	Cumene Hydroperoxide
DIPB	di-isopropyl-benzene
ERMS	Emissions Reduction Market System
ºF	degrees Fahrenheit
ft	feet
ft^3	cubic feet
gal	gallons
g-mol	gram mole
HAP	Hazardous Air Pollutant
hr	hour
IAC	Illinois Administrative Code
I.D. No.	Identification Number of Source, assigned by Illinois EPA
ILCS	Illinois Compiled Statutes
Illinois EPA	Illinois Environmental Protection Agency
J	Joule
°K	degrees Kelvin
kcal	kilocalorie
kg	kilogram
kPa	kilopascals
kW	kilowatts
l	liter
lb	pound
LAER	Lowest Achievable Emission Rate
m	meter
m^3	cubic meter
MACT	Maximum Achievable Control Technology
min	minute

MJ	megajoules
mmBtu	million British thermal units
$mmft^3$	million cubic feet
mmHg	millimeters of mercury
MW	megawatts
ng	nanograms
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_x	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standards
PM	Particulate Matter
PM_{10}	Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 microns as measured by applicable test or monitoring methods
ppm	parts per million
ppmv	parts per million by volume
PSD	Prevention of Significant Deterioration
psia	pounds per square inch, absolute
psig	pounds per square inch, gauge
°R	degrees Rankin
RMP	Risk Management Plan
sec	second
scf	standard cubic feet
scm	standard cubic meter
SO_2	Sulfur Dioxide
SOCMI	Synthetic Organic Chemical Manufacturing Industry
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
TA	Transalkylation
TOC	Total Organic Compounds
TRE	Total Resource Effectiveness or Total Resource Effectiveness Index Value
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound
VOL	Volatile Organic Liquid
VOM	Volatile Organic Material
wt%	weight percent
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:

Emission Unit and Designation	Description of emission unit
APLR	AP Pure Product Loading Rack
Cumene Unit	
18-E-7	Benzene Column Reboiler
18-E-9R	Benzene Column Overhead Condenser
18-E-10R	Cumene Column Reboiler
18-E-11	Cumene Bottoms Cooler
18-E-12	Cumene Overhead Precondenser
18-E-13	Cumene Column Overhead Condenser
18-E-20	Cumene Product Cooler
18-T-1	Cumene Column Bottoms
18-T-2A	Cumene Column Rundown Tank
18-T-2B	Cumene Column Rundown Tank
18-T-3	Benzene Drag Stream
18-P-7A	Cumene Feed Column Charge Pump
18-P-7B	Cumene Feed Column Charge Pump
18-P-8	Fresh Benzene Feed
18-P-9	Benzene Column Overhead Pump
18-P-11	Cumene Column Overhead Pump
18-P-15	Benzene Recycle Pump
18-P-18	Kontol Pump (Corrosion Benzene Tower)
18-P-25	Benzene Reflux and Recycle
18-P-102	Cumene Propane Transfer Pump
18-E-107	Cumene Column Reboiler
18-P-122	Benzene Column Bottom Pump
18-P-123A	Benzene Recycle Pump
18-P-123B	Benzene Recycle Pump
18-P-1101	Benzene Transfer Pump (Tanks 71 And 72)
18-V-13	Benzene Column Receiver
18-V-22	Water Measuring Pot - Benzene Receiver Water Draw
18-V-102	Benzene Feed Guard Bed
Phenol Unit	
19-E-104A	Cumene Recovery Reboiler
19-E-105R	Cumene Recovery Condenser
19-E-106R	Cumene Recovery Vent Condenser
19-E-109A1	Phenol Column Reboiler
19-E-110R	Phenol Column Condenser

Emission Unit and Designation	Description of emission unit
19-E-111R	Phenol Column Product Cooler
19-E-114R1	AP Column Reboiler
19-E-115	AP Column Condenser
19-E-116R	Cumene Recovery Liquid Feed
19-V-23AR	Recycle Cumene Receiver
19-V-23BR	Recycle Cumene Receiver
19-V-24	Recycle Cumene Storage
19-V-25	Cumene Caustic Separator
19-V-26	Cumene Water Wash
19-V-27	Recovered Cumene Scrubber
19-V-34R	Cumene Water Separator
19-V-102	Cumene Recovery Decanter
19-V-105	Phenol Accumulator
19-V-106A	Phenol Running Tank
19-V-106B	Phenol Running Tank
19-V-111	AP Distillate Tank
19-V-305	Recovered Cumene
19-V-407	Recovered Phenol
19-V-1003	Methanol Water
19-V-2001A	Phenol Waste Water Storage
19-V-2001B	Phenol Waster Water Storage
19-V-2015	Phenol Sump
19-V-2016	Phenol Melt Tank
19-P-22A/B	Recycle Cumene Pump A
19-P-31R	Cumene Charge Pump
19-P-35	Recovered Cumene Pump
19-P-103	Cumene Recovery Column Bottom
19-P-104	Cumene Recovery Column Overhead
19-P-108	Phenol Column Bottom Pump
19-P-109	Phenol Column Product
19-P-110	Phenol Transfer
19-P-114	AP Column Bottom
19-P-115	AP Column Reflux
19-P-305	Recovered Cumene Pump
19-P-406	Recovered Phenol Pump
19-P-502	Phenol Pump
19-P-505	Benzene Unloading
19-P-506A	Benzene Charge Pump
19-P-509	Cresol Pump
19-P-601	Phenol Waste Transfer Pump
19-P-604R	Phenol Waste Pump
19-P-705	Cumene Scrubber Pump
19-P-2003	Phenol and Water
Wastewater	
99-WW-7	Phenolic Storage 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:

Emission Unit and Designation	Description of emission unit
DL	Drum loading rack
RTLR	Residue tanks loading rack
501	Acetone storage tanks
507	Acetone storage tanks
T201/T202	Acetone refining
202 A/B	Acetone storage tanks
203	Acetone storage tank
603B	Acetone storage tank
V-39	Acetone storage tank
DIPBL	Column bottom loading
Cumene Unit	
18-E-1A	Combined Feed Effluent Exchanger
18-E-1B	Combined Feed Effluent Exchanger
18-E-2	Combined Feed Preheater
18-E-3	Depropanizer Reboiler
18-E-4R	Depropanizer Overhead Condenser
18-E-5	Propane Drier Reboiler
18-E-6	Propane Drier Bottoms Cooler
18-E-14R	Hot Oil Pump Out Cooler
18-E-17	Circulating Oil Suction Heater
18-V-3	Combined Feed Drum
18-V-5A	Vertical Filter Pot
18-V-5B	Vertical Filter Pot
18-V-6R	Acid Settler
18-V-7	Water Injection Measuring Pot
18-V-9	Propane Receiver
18-V-10	Propane Drier
18-V-16	Hot Oil Surge Drum
18-V-17	Fuel Gas Knockout Drum
18-V-18	Fuel Oil Storage Tank
18-V-19	Circulating Oil Storage Tank
18-V-20	Solvent Sump Tank
18-V-21	Water Measuring Pot - Propane Receiver Water Draw
18-V-26	Flare Knockout Drum
18-V-27	Flare Sump Tank
18-V-28R	Caustic Wash Column
18-V-29R	C3C4 Knockout C3C4 Drum
18-V-30	Propane Scrubber
18-P-1	Combined Feed Pump
18-P-2	Quench Pump
18-P-3A	Water Injection Pump (west and east)
18-P-4A/B	Depropanizer Overhead (west and east)
18-P-6	Solvent Sump Pump
18-P-12A/B	Hot Oil Circulating (west and east)
18-P-14	Fuel Oil Circulating Pump
18-P-16	Circulating Oil Make Up Pump
18-P-21	Flare Knockout Drum Pump

Emission Unit and Designation	Description of emission unit
18-P-22	Flare Sump Pump
18-P-23	Separator Oil Sump Pump
18-P-24	Propane Propylene Feed Pump
18-P-101	T1 Pump
18-P-103R	Water Wash Pump
18-H-1	Circulating Oil Heater
18-FF-1	T-1 Product Filter
18-E-101	Transalkylation Reactor Feed Heater
18-E-102	DIPB Column Bottoms Cooler
18-E-103	DIPB Column Overhead Condenser
18-E-104	DIPB Column Reboiler
18-M-101	Static Mixer #1
18-M-102	Static Mixer #2
18-P-121A/B	Depropanizer Overhead Pump
18-P-124	DIBP Column Reflux Pump
18-P-125A	DIBP Column Recycle Pump
18-P-125B	DIBP Column Recycle Pump
18-P-19	Corrosion Inhibitor Depropanizer
18-P-39	Propane Unloading
18-P-104	Water Wash Acid Injection Pump
18-P-105	Water Wash Condensate Injection Pump
18-P-106	Water Wash/Knockout Drum Level Control Pump
Phenol Unit	
19-E-10	Incinerator Vent Condenser
19-E-31R	Oxidizer Preheater
19-E-32	Oxidizer Condenser #4 and #5
19-E-35	#3 Oxidizer Cooler
19-E-36	#4 Oxidizer Cooler
19-E-37	#5 Oxidizer Cooler
19-E-38	Oxidizer Vent Condenser #4 and #5
19-E-39	#2 Oxidizer Cooler
19-E-40	#1 Oxidizer Cooler
19-E-41	#2 Oxidizer Vent Condenser
19-E-42	#2 Oxidizer Condenser
19-E-43R	#1 and #3 Oxidizer Condenser
19-E-44R	#1 and #3 Oxidizer Vent Condenser
19-E-71A	Flash Column Feed Vaporizer
19-JE-71A	Intercooler Flash Column Jet
19-JE-71BR	Intercooler Flash Column Jet
19-E-72AR	Flash Column Condenser
19-E-72B	Flash Column Condenser
19-E-73R	Flash Column Vent Condenser
19-E-75AR	CHP Cooler
19-E-76	CHP Barrel Loading Cooler
19-E-77	Condensate Cooler
19-E-81A	Decomposer Cooler
19-E-82AR/BR	Dehydrators
19-E-83A	Crude Product Cooler

Emission Unit and Designation	Description of emission unit
19-E-101R	Crude Acetone Reboiler
19-E-102R1	Crude Acetone Condenser
19-E-103	Crude Acetone Vent Condenser
19-JE-1031	T-104 Column 2nd Stage
19-JE-1032R2	T-104 Column 1st Stage Jet Condenser
19-E-107R1	AMS Reboiler
19-E-108R1	AMS Condenser
19-E-112	Residue Column Reboiler
19-E-113R	Residue Stripper Column Condenser
19-E-117	Vilter Compressor
19-E-118R2	Freon Condenser
19-E-201R	Acetone Dilution Condenser
19-E-202R	Acetone Dilution Vent Condenser
19-E-203R2	Acetone Concentrator Condenser
19-E-204R	Acetone Concentrator Vent Condenser
19-E-205R	Acetone Product Cooler
19-E-301R	Batch Still Condenser
19-JE-301	Batch Still Jet Condenser
19-E-302	Batch Still Vent Condenser
19-E-303	Batch Still BTMS Cooler
19-E-304	Batch Still Preheater
19-E-305	Steam Condenser
19-E-306	Condensate Cooler
19-E-307R	Batch Still Column Reboiler
19-E-1008	Steam Generator
19-E-2001R	Springer Cooler
19-E-2007	V-108 3-Stage Jet System Condenser #1
19-E-2008	V-108 3-Stage Jet System Condenser #2
19-E-2009	V-109 Jet System Condenser
19-E-2010	V-108 3-Stage Jet System Condenser #3
19-E-2021R	#1 Oxidizer Air Compressor
19-E-2022R	#2 Oxidizer Air Compressor
19-E-2023R	Instrument Air Compressor
19-E-2024R	Utility Air Compressor
19-E-2025R	#3 Fuller Aftercooler
119-T-71	Flash Column Reboiler
19-T-101	Crude Acetone Column
19-T-201	Acetone Dilution Column
19-T-202	Acetone Concentrator Column
19-T-301	Residue Freeing
19-V-10	Incinerator Knockout Pot
19-V-21A	Caustic Scrubber
19-V-21B	Caustic Scrubber
19-V-22	Water Wash
19-V-28	1% Caustic Makeup
19-V-51	Catalyst Slurry Tank
19-V-61	Precoat Tank
19-V-62	Final Filtrate
19-V-72	Flash Column Reflux Drum

Emission Unit and Designation	Description of emission unit
19-V-73	Clash Column Deluge
19-V-91AR	Ion Exchanger
19-V-91BR	Ion Exchanger
19-V-92	8% Caustic
19-V-94	Crude Product
19-V-103	AMS Reflux Drum
19-V-109R	T106 Reflux Drum
19-V-110	Crude AMS
19-V-202A	Acetone Rundown Tank
19-V-202B	Acetone Rundown Tank
19-V-203	Acetone Surge Tank
19-V-302	T301 Batch Still Decanter
19-V-303B	T301 Batch Still Receiver
19-V-303D	T301 Batch Still Receiver
19-V-304A	Batch Still Product
19-V-304B	Batch Still Product
19-V-402	Extracted AMS Storage
19-V-406A	Extractor
19-V-406B	Extractor
19-V-408	15% Caustic
19-V-409	Strong Phenate
19-V-410	Finished AMS
19-V-411	Dilute Phenate
19-V-413	Finished AMS Tank
19-V-414A	50% Caustic
19-V-414B	50% Caustic
19-V-501	Acetone Storage
19-V-507	Acetone Storage
19-V-601	Process Phenate
19-V-603A	Effluent Oil
19-V-701A	High Pressure Condensate
19-V-701B	Low Pressure Condensate
19-V-702AR	Decomposer Calorimeter
19-V-702BR	Decomposer Calorimeter
19-V-1002	Inert Gas Receiver
19-V-1004A	Instrument Air
19-V-1004B	Utility Air Receiver
19-V-1005A	Instrument Air Dryer
19-V-1005B	Instrument Air Dryer
19-V-1005C	Instrument Air Dryer
19-V-1006	Sulfuric Acid Cooling Tower
19-V-1007	Refrigerant
19-V-1008	Utility Air
19-V-2004	Solvent Circulation
19-V-2005	#1 Caustic Scrubber
19-V-2006	#2 Caustic Scrubber
19-V-2007	Reactor Separator
19-V-2010	Springer Tank
19-V-2012	Drag Stream

Emission Unit and Designation	Description of emission unit
19-V-2013	Sulfuric Acid Storage Tank
19-V-2090	#2 Oxidizer Air Compressor Separator
19-V-2091	#3 Oxidizer Air Compressor Separator
19-V-2092	Utility Air Compressor Separator
19-V-2093	Instrument Air Compressor Separator
19-V-2094	Flush Back Tank Compressor Coolers
19-V-2095	#1 Oxidizer Air Compressor Separator
19-V-2098R	CHP Recovery
19-V-2099	Steam Generator Blowdown Tank
19-VD-41	Charcoal Absorber Decanter
19-VS-41	Oil Surge
19-VV-41	Charcoal Absorber
19-P-21A/B	Spent Caustic Pump (north and south)
19-P-22A/B	Recycle Cumene Pump A
19-P-24A	1% Caustic Proportioning
19-P-24B	1% Caustic Proportioning
19-P-25	Water Injection
19-P-29	#1 Oxidizer Circulating Pump
19-P-33ABC	Oxidizer Circulating Pumps
19-P-33D	Oxidizer Circulating Pump
19-P-34A/B	Oxidizer #5 Product
19-P-51	Catalyst Slurry Pump
19-P-61	Precoat Slurry Pump
19-P-71A/B	Flash Column Feed Pump
19-P-72A/B	Flash Column Bottom Pump
19-P-73A/B	Flash Column Overhead Pump
19-P-83A/B	Decomposer Circulating Pump
19-P-84	Crude Product Charge Pump
19-P-91	Caustic Circulating Pump
19-P-101	Crude Acetone Bottom Pump
19-P-105	AMS Column Bottom Pump
19-P-106	AMS Column Overhead Pump
19-P-112A/B	Residue Column Bottom Pumps
19-P-113A/B	Residue Column Refluxes
19-P-201	Acetone Dilution Column Bottom
19-P-202A/B	Acetone Concentrator Column Bottom
19-P-203	Acetone Concentrator Column Draw
19-P-204	Acetone Transfer Pump
19-P-205A/B	Crude Acetone Transfer Pump
19-P-301	Batch Still Bottom Pump
19-P-302	Batch Still Overhead Pump
19-P-303	Batch Still Receiver Transfer
19-P-401	Crude AMS Pump
19-P-402	Extracted AMS Pump
19-P-407A/B	Extractor Circulating Pump
19-P-409	Caustic pump
19-P-411	Fuel Residue Pump and Feed
19-P-412	Refined AMS Pump
19-P-506B	Charge Pump

Emission Unit and Designation	Description of emission unit
19-P-507	Track Scale Drain Sump
19-P-508	Acetone Barge and Truck Loading
19-P-603	Effluent Oil Pump
19-P-701	Condensate Pump
19-P-703	Batch Sill Product Pump
19-P-704	Dilute Phenate Transfer Pump
19-P-706A/B	Decomposer Product Pump
19-P-1004A/B	Brine Pumps
19-P-1006AR2	Steam Generator
19-P-1006BR3	Steam Generator
19-P-2001	Waste Feed Pump Stand
19-P-2002	Solvent Feed Pump
19-P-2004A	Strong Phenate Recycle
19-P-2004B	Strong Phenate Recycle
19-P-2006	Weak Phenate Recycle Pump
19-P-2010	Springer Agitation Pump
19-P-2011R3	Sulfuric Acid Transfer
19-P-2012	Waste Acetone Pump
19-P-2020	Waste Acetone Pump
19-M-84	1% Caustic Agitator
19-M-61	Precoat Agitator
19-M-51	Slurry Tank Catalyst
19-C-31	#1 Oxidizer Air Compressor
19-C-32	#2 Oxidizer Air Compressor
19-C-29	#3 Oxidizer Air Compressor
19-C-1002	Instrument Air Compressor
19-C-1003	Utility Air Compressor
19-C-1005	Refrigerant Compressor
19-FF-62A	Oxidizer Polishing Filter Multitube Cartridge
19-FF-62B	Oxidizer Polishing Filter Multitube Cartridge
19-FF-63	Flash Column Filter Multitube Cartridge
19-FF-64A	Recycle Cumene Filter Multitube Cartridge
19-FF-64B	Recycle Cumene Filter Multitube Cartridge
19-FF-68	Coalescing Separator
Utility	
66-V-191	Clarifier
66-V-192A	Valveless Filter (south)
66-V-192B	Valveless Filter (north)
66-V-193	Biocide Tank
66-V-194	Floc Tank
66-V-195	Floc Tank
66-V-196	Inhibitor Tank
66-V-197	Dispersant Tank
66-V-1006	Acid Tank

Emission Unit and Designation	Description of emission unit
66-P-191	Water Circulating Pump
66-P-192	Water Circulating Pump
66-P-193	Water Circulating Pump
66-P-195	Injection Pump
66-P-196	Injection Pump
66-P-196C	Injection Pump Dispersant
66-P-196D	Injection Pump
66-P-196E	Injection Pump
66-P-197	Water Circulating Pump
66-P-198	Water Circulating Pump
66-P-199	Water Circulating Pump
66-P-661	Canal Water at Canal Pump House
66-P-662	Canal Water at Canal Pump House
66-P-665	Water Vault Sump Pump
66-P-666	Electric Sub Station Vault
66-P-667	Sump Pump
66-M-191	Clarifier
66-M-192	Floc Tank
66-M-194	Clarifier Turbine
66-F-191	South Fan South Cooling Tower
66-F-192	North Fan South Cooling Tower
66-F-193	South Fan North Cooling Tower
66-F-194	North Fan North Cooling Tower
Wastewater	
99-WW-1	Oil-Water Separator #1
99-WW-2	Oil-Water Separator #2
99-WW-3	Wastewater Collection Sump #2
99-WW-4	Wastewater Collection Sump #3
99-WW-5	Wastewater Collection Sump #5
99-WW-6	Wastewater Collection Sump #6
99-WW-8	Wastewater Storage Tank #1
99-WW-9	Wastewater Storage Tank #2

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

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

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

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

3.2 Compliance with Applicable Requirements

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

3.2.1 For each 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.

3.2.2 For each organic material emission unit that uses organic material, e.g., a mixer or printing line, the Permittee shall comply with the applicable VOM emission limit of 35 IAC 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.

3.2.3 For each organic material emission unit that is included in the applicability of 35 IAC 218 Subpart RR or Subpart TT and is exempt from the control requirements (e.g., utility cooling towers, utility pumps, and other utility emission units), the Permittee shall maintain records which document that the emission units are exempt from the requirements of 35 IAC 218 Subpart RR or Subpart TT [35 IAC 218.990].

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
Cumene Process Units			
Propylene Guard Beds and Water Wash Column Pot (A)	Washes propylene through guard beds	1996-1997	Flare (PCD-1)
Alkyl Reactors 1A, 1B and Depropanizer Water Pot (B)	Crude cumene produced and separation of propane	1996-1997	
Benzene Column and Benzene Column Overhead Receiver (C2)	Second separation step for crude cumene	Prior to 1970	
Benzene Column Receiver Water Pot (D1)	Collection point for separated water from benzene column overhead receiver	Prior to 1970	
Cumene Column and Cumene Column Overhead Receiver (D2)	Third separation step for crude cumene	Prior to 1970	
DIPB Column and DIPB Column TA Reactor (D3)	Separates cumene from other heavy aromatics	1996-1997	
Phenol Process Units			
Oxidizer #1-5 (V29-V33)	Oxidizes cumene to cumene hydroperoxide (CHP)	Prior to 1970	Thermal Oxidizers (TO and TO-CPI)
Flash Column (T-71)	Final oxidizing step of cumene to CHP	Prior to 1970	
Crude AMS Column (T-103)	Cumene column bottoms separated AMS taken off overhead	Prior to 1970	
Crude Cumene Recovery Column (T-102)	Cumene separated from batch still overhead stream	Prior to 1970	
AMS Refining Column (T-106)	AMS is separated from cumene column bottoms	Prior to 1970	
Acetophenone Column (T-106)	Secondary separation of crude phenol	Prior to 1970	
Phenol Column (T-104)	Fractionate phenol from crude product	Prior to 1970	
Tar Column (T-301)	Fractionate crude product from residue	Prior to 1970	
Residue Column (T-105)	Phenol separated from other byproducts	Prior to 1970	
Storage Tanks			
Tank 71	850,000 gallon benzene storage tank	1960	Internal Floating Roof

Emission Unit	Description	Date Constructed	Emission Control Equipment
Tanks 72	850,000 gallon benzene storage tank	1960	Internal Floating Roof
Tank 505	125,000 gallon benzene storage tank	1960	Internal Floating Roof
Tank 506	125,000 gallon benzene storage tank	1960	Internal Floating Roof
Tank 2A	29,000 gallon cumene storage tank	1963	None
Tank 2B	29,000 gallon cumene storage tank	1963	None
Tank 24	15,500 gallon cumene storage tank	1963	None
Tank 62	15,500 gallon organic material storage tank	1963	None
Tank 94	14,200 gallon organic material storage tank	1963	None
Tank 106A	11,500 gallon phenol storage tank	1963	None
Tank 106B	11,500 gallon phenol storage tank	1963	None
Tank 110	11,500 gallon organic material storage tank	1963	None
Tank 111	11,500 gallon organic material storage tank	1963	None
Tank 304A	11,500 gallon organic material storage tank	2000	None
Tank 304B	11,500 gallon organic material storage tank	1963	None
Tank 406A	11,500 gallon organic material storage tank	1963	None
Tank 406B	11,500 gallon organic material storage tank	1963	None
Tank 502	210,000 gallon phenol storage tank	1963	None
Tank 503	210,000 gallon phenol storage tank	1963	None
Tank 504	420,000 gallon cumene storage tank	1963	None
Tank 601	7,500 gallon phenate storage tank	1963	None
Tank 603A	16,200 gallon organic material storage tank	1963	None
Tank 603C	16,200 gallon organic material storage tank	1963	None
Tank 402	11,500 gallon AMS storage tank	1963	None
Tank 413	23,500 gallon AMS storage tank	1963	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
Tank 410	11,500 gallon AMS storage tank	1963	None
Tank T-1	4,500 gallon benzene storage tank	1963	None
Tank V-18	32,000 gallon AP storage tank	1963	None
Tank V-19	32,000 gallon oil storage tank	1963	None
Tank 305	3,000 gallon organic material storage tank	1963	None
Tank 407	11,500 gallon organic material storage tank	1963	None
Tank V-2004	7,500 gallon toluene storage tank	1963	None
Tank V-2010	15,000 gallon phenate storage tank	1963	None
Tank V-4	25,000 gallon DIPB storage tank	1963	None
Tank V-2	15,900 gallon AP storage tank	1963	None
Tank V-7	25,000 gallon organic material storage tank	1963	None
Tank V-8	10,500 gallon AMS storage tank	1963	None
Tank V-9	10,500 gallon AMS storage tank	1963	None
Tank V-20	10,700 gallon AMS storage tank	1963	None
Tank V-21	10,700 gallon organic material storage tank	1963	None
Tank V-26	4,500 gallon oil storage tank	1963	None
Tank V-34	11,500 gallon organic material storage tank	1963	None
Tank V-36	11,500 gallon organic material storage tank	1963	None
Loading Equipment			
Loading Rack (LR1)	Phenol, Cumene, AP, AMS, and Benzene loading for offsite transport	1963	None
Barge Loading Rack (LR1-B)	Cumene loading for offsite transport	1963	None
Process Wastewater Streams			
Stream WW1	Phenolic Sump V-2015	Prior to 1970	None
Stream WW2	Non-Phenolic Sump	Prior to 1970	None
Stream WW3	API Separator (North Side)	Prior to 1970	None
Stream WW4	API Separator (South Side)	Prior to 1970	None
Stream WW5	Phenolic Sump #5 (South side of Phenol unit)	Prior to 1970	None
Stream WW6	Non-Phenolic Sump #6 (North side of Phenol unit)	Prior to 1970	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
Stream WW7	Floor Drain to Phenolic sump	Prior to 1970	None
Stream WW8	Condenser pipe to Phenolic sump	Prior to 1970	None
Stream WW9	Phenol wash	Prior to 1970	None
Fuel Combustion			
CMB1	Boiler #1	1993	Low-NO_x Burners
CMB2	Boiler #2	1990	Low-NO_x Burners
CMB4	Cumene Hot Oil Heater	1963	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 VOM and HAP emissions.

5.2 Applicable Regulations

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

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

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

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

b. i. 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)].

ii. 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].

iii. 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].

c. No person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 IAC 212.122, pursuant to 35 IAC 212.123(a), except as allowed by 35 IAC 212.123(b) and 212.124.

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

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

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

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

5.2.4 Risk Management Plan

a. This stationary source, as defined in 40 CFR Section 68.3, is subject to 40 CFR Part 68, the Accidental Release Prevention regulations [40 CFR 68.215(a)(1)].

b. The owner or operator of a stationary source shall revise and update the RMP submitted, as specified in 40 CFR 68.190.

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

b. No later than upon the submittal for renewal of this permit, the owner or operator shall submit, as part of an application, the necessary information to address either the non-applicability of, or

demonstrate compliance with all applicable requirements of any potentially applicable regulation which was promulgated after the date issued of this permit.

5.2.6 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.

5.2.7 Non-HAP Fugitive Emissions

The provisions of Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry, 40 CFR 60 Subpart V V, apply to all equipment (i.e., each pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, and flange or other connector in VOC service) that is not in HAP service and is constructed or modified after January 5, 1981 [40 CFR 60.480(a) and (b)].

5.2.8 HAP Fugitive Emissions

The provisions of National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks, 40 CFR 63 Subpart H, apply to all equipment (i.e., each pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, and connector, surge control vessels, bottoms receiver, instrumentation system, and control device or system) that is intended to operate organic HAP service 300 hours or more during the calendar year [40 CFR 63.160(a)].

5.2.9 VOM Leak Requirements

The provisions of Leaks from Synthetic Organic Chemical and Polymer Manufacturing Plant, 35 IAC 218 Subpart Q, apply to all process unit components containing 10 percent or more by weight VOM [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 Non-HAP Fugitive Emissions

a. The Permittee shall comply with the applicable design and equipment standards, and marking, inspection, monitoring, repair and testing requirements in 40 CFR 60 Subpart V V for the following sources in VOC service, but not in HAP service, which are not in vacuum service:

i. Pumps (40 CFR 60.482-2);

ii. Compressors (40 CFR 60.482-3);

iii. Pressure relief devices in gas/vapor service (40 CFR 60.482-4);

iv. Sampling connection systems (40 CFR 60.482-5);

v. Open-ended valves or lines (40 CFR 60.482-6);

vi. Valves (40 CFR 60.482-7 or 60.483);

vii. Pressure relief devices in liquid service and flanges and other connectors (40 CFR 60.482-8); and

viii. Closed-vent systems and control devices (40 CFR 60.482-10).

b. Delayed repair of leaks is allowed as provided in 40 CFR 60.482-9.

c. The Permittee shall follow the procedures specified in 40 CFR 60.485 for inspections and compliance tests.

5.4.2 HAP Fugitive Emissions

a. The Permittee shall comply with the applicable design and equipment standards, and marking, inspection, monitoring, repair and testing requirements in 40 CFR 63 Subpart H for the following sources in organic HAP service, which are not in vacuum service:

i. Pumps (40 CFR 63.163 and 63.176);

ii. Compressors (40 CFR 63.164);

iii. Pressure relief devices in gas/vapor service (40 CFR 63.165);

iv. Sampling connection systems (40 CFR 63.166);

v. Open-ended valves or lines (40 CFR 63.167);

vi. Valves in gas/vapor service and in light liquid service (40 CFR 63.168 and 63.175);

vii. Pumps, valves, connectors, and agitators in heavy liquid service; instrument systems; and pressure relief devices in liquid service (40 CFR 63.169);

viii. Surge control vessels and bottoms receivers (40 CFR 63.170);

ix. Closed-vent systems and control devices (40 CFR 63.172);

x. Agitators in gas/vapor service and in light liquid service (40 CFR 63.173); and

xi. Connectors in gas/vapor service and in light liquid service (40 CFR 63.174).

b. Delayed repair of leaks is allowed as provided in 40 CFR 63.171.

c. The Permittee shall follow the procedures specified in 40 CFR 63.180 for test methods and procedures.

5.4.3 VOM Leak Requirements

a. The Permittee shall, for the purpose of detecting leaks, conduct a component inspection program using the test methods specified in Method 21, 40 CFR 60, Appendix A, consistent with the provisions in 35 IAC 218.423(a) through (k) [35 IAC 218.423].

b. 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 is shut down [35 IAC 218.424].

c. 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)].

d. 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)].

e. Components which are open-ended valves and which serve as a sampling connection shall be controlled such that they comply with 35 IAC 218.428(c)(1) through (c)(3) and, for control devices, 35 IAC 218.429 [35 IAC 218.428(c)].

5.4.4 General Operation and Maintenance Requirements

The Permittee shall maintain and operate each emission unit or group of emission units at this source that is regulated by relevant standards or requirements pursuant to 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants for Source Categories, in accordance with “Operation and Maintenance Requirements” in 40 CFR 63.6(e). The emission units at this source that are subject to these requirements include Group 1 units and tanks used for synthetic organic chemical manufacturing, as addressed in Sections 7.1 through 7.3 of this permit.

5.5 Source-Wide Emission Limitations

5.5.1 Permitted Emissions for Fees

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

Permitted Emissions of Regulated Pollutants

Pollutant	Tons/Year
Volatile Organic Material (VOM)	99.42
Sulfur Dioxide (SO_2)	5.85
Particulate Matter (PM)	5.16
Nitrogen Oxides (NO_x)	65.52
HAP, not included in VOM or PM	-
TOTAL	175.95

5.5.2 Emissions of Hazardous Air Pollutants

a. 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.

b. For emission units subject to 40 CFR 63 Subpart G, the Permittee shall control emissions of organic HAPs to the level represented by the following equation:

$$E_A = 0.02EEPV_1 + EEPV_2 + 0.05EES_1 + EES_2 + 0.02EETR_1 + EETR_2 + EEWW_{1C} + EEWW_2$$

where:

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

$0.02EEPV_1$ = Sum of the residual emissions, megagrams per year, from all Group 1 process vents, as defined in 40 CFR 63.111.

$EEPV_2$ = Sum of the emissions, megagrams per year, from all Group 2 process vents as defined in 40 CFR 63.111.

$0.05EES_1$ = Sum of the residual emissions, megagrams per year, from all Group 1 storage vessels, as defined in 40 CFR 63.111.

EES_2 = Sum of the emissions, megagrams per year, from all Group 2 storage vessels, as defined in 40 CFR 63.111.

$0.02EETR_1$ = Sum of the residual emissions, megagrams per year, from all Group 1 transfer racks, as defined in 40 CFR 63.111.

$EETR_2$ = Sum of the emissions, megagrams per year, from all Group 2 transfer racks, as defined in 40 CFR 63.111.

$EEWW_{1C}$ = 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).

$EEWW_2$ = 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 (including emission points in other sections of this permit). 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 [40 CFR 63.112(a) and (b)]. The owner or operator is not required to calculate the annual emission rate specified in this condition [40 CFR 63.112(e)(2)]. The emission points included in this equation are further described in Sections 7.1 through 7.6 of this permit.

5.5.3 Other Source-Wide Emission Limitations

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

5.6 General Recordkeeping Requirements

5.6.1 Emission Records

The Permittee shall maintain records of the following items for the source to demonstrate compliance with

Condition 5.5.1, pursuant to Section 39.5(7)(b) of the Act:

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

5.6.2 Records for Operating Scenarios

None

5.6.3 Non-HAP Fugitive Emissions

The Permittee shall maintain records as required by 40 CFR 60 Subpart V V, including, but not limited to:

a. Records on the detection, identity and repair of all leaks [40 CFR 60.486(c)]; and

b. Records identifying all sources subject to 40 CFR 60.482 [40 CFR 60.486(e)].

5.6.4 HAP Fugitive Emissions

The Permittee shall maintain records as required by 40 CFR 63 Subpart H, including, but not limited to 40 CFR 63.181.

5.6.5 VOM Leak Requirements

The Permittee shall maintain a leaking components monitoring log which shall contain, at a minimum, the information indicated in 35 IAC 218.425(a)(1) through (a)(9). 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 at any reasonable time [35 IAC 218.425(a) and (c)].

5.6.6 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 of the source with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

5.7.2 Annual Emissions Report

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

5.7.3 Annual Reporting of HAP Emissions

None

5.7.4 Any Other Source Wide Reporting Requirements

a. If the Permittee chooses to comply with the alternative standards for valves in 40 CFR 60.483, The Illinois EPA shall be notified at least 90 days before implementing such provisions.

b. For non-HAP fugitive emissions, the Permittee shall submit semi-annual reports as required by 40 CFR 60.487(c) and (e), including, but not limited to:

   i. Monthly data on leaks and repairs;

   ii. Dates of process unit shutdowns; and

   iii. Results of performance testing within the reporting period.

c. For HAP fugitive emissions, the Permittee shall submit Periodic Reports as described in the reporting requirements of 40 CFR 63.182.

d. The Permittee shall submit quarterly reports to the Illinois EPA on or before March 31, June 30, September 30, and December 31 of each year, listing the information specified in 35 IAC 218.426(a) [35 IAC 218.426].

5.8 General Operational Flexibility/Anticipated Operating Scenarios

None

5.9 General Compliance Procedures

5.9.1 General Procedures for Calculating Emissions

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

a. For the purpose of estimating emissions from the storage tanks, the most recent version of TANKS is acceptable.

b. For the purpose of estimating HAP emissions from equipment at the source, the vapor weight percent of each HAP for each organic liquid times the VOM emissions contributed by that organic liquid is 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 364 ATUs per seasonal allotment period.

ii. This allotment of ATUs reflects the Illinois EPA's determination that the source's baseline emissions were 40.0894 tons per season.

This determination includes the use of 1995 and 1996 as baseline seasons.

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

Emission Unit	Construction Permit No.	Date Issued	Maximum Available Allotment	Explanation of Maximum Allotment
Cumene Barge Loading	97050012	5/6/1997	0.07 tons	5/12 of annual permit limit
Cumene Q-Max Unit	91110056	2/7/1997	0.56 tons	5/12 of annual emissions listed in application

In accordance with 35 IAC 205.310(h) and 35 IAC 205.320(f), the source shall submit a written request for, or an application for, a revised emissions baseline and allotment which address these emission units by December 1 of the year of the third complete seasonal allotment period in which each such newly constructed or modified emission unit is operational. As of the date issued on page 1 of this permit, the submittal date is anticipated to be December 1, 2003. Such submittal shall include information from the affected emission units on the seasonal emissions for these first three seasonal allotment periods.

c. Notwithstanding the above, part or all of the above ATUs will not be issued to the source in circumstances as set forth in 35 IAC Part 205, including:

i. Transfer of ATUs by the source to another participant or the ACMA, in accordance with 35 IAC 205.630;

ii. Deduction of ATUs as a consequence of emissions excursion compensation, in accordance with 35 IAC 205.720; and

iii. Transfer of ATUs to the ACMA, as a consequence of shutdown of the source, in accordance with 35 IAC 205.410.

6.9 Recordkeeping for ERMS

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

a. Seasonal component of the Annual Emissions Report;

b. Information on actual VOM emissions, as specified in detail in Sections 5 and 7 of this permit and Condition 6.6(a); and

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

6.10 Federal Enforceability

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

6.11 Exclusions from Further Reductions

a. VOM emissions from the following emission units shall be excluded from the VOM emissions reductions requirements specified in 35 IAC 205.400(c) and (e) as long as such emission units continue to satisfy the following [35 IAC 205.405(a)]:

i. Emission units that comply with any NESHAP or MACT standard promulgated pursuant to the CAA;

ii. Direct combustion emission units designed and used for comfort heating purposes, fuel combustion emission units, and internal combustion engines; and

iii. An emission unit for which a LAER demonstration has been approved by the Illinois EPA on or after November 15, 1990.

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

Phenol Unit - Oxidizer 1-5, Flash Column, Crude AMS Column, Residue Column Vent, Phenol Rectifier Vent, AP Column Vent, Cumene Recovery Column, Tar Column, AMS Refinery Column
Process Heater (Oil and Gas Combustion)
Tank 71
Tank 72
Tank 505
Tank 506
Boiler 1 (Oil and Gas Combustion)
Boiler 2 (Oil and Gas Combustion)
Fugitive Piping Losses

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 Cumene Process Units and Flare

7.1.1 Description

The cumene process utilizes catalysts, benzene and propylene to yield cumene. Process units include Propylene guard beds with associated water wash column pot, Alkyl reactors 1A and 1B with associated depropanizer water pot, Benzene column with associated benzene column overhead receiver, Benzene column receiver water pot, Cumene column with associated column overhead receiver, and di-isopropyl-benzene(DIPB) column with TA reactor. Emissions from the above process units are vented to a flare.

7.1.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Propylene Guard Beds and Water Wash Column Pot (A)	Washes propylene through guard beds	Flare (PCD-1)
Alkyl Reactors 1A, 1B and Depropanizer Water Pot (B)	Crude cumene produced and separation of propane	
Benzene Column and Benzene Column Overhead Receiver (C2)	Second separation step for crude cumene	
Benzene Column Receiver Water Pot (D1)	Collection point for separated water from benzene column overhead receiver	
Cumene Column and Cumene Column Overhead Receiver (D2)	Third separation step for crude cumene	
DIPB Column and DIPB Column TA Reactor (D3)	Separates cumene from other heavy aromatics	

7.1.3 Applicability Provisions and Applicable Regulations

a. The “affected Group A process units” for the purpose of these unit-specific conditions, consists of

Propylene guard beds and water wash column pot, Alkyl reactor 1A and 1B, Depropanizer water pot, cumene column and cumene column overhead receiver, DIPB column and DIPB column TA reactor as described in Condition 7.1.2.

The “affected Group B process units” for the purpose of these unit-specific conditions, consists of Benzene column receiver water pot, Benzene column and Benzene column overhead receiver as described in Condition 7.1.2.

b. Malfunction and Breakdown Provisions

In the event of a malfunction or breakdown of the flare, the Permittee is authorized to continue operation of the cumene manufacturing process in violation of the applicable requirement of 35 IAC 218.301, as necessary to prevent risk of injury to personnel or severe damage to equipment. This authorization is subject to the following requirements:

i. The Permittee shall repair the damaged feature(s) of the flare or remove the affected cumene process unit(s) from the cumene manufacturing service as soon as practicable. This shall be accomplished within sixteen (16) hours unless the feature(s) can not be repaired within sixteen (16) hours and the affected cumene process unit(s) can not be removed from cumene manufacturing process service within sixteen (16) hours, and the Permittee obtains an extension, for up to five (5) days, from the Illinois EPA. The request for such an extension must document that the repair part(s) is unavailable and specify a schedule of actions the Permittee will take that will assure the feature(s) will be repaired or will be removed as soon as possible.

ii. The Permittee shall fulfill the applicable recordkeeping and reporting requirements of Conditions 7.1.9(a) and 7.1.10(a).

c. The affected Group A and Group B process units shall comply with 35 IAC 218, Subpart G, Use of Organic Material, which provides that:

No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303 and 218.304 and

the following exception: If no odor nuisance exists the limitation in 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

d. The affected Group A and Group B process units are subject to 40 CFR 63 Subpart F, National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry.

e. The affected Group A and Group B process units are subject to 40 CFR 63 Subpart G, National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Waste Water.

f. The affected Group A and Group B process units are subject to 40 CFR 63 Subpart H, National Emission Standard for Organic Hazardous Air Pollutants for Equipment Leaks (see Conditions 5.4.2, 5.6.4, and 5.7.4).

g. The affected Group A and Group B process units are subject to 35 IAC 218 Subpart Q, because these units manufacture one of the chemicals listed in Appendix A of 35 IAC Part 218. Conditions 5.2.9, 5.4.3, 5.6.5, and 5.7.4 describe the leak requirements of Subpart Q. Compliance with the control requirements of Subpart Q is assured by compliance with 40 CFR Subparts F and G.

7.1.4 Non-Applicability of Regulations of Concern

a. This permit is issued based on the affected Group A and Group B process units not being subject to the Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations, 40 CFR Part 60, Subpart NNN. 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 [40 CFR 63.110(d)(4)].

b. This permit is issued based on the affected Group A and Group B process units not being subject to the Standards of Performance for Volatile Organic Compound Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes, 40 CFR Part 60, Subpart RRR. A Group 1 process vent that is also subject to the provisions of 40 CFR 60 Subpart RRR is required to comply only with the

provisions of 40 CFR 63 Subpart G [40 CFR 63.110(d)(7)].

c. This permit is issued based on the affected Group A and Group B process units not being subject to 40 CFR Part 61, Subpart FF, National Emission Standard for Benzene Waste Operations, pursuant to 40 CFR 61.342(a).

d. This permit is issued based on the affected Group A and Group B process units not being subject to the Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry, 40 CFR Part 60, Subpart V V. Equipment to which 40 CFR 63 Subpart H applies that are also subject to the provisions of 40 CFR Part 60 will be required to comply only with the provisions of 40 CFR 63 Subpart H [40 CFR 63.160(b)(1)].

e. This permit is issued based on the affected Group A and Group B process units not being subject to the Standards of Performance for Equipment Leaks (Fugitive Emission Sources) of Benzene, 40 CFR Part 60, Subparts J and V. Equipment to which 40 CFR 63 Subpart H applies that are also subject to the provisions of 40 CFR Part 61 will be required to comply only with the provisions of 40 CFR 63 Subpart H [40 CFR 63.160(b)(2)].

f. This permit is issued based on the affected Group A and Group B process units not being subject to 35 IAC 218 Subpart V, Batch Operations and Air Oxidation Processes, because these emission units do not perform batch operations or air oxidation processes.

g. This permit is issued based on the affected Group A and Group B process units not being subject to 35 IAC 218 Subpart RR, Miscellaneous Organic Chemical Manufacturing Processes, because the requirements of Subpart RR do not apply to a source’s miscellaneous organic chemical manufacturing process emission units which are included within the categories specified in 35 IAC 218 Subparts Q or V [35 IAC 218.960(b)(2)].

7.1.5 Control Requirements

a. The Permittee of the affected Group A and Group B process units shall demonstrate compliance with the emission standard in Condition 5.5.2(b) by following the procedures specified in Condition 7.1.5(b) for all emission points [40 CFR 63.112(c)].

b. The Permittee of the affected Group A and Group B process units may comply with the process vent

provisions in Conditions 7.1.5(d), 7.1.7(a), 7.1.8(a), 7.1.9(c) and 7.1.10(b).

i. The Permittee using Condition 7.1.5(b) shall also comply with the requirements of 40 CFR 63.151 and 40 CFR 63.152, as applicable [40 CFR 63.112(e)(1)].

ii. 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 Permittee shall comply with the requirements in either Condition 7.1.5(b)(ii)(A) or (B) [40 CFR 63.112(e)(3)].

A. Comply with the applicable requirements in 40 CFR 63 Subpart G for each kind of emissions in the stream, e.g., the requirements in Conditions 7.1.5(d), 7.1.7(a), 7.1.8(a), 7.1.9(c) and 7.1.10(b) for process vents [40 CFR 63.112(e)(3)(i)].

B. Comply with the requirements in Condition 7.1.3(e) for Group 1 process vents, including applicable monitoring, recordkeeping, and reporting [40 CFR 63.112(e)(3)(ii)(A)].

c. Where the provisions of Section 7.1 of this permit 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)].

d. The Permittee of a Group 1 process vent as defined in 40 CFR 63 Subpart G shall reduce emissions of organic HAP using a flare [40 CFR 63.113(a)(1)].

i. The flare shall comply with the requirements in Condition 7.1.5(e) [40 CFR 63.113(a)(1)(i)].

ii. Halogenated vent streams, as defined in 40 CFR 63.111, shall not be vented to a flare [40 CFR 63.113(a)(1)(ii)].

e. i. Flares shall be steam-assisted, air-assisted, or non-assisted [40 CFR 63.11(b)(2)].

ii. Flares shall be operated at all times when emissions may be vented to them [40 CFR 63.11(b)(3)].

iii. Flares shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. Test Method 22 in 40 CFR Appendix A shall be used to determine the compliance of flares with the visible emission provisions in 40 CFR 63. The observation period is 2 hours and shall be used according to Method 22 [40 CFR 63.11(b)(4)].

iv. The Permittee has the choice of adhering to the heat content specifications in Condition 7.1.5(e)(vi), and the maximum tip velocity specifications in Condition 7.1.5(e)(vii) and (viii), or adhering to the requirements in Condition 7.1.5(e)(v) [40 CFR 63.11(b)(6)].

v. A. Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, have a hydrogen content of 8.0 percent (by volume) or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity V_{max}, as determined by the following equation:

$$V_{max}=(X_{H2}-K_1)* K_2$$

Where:

V_{max} = Maximum permitted velocity, m/sec.

K_1 = Constant, 6.0 volume-percent hydrogen.

K_2 = Constant, 3.9(m/sec)/volume-percent hydrogen.

X_{H2} = The volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946-77.

[40 CFR 63.11(b)(6)(i)(A)].

B. The actual exit velocity of a flare shall be determined by the method specified in Condition 7.1.5(e)(vii)(A) [40 CFR 63.11(b)(6)(i)(B)].

vi. Flares shall be used only with the net heating value of the gas being combusted at 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted at 7.45 MJ/scm (200 Btu/scf) or greater if the flares is non-assisted. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K\sum_{i=1}^{n} C_i H_i$$

Where:

H_T = Net heating value of the sample, 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.

K = Constant =

$$1.740 * 10^{-7}\left(\frac{1}{ppmv}\right)\left(\frac{g-mole}{scm}\right)\left(\frac{MJ}{kcal}\right)$$

where the standard temperature for (g-mole/scm) is 20 °C.

C_i = Concentration of sample component i in ppmv on a wet basis, as measured for organics by Test Method 18 and measured for hydrogen and carbon monoxide by American Society for Testing and Materials (ASTM) D1946-77 (incorporated by reference as specified in 40 CFR 63.14).

H_i = Net heat of combustion of sample component i, kcal/g-mole at 25 °C and 760 mmHg. The heats of combustion may be determined using ASTM D2382-76 (incorporated by reference as specified in 40 CFR 63.14) if published values are not available or cannot be calculated.

n = Number of sample components

[40 CFR 63.11(b)(6)(ii)].

vii. A. Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity less than 18.3 m/sec (60 ft/sec), except as provided in Condition 7.1.5(e)(vii)(B) and (C). The actual exit velocity of a flare shall be determined by dividing by the volumetric flow rate of gas being combusted (in units of emission standard temperature and pressure), as determined by Test Methods 2, 2A, 2C, or 2D in 40 CFR 60 Appendix A, as appropriate, by the unobstructed (free) cross-sectional area of the flare tip [40 CFR 63.11(b)(7)(i)].

B. Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in Condition 7.1.5(e)(vii)(A), equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec), are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf) [40 CFR 63.11(b)(7)(ii)].

C. Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in Condition 7.1.5(e)(vii)(A), less than the velocity V_{max}, as determined by the method specified in Condition 7.1.5(e)(vii)(C), but less than 122 m/sec (400 ft/sec) are allowed. The maximum permitted velocity, V_{max}, for flares complying with Condition 7.1.5(e)(vii)(C) shall be determined by the following equation:

$$Log_{10}(V_{max}) = (H_T+28.8)/31.7$$

Where:

V_{max} = Maximum permitted velocity, m/sec.

28.8 = Constant.

31.7 = Constant.

H_T = The net heating value as determined in Condition 7.1.5(e)(vi)

[40 CFR 63.11(b)(7)(iii)].

viii. Air-assisted flares shall be designed and operated with an exit velocity less than the velocity V_{max}. The maximum permitted velocity, V_{max}, for air-assisted flares shall be determined by the following equation:

$$V_{max} = 8.71 + 0.708(H_T)$$

Where:

V_{max} = Maximum permitted velocity, m/sec.

8.71 = Constant.

0.708 = Constant.

H_T = The net heating value as determined in Condition 7.1.5(e)(vi)

[40 CFR 63.11(b)(8)].

f. The flare shall operate at all times the affected Group A and Group B process units are in operation, irrespective of 35 IAC 218.107.

7.1.6 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.

7.1.7 Testing Requirements

a. When a flare is used to comply with Condition 7.1.5(d), the Permittee shall comply with the flare provisions in Condition 7.1.5(e) and 7.1.8(b).

i. The compliance determination shall be conducted using Method 22 in Appendix A of 40 CFR 60, to determine visible emissions [40 CFR 63.116(a)(1)].

ii. The Permittee is not required to conduct a performance test to determine percent emission reduction or outlet organic HAP or TOC concentration when a flare is used [40 CFR 63.116(a)(2)].

7.1.8 Monitoring Requirements

a. The Permittee shall install monitoring equipment specified in Condition 7.1.8(a), 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.

A device (including but not limited to a thermocouple, ultra-violet beam sensor, or infrared sensor) capable of continuously detecting the presence of a pilot flame [40 CFR 63.114(a)(2)].

b. i. The Permittee using flares to comply with Condition 7.1.5(e) shall monitor these control devices to assure that they are operated and maintained in conformance with their designs [40 CFR 63.11(b)(1)].

ii. Flares shall be operated with a pilot flame present at all times. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame [40 CFR 63.11(b)(5)].

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 Group A and Group B process units to demonstrate compliance with Conditions 5.5.1, 7.1.5, and 7.1.8 pursuant to Section 39.5(7)(b) of the Act:

a. Records for Malfunctions and Breakdowns of the Cumene Manufacturing Process

The Permittee shall maintain records, pursuant to 35 IAC 201.263, of continued operation of the affected Group A and Group B process units subject to 35 IAC 218.301 during malfunctions and breakdown of the control features of the flare, which as a minimum, shall include:

i. Date and duration of malfunction or breakdown;

ii. A detailed explanation of the malfunction or breakdown;

iii. An explanation why the damaged feature(s) could not be immediately repaired or the

affected Group A and/or Group B process unit removed from service without risk of injury to personnel or severe damage to equipment;

iv. The measures used to reduce the quantity of emissions and the duration of the event;

v. The steps taken to prevent similar malfunctions or breakdowns or reduce their frequency and severity; and

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

b. The Permittee subject to the control provision for Group 1 vent streams in Condition 7.1.5(d) shall:

i. Keep an up-to-date, readily accessible record of the data specified in Conditions 7.1.9(b)(iii) [40 CFR 63.117(a)(1)].

ii. If any subsequent performance tests are conducted after the Notification of Compliance Status has been submitted, report the data in Conditions 7.1.9(b)(iii) in the next Periodic Report as specified in 40 CFR 63.152(c) [40 CFR 63.117(a)(3)].

iii. Record and report the following when using a flare to comply with Condition 7.1.5(d)(i):

A. Flare design (i.e., steam-assisted, air-assisted, or non-assisted) [40 CFR 63.117(a)(5)(i)];

B. All visible emission reading, heat content determination, flow rate measurements, and exit velocity determinations made during the compliance determination required by Condition 7.1.7(a) [40 CFR 63.117(a)(5)(ii)]; and

C. All periods during the compliance determination when the pilot flame is absent [40 CFR 63.117(a)(5)(iii)].

c. The Permittee using a control device to comply with Condition 7.1.5(d) shall keep the following records up-to-date and readily accessible:

i. The hourly records and records of pilot flame outages specified in table 3 of 40 CFR 63 Subpart G shall be maintained [40 CFR 63.118(a)(1)].

ii. Records of the times and duration of all periods during which all pilot flames are absent shall be kept [40 CFR 63.118(a)(2) and (a)(2)(v)].

d. The Permittee shall keep the following records:

i. Raw materials charged and production rate (tons/month and tons/year).

ii. Molecular weight and vapor pressure at operating temperature of each VOM containing raw material.

iii. All the detailed data necessary to determine VOM emissions using the equations specified in Section 7.1.12.

iv. VOM emissions in units specified by the emission limits in Condition 7.1.6 (lb/hr and ton/year).

v. The detailed record of material balance calculations or specific emission factor development including the stack test and process information for that specific emission factor.

7.1.10 Reporting Requirements

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

a. Reporting of Malfunctions and Breakdowns for the Cumene Manufacturing Process

The Permittee shall provide the following notification and reports to the Illinois EPA, Compliance Section and Regional Field Office, pursuant to 35 IAC 201.263, concerning continued operation of an affected Group A and/or Group B process unit subject to Condition 7.1.3(c) during malfunction or breakdown of the control features of the flare.

i. The Permittee shall notify the Illinois EPA’s regional office by telephone as soon as possible during normal working hours, but no

later than three (3) days, upon the occurrence of noncompliance due to malfunction or breakdown.

ii. Upon achievement of compliance, the Permittee shall give a written follow-up notice to the Illinois EPA, Compliance Section and Regional Field Office, providing a detailed explanation of the event, an explanation why continued operation of the affected Group A and/or Group B process unit was necessary, the length of time during which operation continued under such conditions, the measures taken by the Permittee to minimize and correct deficiencies with chronology, and when the repairs were completed or when the affected Group A and/or Group B process unit was taken out of service.

iii. If compliance is not achieved within 5 working days of the occurrence, the Permittee shall submit interim status reports to the Illinois EPA, Compliance Section and Regional Field Office, within 5 days of the occurrence and every 14 days thereafter, until compliance is achieved. These interim reports shall provide a brief explanation of the nature of the malfunction or breakdown, corrective actions accomplished to date, actions anticipated to occur with schedule, and the expected date on which repairs will be complete or the affected Group A and/or Group B process unit will be taken out of service.

b. The Permittee who elects to comply with the requirements in Condition 7.1.5(d) shall submit to the Illinois EPA Periodic Reports of the following recorded information according to the schedule in 40 CFR 63.152.

i. 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 40 CFR 63.152(c)(2)(ii)(A) [40 CFR 63.118(f)(2)].

ii. Reports of times and durations of all periods recorded under Condition 7.1.9(c)(ii) in which all pilot flames of a flare were absent [40 CFR 63.118(f)(5)].

7.1.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.1.12 Compliance Procedures

a. Compliance with the control requirements of Condition 7.1.5 and the testing requirements of Condition 7.1.7 shall be demonstrated through the inspection, monitoring, recordkeeping and reporting requirements of Conditions 7.1.8, 7.1.9, and 7.1.10.

b. Compliance with the emission limits of this permit shall be determined by material balance equations using the records required by Condition 7.1.9(d). These calculations shall use a control efficiency for the control equipment as determined by the most recent stack test during periods when the control equipment is in proper operation, according to the monitoring requirements in Condition 7.1.8.

7.2 Phenol Process Units and Thermal Oxidizers

7.2.1 Description

The phenol process units produce phenol and acetone by oxidizing cumene and decomposition of cumene hydroperoxide (CHP) to phenol and acetone. Cumene feeds to five (5) oxidizers (V29-V33) arranged in series. The CHP from the oxidizers reacts and separates further in the flash column (T-71) into acetone and phenol. The emissions from the oxidizers and the flash column are sent to the thermal oxidizers. The crude acetone column splits between acetone and unreacted cumene. Bottoms feeds to a tar column (T-301) which removes some of the components such as acetophenone (AP) and polymerized alpha methyl styrene (AMS). The tar column overhead feeds to the cumene recovery column (T-102) where unreacted cumene is taken overhead. Emissions from the cumene column and the tar column vent to the thermal oxidizers. Cumene column bottoms separates further in the crude AMS column (T-103) and the phenol column (T-104) where phenol product is taken overhead. Tar column bottoms passes through the AMS refining column (T-106), AP column (T-106) and the residue column (T-105) where phenol is taken from those units as overhead. Emissions from those columns are sent to the thermal oxidizers.

7.2.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Oxidizer #1-5 (V29-V33)	Oxidizes cumene to cumene hydroperoxide (CHP)	Thermal Oxidizers (TO and TO-CPI)
Flash Column (T-71)	Final oxidizing step of cumene to CHP	
Crude AMS Column (T-103)	Cumene column bottoms separated AMS taken off overhead	
Crude Cumene Recovery Column (T-102)	Cumene separated from batch still overhead stream	Thermal Oxidizers (TO and TO-CPI)
AMS Refining Column (T-106)	AMS is separated from cumene column bottoms	
Acetophenone Column (T-106)	Secondary separation of crude phenol	
Phenol Column (T-104)	Fractionate phenol from crude product	Thermal Oxidizers (TO and TO-CPI)
Tar Column (T-301)	Fractionate crude product from residue	

Emission Unit	Description	Emission Control Equipment
Residue Column (T-105)	Phenol separated from other byproducts	

7.2.3 Applicability Provisions and Applicable Regulations

a. The “affected phenol process units” for the purpose of these unit-specific conditions, are all the emission units as described in 7.2.2.

b. Malfunction and Breakdown Provisions

In the event of a malfunction or breakdown of a thermal oxidizer, the Permittee is authorized to continue operation of the affected phenol process unit(s) in violation of the applicable requirement of 35 IAC 218.301 and 35 IAC 218.520, as necessary to prevent risk of injury to personnel or severe damage to equipment. This authorization is subject to the following requirements:

i. The Permittee shall replace the malfunctioning thermal oxidizer with another thermal, oxidizer, repair the damaged feature(s) of the thermal oxidizer, or remove the affected phenol process unit(s) from phenol manufacturing service as soon as practicable. This shall be accomplished within sixteen (16) hours unless the feature(s) can not be repaired within sixteen (16) hours and the affected phenol process unit(s) can not be removed from phenol manufacturing service within sixteen (16) hours, and the Permittee obtains an extension, for up to five (5) days, from the Illinois EPA. The request for such an extension must document that repair part(s) is unavailable and specify a schedule of actions the Permittee will take that will assure the feature(s) will be repaired or be removed as soon as possible.

ii. The Permittee shall fulfill the applicable recordkeeping and reporting requirements of Conditions 7.2.9(a) and 7.2.10(a).

c. The affected phenol process units shall comply with 35 IAC 218, Subpart G, Use of Organic Material, which provides that:

No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission unit, except as

provided in 35 IAC 218.302, 218.303 and 218.304 and the following exception: If no odor nuisance exists the limitation in 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

d. The affected phenol process units are subject to 40 CFR 63 Subpart F, National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry.

e. The affected phenol process units are subject to 40 CFR 63 Subpart G, National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Waste Water.

f. The affected phenol process units are subject to 40 CFR 63 Subpart H, National Emission Standard for Organic Hazardous Air Pollutants for Equipment Leaks (see Conditions 5.4.2, 5.6.4, and 5.7.4).

g. The affected phenol process units are subject to 35 IAC 218 Subpart Q, because these units manufacture one of the chemicals listed in Appendix A of 35 IAC Part 218. Conditions 5.2.9, 5.4.3, 5.6.5, and 5.7.4 describe the leak requirements of Subpart Q. Compliance with the control requirements of Subpart Q is assured by compliance with 40 CFR Subparts F and G.

h. The affected phenol process units are subject to the control requirements of 35 IAC 218 Subpart V: Batch Operations and Air Oxidation Process because these emission units perform air oxidation processes.

7.2.4 Non-Applicability of Regulations of Concern

a. This permit is issued based on the affected phenol process units not being subject to the Standards of Performance for Volatile Organic Compound Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes, 40 CFR Part 60, Subpart III. 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 [40 CFR 63.110(d)(1)]. For the purposes of 40 CFR 60, Subpart G, the affected phenol process units are Group 1 emission units.

b. This permit is issued based on the affected phenol process units not being subject to the Standards of Performance for Equipment Leaks (Fugitive Emission

Sources), 40 CFR Part 60, Subpart V. Equipment to which 40 CFR 63 Subpart H applies that are also subject to the provisions of 40 CFR Part 61 will be required to comply only with the provisions of 40 CFR 63 Subpart H [40 CFR 63.160(b)(2)].

c. This permit is issued based on the affected phenol process units not being subject to 35 IAC 218 Subpart RR, Miscellaneous Organic Chemical Manufacturing Processes, because the requirements of Subpart RR do not apply to a source's miscellaneous organic chemical manufacturing process emission units which are included within the categories specified in 35 IAC 218 Subparts Q or V [35 IAC 218.960(b)(2)].

7.2.5 Control Requirements

a. The Permittee of the affected phenol process units shall demonstrate compliance with the emission standard in Condition 5.5.2(b) by following the procedures specified in Condition 7.2.5(b) for all emission points, or by following the emissions averaging compliance approach specified in 40 CFR 63.112(f) for some emission points and the procedures specified in Condition 7.2.5(b) for all other emission points within the source [40 CFR 63.112(c)].

b. The Permittee of the affected phenol process units may comply with the process vent provisions in Conditions 7.2.5(d), 7.2.7(a), 7.2.8(a) through (b), 7.2.9(b) through (c) and 7.2.10(b).

i. The Permittee using Condition 7.2.5(b) shall also comply with the requirements of 40 CFR 63.151 and 40 CFR 63.152, as applicable [40 CFR 63.112(e)(1)].

ii. 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 Permittee shall comply with the requirements in either Condition 7.2.5(b)(ii)(A) or (B) [40 CFR 63.112(e)(3)].

A. Comply with the applicable requirements in Condition 7.2.5(b) for each kind of emissions in the stream, e.g., the requirements in Conditions 7.2.5(d),

7.2.7(a), 7.2.8(a) through (b), 7.2.9(b) through (c), 7.2.10(b) for process vents [40 CFR 63.112(e)(3)(i)].

B. Comply with the requirements in Condition 7.2.3(e) for Group 1 process vents, including applicable monitoring, recordkeeping, and reporting [40 CFR 63.112(e)(3)(ii)(A)].

c. Where the provisions of Section 7.2 of this permit 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)].

d. The Permittee of the affected phenol process units shall reduce emissions of total organic hazardous air pollutants by 98 weight-percent or to a concentration of 20 ppmv, 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 Condition 7.2.7(a) [40 CFR 63.113(a)(2) and 35 IAC 218.520(a)].

i. Compliance with Condition 7.2.5(d)(i) 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 7.2.5(d)(i) by reducing emissions of total organic hazardous air pollutants by 98 weight-percent, except as provided in Condition 7.2.5(d)(ii) [40 CFR 63.113(a)(2)(i)].

ii. The Permittee 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 requirements in Condition 7.2.5(d)(i)(B)(1) through (4) are met [40 CFR 63.113(a)(2)(ii)].

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 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 ppmv [40 CFR 63.113(a)(2)(ii)(C)].

D. If the Permittee disposed of the recovered material, the recovery device would comply with the requirements in 40 CFR 63 Subpart G for recapture devices [40 CFR 63.113(a)(2)(ii)(D)].

e. A thermal oxidizer shall operate at all times when the affected phenol process units are in operation, irrespective of 35 IAC 218.107. When the CPI thermal oxidizer (TO-CPI) is in use, the combustion chamber shall be preheated to the manufacturer's recommended temperature but not lower than 1,375 °F, and this temperature shall be maintained during its operation. When the Zinc thermal oxidizer (TO) is in use, the combustion chamber shall be preheated to the manufacturer's recommended temperature but not lower than 1,622 °F and this temperature shall be maintained during its operation.

7.2.6 Emission Limitations

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

a. Emissions from the affected phenol process units shall not exceed the following limits:

Equipment	VOM Emissions (Ton/Mo)	VOM Emissions (Ton/Yr)
Thermal Oxidizers (TO and TO-CPI)	0.69	5.53

These limits are based on the maximum operation of the equipment and control requirements of this permit.

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].

The above limitations contain revisions to previously issued Permit 85120049. 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 annual limit was increased by 0.97 tons per year since a portion of the construction in Permit 91110056 was never completed. In addition, the short term limits were revised from an hourly basis to a monthly basis [T1R].

7.2.7 Testing Requirements

a. Except as provided in 40 CFR 63.116(a) and (b), the Permittee using a control device to comply with the organic HAP concentration limit or percent reduction efficiency requirements in Condition 7.2.5(d)(i) shall conduct a performance test using the procedures in Condition 7.2.7(a). 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. Method 1 or 1A of 40 CFR Part 60, Appendix A, as appropriate, shall be used for selection of the sampling sites [40 CFR 63.116(c)(1)].

A. For determination of compliance with the 98 percent reduction of total organic HAP

requirement in Condition 7.2.5(d)(i), sampling sites shall be located at the inlet of the control device as specified in Condition 7.2.7(a)(i)(A)(1) and (2), and at the outlet of the control device [40 CFR 63.116(c)(1)(i)].

1. The control device inlet sampling site shall be located after the final product recovery device [40 CFR 63.116(c)(1)(i)(A)].

2. 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 ppmv total organic HAP limit in Condition 7.2.5(d)(i), 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. To determine compliance with the 20 ppmv total organic HAP limit in Condition 7.2.5(d)(i), the Permittee 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 40 CFR 63 Appendix A, may be used. The following procedures shall be used to calculate ppmv concentration, corrected to 3 percent oxygen [40 CFR 63.116(c)(3)].

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. The concentration of either TOC (minus methane or ethane) or total organic HAP shall be calculated according to Condition 7.2.7(a)(iii)(B)(1) or (2) [40 CFR 63.116(c)(3)(ii)].

1. 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, ppmv.

C_{ji} = Concentration of sample components j of sample i, dry basis, ppmv.

n = Number of components in the sample.

x = Number of samples in the sample run.

[40 CFR 63.116(c)(3)(ii)(A)]

2. The total organic HAP concentration (C_{HAP}) shall be computed according to the equation in Condition 7.2.7(a)(iii)(B)(1) except that only the organic HAP species shall be summed. The list of organic HAPs is provided in 40 CFR 63 Subpart F, table 2 [40 CFR 63.116(c)(3)(ii)(B)].

C. The concentration of TOC or total organic HAP shall be corrected to 3 percent oxygen if a combustion device is the control device [40 CFR 63.116(c)(3)(iii)].

1. 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)].

2. The concentration corrected to 3 percent oxygen (Cc) 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, ppmv.

C_m = Concentration of TOC (minus methane and ethane) or organic HAP, dry basis, ppmv.

$\%0_{2d}$= Concentration of oxygen, dry basis, percent by volume.

[40 CFR 63.116(c)(3)(iii)(B)]

iv. To determine compliance with the 98 percent reduction requirement in Condition 7.2.5(d)(i), the Permittee 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 40 CFR 63 Appendix A may be used. The following procedures shall be used to calculate percent reduction efficiency [40 CFR 63.116(c)(4)].

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. The mass rate of either TOC (minus methane and ethane) or total organic HAP (E_i, E_o) shall be computed [40 CFR 63.116(c)(4)(ii)].

1. 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, ppmv.

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, 2.494×10^{-6} $(ppm)^{-1}$ (gram-mole per standard cubic meter) (kilogram/gram) (minute/hour), where standard temperature (gram-mole per standard cubic meter) is 20 °C.

[40 CFR 63.116(c)(4)(ii)(A)]

2. 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 7.2.7(a)(iv)(B)(1) [40 CFR 63.116(c)(4)(ii)(B)].

3. Where the mass rate of total organic HAP is being calculated, only the organic HAP species shall be summed using the equation in Condition 7.2.7(a)(iv)(B)(1). The list of organic HAPs is provided in 40 CFR 63 Subpart F, table 2 [40 CFR 63.116(c)(4)(ii)(C)].

C. 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 in Condition 7.2.7(a)(iv)(B), 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 in Condition 7.2.7(a)(iv)(B), kilograms TOC per hour or kilograms organic HAP per hour.

[40 CFR 63.116(c)(4)(iii)]

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 35 IAC 218 Appendix C. This condition does not limit USEPA's authority under the CAA to require demonstrations of compliance [35 IAC 218.526(a)].

7.2.8 Inspection and Monitoring Requirements

a. The Permittee shall install monitoring equipment specified in Condition 7.2.8(a), 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.

Where an thermal oxidizer is used, a temperature monitoring device equipped with a continuous recorder is required. The 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)(i)].

b. The Permittee of the affected phenol process units using a vent system that contains bypass lines that could divert a vent stream away from the control device used to comply with Condition 7.2.5(d) shall comply with Condition 7.2.8(b)(i) or (ii). 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 paragraph [40 CFR 63.114(d)].

i. Properly install, maintain, and operate a flow indicator that takes a reading at least once every 15 minutes. Records shall be generated as specified in Condition 7.2.9(c)(iii). The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere [40 CFR 63.114(d)(1)].

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 that the valve is maintained in the non-diverting position and the vent stream is not diverted through the bypass line [40 CFR 63.114(d)(2)].

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 phenol process units to demonstrate compliance with Conditions 5.5.1, 7.2.5, and 7.2.8, pursuant to Section 39.5(7)(b) of the Act:

a. Records for Malfunctions and Breakdowns of the Phenol Manufacturing Process

The Permittee shall maintain records, pursuant to 35 IAC 201.263, of continued operation of an affected phenol process unit subject to 35 IAC 218.301 or 35 IAC 218.520 during malfunctions and breakdown of the control features of the thermal oxidizer, which as a minimum, shall include:

i. Date and duration of malfunction or breakdown;

ii. A detailed explanation of the malfunction or breakdown;

iii. An explanation why the damaged feature(s) could not be immediately repaired or the affected phenol process unit removed from service without risk of injury to personnel or severe damage to equipment;

iv. The measures used to reduce the quantity of emissions and the duration of the event;

v. The steps taken to prevent similar malfunctions or breakdowns or reduce their frequency and severity; and

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

b. The Permittee subject to the control provision for Group 1 vent streams in Condition 7.2.5(d) shall:

i. Keep an up-to-date, readily accessible record of the data specified in Conditions 7.2.9(c)(iii) [40 CFR 63.117(a)(1)].

ii. If any subsequent or performance tests are conducted after the Notification of Compliance Status has been submitted, report the data in Conditions 7.2.9(c)(iii) in the next Periodic Report as specified in 40 CFR 152(c) [40 CFR 63.117(a)(3)].

iii. Record and report the following when using a combustion device to achieve a 98 weight percent reduction in organic HAP or when an organic HAP concentration of 20 ppmv, as specified in Condition 7.2.5(d)(i) [40 CFR 63.117(a)(4)].

A. The parameter monitoring results for thermal oxidizers 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 a thermal oxidizer, the percent reduction of organic HAP or TOC achieved by the thermal oxidizer determined as specified in Condition 7.2.7(a) [40 CFR 63.117(a)(4)(ii)];

c. The Permittee using a control device to comply with Condition 7.2.5(d) 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 7.2.8(a) and listed in table 3 of 40 CFR 63 Subpart G or specified by the Illinois EPA in accordance with 40 CFR 63.114(c) and 40 CFR 63.117(e) [40 CFR 63.118(a)(1)].

ii. Records of the daily average value of each continuously monitored parameter for each operating day determined according to the procedures specified in 40 CFR 63.152(f) [40 CFR 63.118(a)(2)].

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 7.2.9(c)(ii)(B). 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 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 40 CFR 63.152(b) or operating permit, the Permittee 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)].

iii. Hourly records of whether the flow indicator specified under Condition 7.2.8(b)(i) was operating and whether flow was detected at any time under the hour, as well as records of the times and durations of all periods when the vent stream is diverted from the control device or the monitor is not operating [40 CFR 63.118(a)(3)].

iv. Where a seal mechanism is used to comply with Condition 7.2.8(b)(ii), hourly records of flow are not required. In such cases, the Permittee shall record that the monthly visual inspection of the seals or closure mechanism has been done, and shall record the duration of all periods when the seal mechanism is broken, the bypass line valve position has changed, or the key for a lock-and-key type lock has been checked out, and records of any car-seal that has broken [40 CFR 63.118(a)(4)].

d. The Permittee shall keep the following records:

i. Raw materials charged and production rate (tons/month and tons/year).

ii. Molecular weight and vapor pressure at operating temperature of each VOM containing raw material.

iii. All the detailed data necessary to determine VOM emissions using the equations specified in Section 7.2.12.

iv. VOM emissions in units specified by the emission limits in Condition 7.2.6 (ton/mo and ton/year).

v. The detailed record of material balance calculations or specific emission factor development including the stack test and process information for that specific emission factor.

7.2.10 Reporting Requirements

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

a. Reporting of Malfunctions and Breakdowns for the Phenol Manufacturing Process

The Permittee shall provide the following notification and reports to the Illinois EPA, Compliance Section and Regional Field Office, pursuant to 35 IAC 201.263, concerning continued operation of an affected phenol process unit subject to Condition 7.1.3(c) during malfunction or breakdown of the control features of the thermal oxidizer.

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

ii. Upon achievement of compliance, the Permittee shall give a written follow-up notice to the Illinois EPA, Compliance Section and Regional Field Office, providing a detailed explanation of the event, an explanation why continued operation of the affected phenol process units was necessary, the length of time during which operation continued under such conditions, the measures taken by the Permittee to minimize and correct deficiencies with chronology, and when the repairs were completed or when the affected phenol process units was taken out of service.

iii. If compliance is not achieved within 5 working days of the occurrence, the Permittee shall submit interim status reports to the Illinois EPA, Compliance Section and Regional Field Office, within 5 days of the occurrence and every 14 days thereafter, until compliance is achieved. These interim reports shall provide a brief explanation of the nature of the malfunction or breakdown, corrective actions accomplished to date, actions anticipated to occur with schedule, and the expected date on which repairs will be complete or the affected phenol process unit will be taken out of service.

b. The Permittee who elects to comply with the requirements in Condition 7.2.5(d) shall submit to the Illinois EPA Periodic Reports of the following recorded information according to the schedule in 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 7.2.9(c) 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 40 CFR 63.152(c)(2)(ii)(A) [40 CFR 63.118(f)(2)].

iii. Reports of the times and durations of all periods recorded under Condition 7.2.9(c)(iii) when the vent stream is diverted from the control device through a bypass line [40 CFR 63.118(f)(3)].

iv. Reports of all periods recorded under Condition 7.2.9(c)(iv) in which the seal mechanism is broken, the bypass line valve position has changed, or the key to unlock the bypass line valve was checked out [40 CFR 63.118(f)(4)].

c. A person planning to conduct a VOM emissions test to demonstrate compliance with Condition 7.2.5(d) shall notify the Illinois EPA of that intent not less than 30 days before the planned initiation of the tests so that the Agency may observe the test [35 IAC 218.526(b)].

7.2.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.2.12 Compliance Procedures

a. Compliance with the control requirements of Condition 7.2.5 and the testing requirements of Condition 7.2.7 shall be demonstrated through the inspection, monitoring, recordkeeping and reporting requirements of Conditions 7.2.8, 7.2.9, and 7.2.10.

b. Compliance with the emission limits of this permit shall be determined by material balance equations using the records required by Condition 7.2.9(d). These calculations shall use a control efficiency for the control equipment as determined by the most recent stack test during periods when the control equipment is in proper operation, according to the monitoring requirements in Condition 7.2.8.

7.3 Group 1 Benzene Storage Tanks

7.3.1 Description

Four (4) cylindrical tanks are used to store Benzene. They were constructed in 1963, however, internal floating roofs were not installed until 1990. Due to the nature of storage material, all four (4) storage tanks are subject to 40 CFR 63 Subpart G, National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater.

7.3.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Tank 71	850,000 gallon benzene storage tank	Internal Floating Roof
Tanks 72	850,000 gallon benzene storage tank	Internal Floating Roof
Tank 505	125,000 gallon benzene storage tank	Internal Floating Roof
Tank 506	125,000 gallon benzene storage tank	Internal Floating Roof

7.3.3 Applicability Provisions and Applicable Regulations

a. The “affected benzene tanks” for the purpose of these unit-specific conditions, are four (4) cylindrical aboveground benzene storage tanks with internal floating roofs to control the emissions.

b. The affected benzene tanks are subject to 40 CFR 63 Subpart F, National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry.

c. The affected benzene tanks are subject to 40 CFR 63 Subpart G, National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Waste Water.

d. The affected benzene tanks are subject to the requirements of 35 IAC 218 Subpart B, including 35 IAC 218.120 and 35 IAC 218.122(b). Each storage tank is subject to the requirements of 35 IAC 218.120(a) unless it is specifically excluded pursuant to 35 IAC

218.119. A tank may be exempt due to the current service, features, or other circumstances associated with the tank. A tank must comply with other rules if the vapor pressure of the VOL is 11.1 psia or greater at 297.0 °K (75 °F).

e. The affected benzene tanks are subject to 35 IAC 218.301, which specifies that no person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302 and the following exception: if no odor nuisance exists this limitation shall apply only to photochemically reactive material [35 IAC 218.301].

7.3.4 Non-Applicability of Regulations of Concern

a. This permit is issued based on the affected benzene tanks not being subject to the Standards of Performance 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. A Group 1 or Group 2 storage vessel that is also subject to the provisions of 40 CFR 60 Subpart Kb is required to comply only with the provisions of 40 CFR 63 Subpart G [40 CFR 63.110(b)(1)].

b. This permit is issued based on the affected benzene tanks not being subject to 40 CFR 61, Subpart Y. A Group 1 or Group 2 storage vessel that is also subject to the provisions of 40 CFR 61 Subpart Y is required to comply only with the provisions of 40 CFR 63 Subpart G [40 CFR 63.110(b)(2)].

7.3.5 Control Requirements

a. For the affected benzene tanks (as defined in 40 CFR 63 Subpart G, table 5 for existing sources and table 6 for new sources) storing a liquid for which the maximum true vapor pressure of the total organic hazardous air pollutants in the liquid is less than 76.6 kilopascals, the Permittee shall reduce hazardous air pollutants emissions to the atmosphere by operating and maintaining a fixed roof and internal floating roof in accordance with the requirements in Condition 7.3.5(b) or equivalent as provided in 40 CFR 63.121 [40 CFR 63.119(a)(1)].

b. The Permittee who elects to use a fixed roof and an internal floating roof, as defined in 40 CFR 63.111, to comply with the requirements in Condition 7.3.5(a)(i) shall comply with the requirements

specified in Condition 7.3.5(b)(i) through (vi). [Note: The intent in Condition 7.3.5(b)(i) and (ii) is to avoid having a vapor space between the floating roof and the stored liquid for extended periods. Storage vessels may be emptied for purposes such as routine storage vessel maintenance, inspections, petroleum liquid deliveries, or transfer operations. Storage vessels where liquid is left on walls, as bottom clingage, or in pools due to floor irregularity are considered completely empty.]

i. The internal floating roof shall be floating on the liquid surface at all times except when the floating roof must be supported by the leg supports during the periods specified in Condition 7.3.5(b)(i)(A) through (C) [40 CFR 63.119(b)(1)].

   A. During the initial fill [40 CFR 63.119(b)(1)(i)].

   B. After the vessel has been completely emptied and degassed [40 CFR 63.119(b)(1)(ii)].

   C. When the vessel is completely emptied before being subsequently refilled [40 CFR 63.119(b)(1)(iii)].

ii. When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as soon as practical [40 CFR 63.119(b)(2)].

iii. Each internal floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. Except as provided in Condition 7.3.5(b)(iii)(D), the closure device shall consist of one of the devices listed in Condition 7.3.5(b)(iii)(A), (B) or (C) [40 CFR 63.119(b)(3)].

   A. A liquid-mounted seal as defined in 40 CFR 63.111 [40 CFR 63.119(b)(3)(i)].

   B. A metallic shoe seal as defined in 40 CFR 63.111 [40 CFR 63.119(b)(3)(ii)].

   C. Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower

seal may be vapor- mounted, but both must be continuous seals [40 CFR 63.119(b)(3)(iii)].

D. If the internal floating roof is equipped with a vapor-mounted seal as of December 31, 1992, the requirement for one of the seal options specified in Condition 7.3.5(b)(iii)(A), (B) and (C) does not apply until the earlier of the dates specified in Condition 7.3.5(b)(iii)(D)(1) and (2) [40 CFR 63.119(b)(3)(iv)].

1. The next time the storage vessel is emptied and degassed [40 CFR 63.119(b)(3)(iv)(A)].

2. No later than 10 years after April 22, 1994 [40 CFR 63.119(b)(3)(iv)(B)].

iv. Automatic bleeder vents are to be closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the roof leg supports [40 CFR 63.119(b)(4)].

v. Except as provided in Condition 7.3.5(b)(v)(H), each internal floating roof shall meet the specifications listed in Condition 7.3.5(b)(v)(A) through (G) [40 CFR 63.119(b)(5)].

A. Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents is to provide a projection below the liquid surface [40 CFR 63.119(b)(5)(i)].

B. Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains shall be equipped with a cover or lid. The cover or lid shall be equipped with a gasket [40 CFR 63.119(b)(5)(ii)].

C. Each penetration of the internal floating roof for the purposes of sampling shall be a sample well. Each sample well shall have a slit fabric cover that covers at

least 90 percent of the opening [40 CFR 63.119(b)(5)(iii)].

D. Each automatic bleeder vent shall be gasketed [40 CFR 63.119(b)(5)(iv)].

E. Each rim space vent shall be gasketed [40 CFR 63.119(b)(5)(v)].

F. Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover [40 CFR 63.119(b)(5)(vi)].

G. Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover [40 CFR 63.119(b)(5)(vii)].

H. If the internal floating roof does not meet any one of the specifications listed in Condition 7.3.5(b)(v)(A) through (G) as of December 31, 1992, the requirement for meeting those specifications does not apply until the earlier of the dates specified in Condition 7.3.5(b)(v)(H)(1) and (2) [40 CFR 63.119(b)(5)(viii)].

1. The next time the storage vessel is emptied and degassed [40 CFR 63.119(b)(5)(viii)(A)].

2. No later than 10 years after April 22, 1994 [40 CFR 63.119(b)(5)(viii)(B)].

vi. Each cover or lid on any opening in the internal floating roof shall be closed (i.e., no visible gaps), except when the cover or lid must be open for access. Covers on each access hatch and each gauge float well shall be bolted or fastened so as to be air-tight when they are closed. Rim space vents are to be set to open only when the internal floating roof is not floating or when the pressure beneath the rim seal exceeds the manufacturer's recommended setting [40 CFR 63.119(b)(6)].

c. Determination of equivalence to the reduction in emissions achieved by the requirements in Condition

7.3.5(b) will be evaluated according to 40 CFR 63.102(b) [40 CFR 63.121(a)].

d. The determination of equivalence referred to in Condition 7.3.5(c) will be based on the application to the Illinois EPA which shall include the information specified in Condition 7.3.5(d)(i) or (ii) [40 CFR 63.121(b)].

i. Actual emissions tests that use full-size or scale-model storage vessels that accurately collect and measure all organic HAP emissions from a given control technique, and that accurately simulate wind and account for other emission variables such as temperature and barometric pressure [40 CFR 63.121(b)(1)].

ii. An engineering analysis that the Illinois EPA determines is an accurate method of determining equivalence [40 CFR 63.121(b)(2)].

e. Each affected benzene tank shall be equipped with an internal floating roof that meets the specifications in Condition 7.3.7(a) [35 IAC 218.120(a)(1)].

f. Each affected benzene tank shall be equipped with a permanent submerged loading pipe [35 IAC 218.122(b)].

7.3.6 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.

7.3.7 Operating Requirements

a. Each affected benzene tank equipped with an internal floating roof shall be operated so that the floating roof including the seal closure devices meet each of the following requirements:

i. The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied and subsequently refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be

continuous and shall be accomplished as rapidly as possible [35 IAC 218.120(a)(1)(A)].

ii. Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:

A. A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank [35 IAC 218.120(a)(1)(B)(i)];

B. Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous [35 IAC 218.120(a)(1)(B)(ii)]; or

C. A mechanical shoe seal, which is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof [35 IAC 218.120(a)(1)(B)(iii)];

iii. Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface [35 IAC 218.120(a)(1)(C)];

iv. Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be

bolted except when they are in use [35 IAC 218.120(a)(1)(D)];

v. Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports [35 IAC 218.120(a)(1)(E)];

vi. Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting [35 IAC 218.120(a)(1)(F)];

vii. Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening [35 IAC 218.120(a)(1)(G)]; and

viii. Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover [35 IAC 218.120(a)(1)(H)].

b. The Permittee shall not store any organic material with a maximum true vapor pressure of 76.6 (11.1 psia) or greater in each affected benzene tank. Storage of such material requires additional emission control techniques, pursuant to 40 CFR 63.119(a)(2).

7.3.8 Inspection Requirements

a. To demonstrate compliance with Condition 7.3.5(b) (storage vessel equipped with a fixed roof and internal floating roof), the Permittee shall comply with the requirements in Condition 7.3.8(a)(i) through (v), Condition 7.3.10(a) and (b) [40 CFR 63.120(a)].

i. The Permittee shall visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), according to the schedule specified in Condition 7.3.8(a)(ii) and (iii) [40 CFR 63.120(a)(1)].

ii. For vessels equipped with a single-seal system, the Permittee shall perform the inspections specified in Condition 7.3.8(a)(ii)(A) and (B) [40 CFR 63.120(a)(2)].

A. Visually inspect the internal floating roof and the seal through manholes and roof hatches on the fixed roof at least once every 12 months [40 CFR 63.120(a)(2)(i)].

B. Visually inspect the internal floating roof, the seal, gaskets, slotted membranes, and sleeve seals (if any) each time the storage vessel is emptied and degassed, and at least once every 10 years [40 CFR 63.120(a)(2)(ii)].

iii. For vessels equipped with a double-seal system as specified in Condition 7.3.5(b)(iii)(C), the Permittee shall perform either the inspection required in Condition 7.3.8(a)(iii)(A) or the inspections required in Condition 7.3.8(a)(iii)(B) and (C) [40 CFR 63.120(a)(3)].

A. The Permittee shall visually inspect the internal floating roof, the primary seal, the secondary seal, gaskets, slotted membranes, and sleeve seals (if any) each time the storage vessel is emptied and degassed and at least once every 5 years [40 CFR 63.120(a)(3)(i)].

B. The Permittee shall visually inspect the internal floating roof and the secondary seal through manholes and roof hatches on the fixed roof at least once every 12 months [40 CFR 63.120(a)(3)(ii)].

C. Visually inspect the internal floating roof, the primary seal, the secondary seal, gaskets, slotted membranes, and sleeve seals (if any) each time the vessel is emptied and degassed and at least once every 10 years [40 CFR 63.120(a)(3)(iii)].

iv. If during the inspections required by Condition 7.3.8(a)(ii)(A) or (a)(iii)(B), the internal floating roof is not resting on the surface of the liquid inside the storage vessel and is not resting on the leg supports; or there is liquid on the floating roof; or the seal is detached; or there are holes or tears in the seal fabric; or there are visible gaps between the seal and the wall of the storage vessel, the Permittee shall repair the items or empty and remove the storage vessel

from service within 45 calendar days. If a failure that is detected during inspections required by Condition 7.3.8(a)(ii)(A) or (a)(iii)(B) cannot be repaired within 45 calendar days and if the vessel cannot be emptied within 45 calendar days, the Permittee may utilize up to 2 extensions of up to 30 additional calendar days each. Documentation of a decision to utilize an extension shall include a description of the failure, shall document that alternate storage capacity is unavailable, and shall specify a schedule of actions that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as practical [40 CFR 63.120(a)(4)].

v. If during the inspections required by Condition 7.3.8(a)(ii)(B), (a)(iii)(A) or (C), the internal floating roof has defects; or the primary seal has holes, tears, or other openings in the seal or the seal fabric; or the secondary seal has holes, tears, or other openings in the seal or the seal fabric; or the gaskets no longer close off the liquid surface from the atmosphere; or the slotted membrane has more than 10 percent open area, the Permittee shall repair the items as necessary so that none of the conditions specified in Condition 7.3.8(a)(v) exist before refilling the storage vessel with organic HAP [40 CFR 63.120(a)(7)].

b. In addition to Condition 7.3.8(a), the Permittee shall comply with the following inspection requirements for each affected benzene tank:

i. Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service) prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the owner or operator shall repair the items before filling the storage vessel [35 IAC 218.127(a)(1)].

ii. For vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months

after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or if there is liquid accumulated on the roof, or if the seal is detached, or if there are holes or tears in the seal fabric, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this subsection cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, the owner or operator may request a 30-day extension from the Agency in the inspection report required in 35 IAC 218.129(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the owner or operator will take that will assure that the control equipment will be repaired or the vessel will be emptied within 30 days [35 IAC 218.127(a)(2)].

iii. For vessels equipped with both primary and secondary seals:

A. Visually inspect the vessel as specified in Condition 7.3.8(b)(iv) at least every 5 years [35 IAC 218.127(a)(3)(A)]; or

B. Visually inspect the vessel as specified in Condition 7.3.8(b)(ii) [35 IAC 218.127(a)(3)(B)].

iv. Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes, and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal, or if the seal fabric or the secondary seal has holes, tears, or other openings in the seal, or if the seal fabric or the gaskets no longer close off the liquid surfaces from the atmosphere, or if the slotted membrane has more than 10 percent open area, the owner or operator shall repair the items as necessary so that none of the conditions specified in this subsection exists before refilling the storage vessel with VOL. In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of

vessels conducting the annual visual inspection as specified in Conditions 7.3.8(b)(ii) and (b)(iii)(B) and at intervals no greater than 5 years in the case of vessels specified in Condition 7.3.8(b)(iii)(A) [35 IAC 218.127(a)(4)].

7.3.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected benzene tanks to demonstrate compliance with Conditions 5.5.1, 7.3.5, and 7.3.8, pursuant to Section 39.5(7)(b) of the Act:

a. The Permittee of the affected benzene tanks 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 Permittee is not required to comply with any other requirements in 40 CFR 63.119 through 63.123 other than those required by Condition 7.3.9(a) unless such vessel is part of an emissions average as described in 40 CFR 63.150 [40 CFR 63.123(a)].

b. The Permittee who elects to comply Condition 7.3.5(b) shall keep a record that each inspection required by Condition 7.3.8(a) was performed [40 CFR 63.123(c)].

c. The Permittee who elects to utilize an extension in emptying a storage vessel in accordance with Condition 7.3.8(a)(iv) shall keep in a readily accessible location, the documentation specified in Condition 7.3.8(a)(iv), as applicable [40 CFR 63.123(g)].

d. For each affected benzene tank equipped with an internal floating roof, keep a record of each inspection performed as required by Condition 7.3.8(b). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating rood, and fittings) [35 IAC 218.129(a)(2)];

e. The Permittee shall maintain records of the following items for each affected benzene tank at the source:

i. A list of the types of VOL actually stored in the tank and anticipated to be stored in the tank, with date of each change in the list;

ii. The monthly throughput of each organic liquid through each tank or group of tanks;

iii. The maximum true vapor pressure of each type of liquid as stored, psia;

iv. The dimensions of each tank and an analysis of the capacity of each tank. These records shall be kept up to date for each affected benzene tank and shall be retained until the tank is removed from the source [35 IAC 218.129(e) and (f)];

v. The VOM emissions attributable to each organic liquid stored in each tank, tons/month, with supporting calculations; and

vi. Total emissions of each individual HAP, and combined HAPs from each tank, in tons/year, with supporting calculations.

7.3.10 Reporting Requirements

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

a. Except as provided in Condition 7.3.10(b), for all the inspections required by Condition 7.3.8(a)(ii)(B), (a)(iii)(A) and (C), the Permittee shall notify the Illinois EPA in writing at least 30 calendar days prior to the refilling of each storage vessel to afford the Illinois EPA the opportunity to have an observer present [40 CFR 63.120(a)(5)].

b. If the inspection required by Condition 7.3.8(a)(ii)(B), (a)(iii)(A) and (C), is not planned and the Permittee could not have known about the inspection 30 calendar days in advance of refilling the vessel, the Permittee shall notify the Illinois EPA at least 7 calendar days prior to the refilling of the storage vessel. Notification may be made by telephone and immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, the notification including the written documentation may be made in writing and sent so that it is received by the Illinois EPA at

least 7 calendar days prior to refilling [40 CFR 63.120(a)(6)].

c. For the affected benzene tanks, the Permittee shall comply with the requirements in Condition 7.3.10(c)(i) through (ii).

   i. The Permittee shall submit Periodic Reports as required by 40 CFR 63.152(c) and shall submit as part of the Periodic Reports the information specified in Condition 7.3.10(d) [40 CFR 63.122(a)(4)].

   ii. The Permittee shall submit, as applicable, other reports as required by 40 CFR 63.152(d), containing the information specified in Condition 7.3.10(e) [40 CFR 63.122(a)(5)].

d. The Permittee who elects to comply with Condition 7.3.5(b) by using a fixed roof and an internal floating roof shall submit, as part of the Periodic Report required under 40 CFR 63.152(c), the results of each inspection conducted in accordance with Condition 7.3.8(a) and Condition 7.3.10(a) and (b) in which a failure is detected in the control equipment.

   i. For vessels for which annual inspections are required in Condition 7.3.8(a)(ii)(A) or (a)(iii)(B), the specifications and requirements listed in Condition 7.3.10(d)(i)(A) through (C) apply [40 CFR 63.122(d)(1)].

      A. A failure is defined as any time in which the internal floating roof is not resting on the surface of the liquid inside the storage vessel and is not resting on the leg supports; or there is liquid on the floating roof; or the seal is detached from the internal floating roof; or there are holes, tears, or other openings in the seal or seal fabric; or there are visible gaps between the seal and the wall of the storage vessel [40 CFR 63.122(d)(1)(i)].

      B. Except as provided in Condition 7.3.10(d)(i)(C), each Periodic Report shall include the date of the inspection, identification of each storage vessel in which a failure was detected, and a description of the failure. The Periodic Report shall also describe the nature of and date the repair was made or the date

the storage vessel was emptied [40 CFR 63.122(d)(1)(ii)].

C. If an extension is utilized in accordance with Condition 7.3.8(a)(iv), the Permittee shall, in the next Periodic Report, identify the vessel; include the documentation specified in Condition 7.3.8(a)(iv); and describe the date the storage vessel was emptied and the nature of and date the repair was made [40 CFR 63.122(d)(1)(iii)].

ii. For vessels for which inspections are required under Condition 7.3.8(a)(ii)(B), (a)(iii)(A) or (C), the specifications and requirements listed in Condition 7.3.10(d)(ii)(A) and (B) apply [40 CFR 63.122(d)(2)].

A. A failure is defined as any time in which the internal floating roof has defects; or the primary seal has holes, tears, or other openings in the seal or the seal fabric; or the secondary seal (if one has been installed) has holes, tears, or other openings in the seal or the seal fabric; or the gaskets no longer close off the liquid surface from the atmosphere; or the slotted membrane has more than 10 percent open area [40 CFR 63.122(d)(2)(i)].

B. Each Periodic Report required under 40 CFR 63.152(c) shall include the date of the inspection, identification of each storage vessel in which a failure was detected, and a description of the failure. The Periodic Report shall also describe the nature of and date the repair was made [40 CFR 63.122(d)(2)(ii)].

e. The Permittee who elects to comply with Condition 7.3.5(b) shall submit, as applicable, the reports specified in Condition 7.3.10(e).

i. In order to afford the Illinois EPA the opportunity to have an observer present, the Permittee shall notify the Illinois EPA of the refilling of a storage vessel that has been emptied and degassed [40 CFR 63.122(h)(1)].

ii. If the storage vessel is equipped with an internal floating roof as specified in

Condition 7.3.5(b), the notification shall meet the requirements in Condition 7.3.10(a) or (b), as applicable [40 CFR 63.122(h)(1)(i)].

f. Any storage of VOL in an affected benzene tank that is not in compliance with the control requirements (due to absence of the features required by Condition 7.3.5, e.g., “no permanent submerged loading pipe”) within 5 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;

g. Any storage of VOL in an affected benzene tank that is out of compliance with the control requirements (Condition 7.3.5) due to damage, deterioration, or other condition of the tank, within 30 days of becoming aware of the non-compliance status. This notification shall include a description of the event, the cause for the non-compliance, actions taken to correct the non-compliance, and the steps to be taken to avoid future non-compliance;

h. If any of the conditions described in Condition 7.3.8(b)(ii) are detected during the annual visual inspection required by Condition 7.3.8(b)(ii), report to the Illinois EPA, Compliance Section within 30 days after the inspection the identity of the affected benzene tank, the nature of the defects, and the date the affected storage tank was emptied or the nature of and date the repair was made [35 IAC 218.129(a)(3)]; and

i. After each inspection required by Condition 7.3.8(b)(iii) where holes or tears in the seal or seal fabric or defects in the internal floating roof, or other control equipment defects listed in Condition 7.3.8(b) are discovered, report to the Illinois EPA, Compliance Section within 30 days after the inspection the identity of the affected benzene tank and the reason it did not meet the specifications of 35 IAC 218.120(a)(1) or (2) or 35 IAC 218.127(a), and list each repair made [35 IAC 218.129(a)(4)].

j. The Permittee shall promptly notify the Illinois EPA, Permit Section if any affected benzene tank is used to store a V0L with a vapor pressure of 11.1 psia or greater at 297.0 °K (75 °F). 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 taken to avoid future non-compliance.

7.3.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.3.12 Compliance Procedures

a. Compliance with the control requirements of Condition 7.3.5 and the operating requirements of Condition 7.3.7 shall be demonstrated through the inspection, recordkeeping and reporting requirements of Conditions 7.3.8, 7.3.9, and 7.3.10.

b. Emissions from the affected tank shall be determined through the use of standard AP-42 emission factors or the most recent version of the USEPA TANKS program.

7.4 Group 2 Storage Tanks with capacity less than 40,000 gallons

7.4.1 Description

Thirty six (36) cylindrical tanks with fixed roof design are used for storage of chemicals. All thirty six (36) tanks were constructed in 1963.

7.4.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Tank 2A	29,000 gallon cumene storage tank	None
Tank 2B	29,000 gallon cumene storage tank	None
Tank 24	15,500 gallon cumene storage tank	None
Tank 62	15,500 gallon organic material storage tank	None
Tank 94	14,200 gallon organic material storage tank	None
Tank 106A	11,500 gallon phenol storage tank	None
Tank 106B	11,500 gallon phenol storage tank	None
Tank 110	11,500 gallon organic material storage tank	None
Tank 111	11,500 gallon organic material storage tank	None
Tank 304A	11,500 gallon organic material storage tank	None
Tank 304B	11,500 gallon organic material storage tank	None
Tank 406A	11,500 gallon organic material storage tank	None
Tank 406B	11,500 gallon organic material storage tank	None
Tank 601	7,500 gallon phenate storage tank	None
Tank 603A	16,200 gallon organic material storage tank	None
Tank 603C	16,200 gallon organic material storage tank	None
Tank 402	11,500 gallon AMS storage tank	None
Tank 413	23,500 gallon AMS storage tank	None
Tank 410	11,500 gallon AMS storage tank	None
Tank T-1	4,500 gallon benzene storage tank	None
Tank V-18	32,000 gallon AP storage tank	None
Tank V-19	32,000 gallon oil storage tank	None

Emission Unit	Description	Emission Control Equipment
Tank 305	3,000 gallon organic material storage tank	None
Tank 407	11,500 gallon organic material storage tank	None
Tank V-2004	7,500 gallon toluene storage tank	None
Tank V-2010	15,000 gallon phenate storage tank	None
Tank V-4	25,000 gallon DIPB storage tank	None
Tank V-2	15,900 gallon AP storage tank	None
Tank V-7	25,000 gallon organic material storage tank	None
Tank V-8	10,500 gallon AMS storage tank	None
Tank V-9	10,500 gallon AMS storage tank	None
Tank V-20	10,700 gallon AMS storage tank	None
Tank V-21	10,700 gallon organic material storage tank	None
Tank V-26	4,500 gallon oil storage tank	None
Tank V-34	11,500 gallon organic material storage tank	None
Tank V-36	11,500 gallon organic material storage tank	None

7.4.3 Applicability Provisions and Applicable Regulations

a. The “affected tanks” for the purpose of these unit-specific conditions, are thirty six (36) storage tanks as described in Condition 7.4.2, with storage capacity less than 40,000 gallons and which are Group 2 storage vessels, according to the following definition (see also 40 CFR 63.111):

i. A storage vessel at an existing source (constructed or reconstructed prior to January 1, 1993) which meets one of the following criteria:

A. A vessel capacity less than 75 m^3 (approximately 19,813 gallons);

B. A vessel capacity greater than or equal to 75 m^3 (approximately 19,813 gallons) and less than 151 m^3 (approximately 39,890 gallons) and a maximum true vapor pressure of total organic HAP less than 13.1 kPa (1.9 psia) at storage temperature; or

C. A vessel capacity greater than or equal to 151 m^3 (approximately 39,890 gallons)

and a maximum true vapor pressure of total organic HAP less than 5.2 kPa (approximately 0.75 psia) at storage temperature.

ii. A storage vessel at a new source (constructed or reconstructed after December 31, 1992) which meets one of the following criteria:

A. A vessel capacity less than 38 m^3 (approximately 10,038 gallons);

B. A vessel capacity greater than or equal to 38 m^3 and less than 151 m^3 (approximately 39,890 gallons) and a maximum true vapor pressure of total organic HAP less than 13.1 kPa (1.9 psia) at storage temperature; or

C. A vessel capacity greater than or equal to 151 m^3 (approximately 39,890 gallons) and a maximum true vapor pressure of total organic HAP less than 0.7 kPa (approximately 0.10 psia) at storage temperature.

b. The affected tanks are subject to 40 CFR 63 Subpart F, National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry.

c. The affected tanks are subject to 40 CFR 63 Subpart G, National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Waste Water.

d. The affected tanks are subject to the requirements of 35 IAC 218.122(b) because each affected tank has a storage capacity greater than 946 l (250 gallons).

e. The affected tanks are subject to 35 IAC 218.301, which specifies that no person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302 and the following exception: if no odor nuisance exists this limitation shall apply only to photochemically reactive material [35 IAC 218.301].

7.4.4 Non-Applicability of Regulations of Concern

a. This permit is issued based on the affected tanks not being subject to the Standards of Performance 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. A Group 1 or Group 2 storage vessel that is also subject to the provisions of 40 CFR 60 Subpart Kb is required to comply only with the provisions of 40 CFR 63 Subpart G [40 CFR 63.110(b)(1)].

b. This permit is issued based on the affected tanks not being subject to the requirements of 35 IAC 218 Subpart B (except 35 IAC 218.122(b) and 35 IAC 218.129(f)) because each affected tank has a storage capacity less than 40,000 gallons.

7.4.5 Control Requirements

a. The Permittee shall comply with the recordkeeping requirement in 40 CFR 63.123(a) and is not required to comply with any other requirements in 40 CFR 63.119 through 40 CFR 63.123 [40 CFR 63.119(a)(3)].

b. Each affected tank shall be equipped with a permanent submerged loading pipe or an equivalent device approved by the Illinois EPA according to the provisions of 35 IAC 201, and further processed consistent with 35 IAC 218.108, or unless such tank is a fitted with a recovery system as described in 35 IAC 218.121. If no odor nuisance exists the limitations of this condition 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) [35 IAC 218.122(b) and (c)].

7.4.6 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 from the Tank 304A shall not exceed the following limits:

Material Throughput		VOM Emissions	
(Gal/Month)	(Gal/Year)	(Ton/Month)	(Ton/Year)
740,950	8,891,400	0.1	0.5

These limits are based on the maximum operation of the tank and standard emissions calculating procedures.

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the

current month plus the preceding 11 months (running 12 month total) [T1].

The above limitations were established in Permit 00010002, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

7.4.7 Operating Requirements

The Permittee shall not allow the operation of the affected tanks such that they meet the definition of a Group 1 storage vessel in 40 CFR 63.111 (see also Condition 7.4.3(a)). Operation as a Group 1 storage vessel requires additional emission control techniques, pursuant to 40 CFR 63.119.

7.4.8 Inspection Requirements

None

7.4.9 Recordkeeping Requirements

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

a. The Permittee of the affected tanks shall keep readily accessible records showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel. These records shall be kept up to date for each affected tank and shall be retained until the tank is removed from the source. For the affected tanks, the Permittee is not required to comply with any other requirements in 40 CFR 63.119 through 40 CFR 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) and 35 IAC 218.129(f)].

b. The Permittee shall maintain records of the following items for each affected tank at the source:

i. A list of the types of VOL actually stored in the tank and anticipated to be stored in the tank, with date of each change in the list;

ii. The annual throughput of each organic liquid through each tank or group of tanks;

iii. The maximum true vapor pressure of each type of liquid as stored, psia;

iv. The VOM emissions attributable to each organic liquid stored in each tank, tons/year, with supporting calculations; and

v. Total emissions of each individual HAP, and combined HAPs from each tank, in tons/year, with supporting calculations.

7.4.10 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 Permittee shall submit, as applicable, other reports as required by 40 CFR 63.152(c) or (d), for example, notification if any Group 2 storage vessel becomes a Group 1 storage vessel, including a compliance schedule as required in 40 CFR 63.100.

b. The Permittee shall notify the Illinois EPA of any exceedance of the throughput or VOM emission limits in Condition 7.4.6.

7.4.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.4.12 Compliance Procedures

a. Compliance with the control requirements of Condition 7.3.5 and the operating requirements of Condition 7.3.7 shall be demonstrated through the recordkeeping and reporting requirements of Conditions 7.3.9 and 7.3.10.

b. Emissions from the affected tank shall be determined through the use of standard AP-42 emission factors or the most recent version of the USEPA TANKS program.

7.5 Group 2 Storage Tanks with capacity greater than or equal to 40,000 gallons

7.5.1 Description

Three (3) cylindrical tanks with fixed roof design are used for storage of chemicals. All three (3) tanks were constructed in 1963 and have a storage capacity greater than 40,000 gallons.

7.5.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Tank 502	210,000 gallon phenol storage tank	None
Tank 503	210,000 gallon phenol storage tank	None
Tank 504	420,000 gallon cumene storage tank	None

7.5.3 Applicability Provisions and Applicable Regulations

a. The “affected tanks” for the purpose of these unit-specific conditions, are three (3) storage tanks as described in Condition 7.5.2, with storage capacity greater than or equal to 40,000 gallons and which are Group 2 storage vessels, according to the following definition (see also 40 CFR 63.111):

i. A storage vessel at an existing source (constructed or reconstructed prior to January 1, 1993) which meets one of the following criteria:

A. A vessel capacity less than 75 m^3 (approximately 19,813 gallons);

B. A vessel capacity greater than or equal to 75 m^3 (approximately 19,813 gallons) and less than 151 m^3 (approximately 39,890 gallons) and a maximum true vapor pressure of total organic HAP less than 13.1 kPa (1.9 psia) at storage temperature; or

C. A vessel capacity greater than or equal to 151 m^3 (approximately 39,890 gallons) and a maximum true vapor pressure of total organic HAP less than 5.2 kPa (approximately 0.75 psia) at storage temperature.

ii. A storage vessel at a new source (constructed or reconstructed after December 31, 1992) which meets one of the following criteria:

A. A vessel capacity less than 38 m^3;

B. A vessel capacity greater than or equal to 38 m^3 (approximately 10,038 gallons) and less than 151 m^3 (approximately 39,890 gallons) and a maximum true vapor pressure of total organic HAP less than 13.1 kPa (1.9 psia) at storage temperature; or

C. A vessel capacity greater than or equal to 151 m^3 (approximately 39,890 gallons) and a maximum true vapor pressure of total organic HAP less than 0.7 kPa (approximately 0.10 psia) at storage temperature.

b. The affected tanks are subject to 40 CFR 63 Subpart F, National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry.

c. The affected tanks are subject to 40 CFR 63 Subpart G, National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Waste Water.

d. Each affected tank is subject to 35 IAC 218.301, which specifies that no person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302 and the following exception: if no odor nuisance exists this limitation shall apply only to photochemically reactive material [35 IAC 218.301].

7.5.4 Non-Applicability of Regulations of Concern

a. This permit is issued based on the affected tanks not being subject to the Standards of Performance 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. A Group 1 or Group 2 storage vessel that is also subject to the provisions of 40 CFR 60 Subpart Kb is required to comply only with the provisions of 40 CFR 63 Subpart G [40 CFR 63.110(b)(1)].

b. Each affected tank is not subject to 35 IAC 218 Subpart B: Organic Emissions from Storage and Loading Operations, because each tank is used to store organic liquid with a maximum true vapor pressure of less than 0.5 psia (3.45 kPa).

7.5.5 Control Requirements

The Permittee shall comply with the recordkeeping requirement in 40 CFR 63.123(a) and is not required to comply with any other requirements in 40 CFR 63.119 through 40 CFR 63.123 [40 CFR 63.119(a)(3)].

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 Operating Requirements

a. The Permittee shall not allow the operation of the affected tanks such that they meet the definition of a Group 1 storage vessel in 40 CFR 63.111 (see also Condition 7.5.3(a)). Operation as a Group 1 storage vessel requires additional emission control techniques, pursuant to 40 CFR 63.119.

b. Pursuant to Section 39.5(7)(a) of the Act and 35 IAC 218.119(a) the Permittee shall not store any organic material with a true vapor pressure of 0.5 psia (3.45 kPa) or greater at 297.0 °K (75 °F) in each affected tank.

7.5.8 Inspection Requirements

None

7.5.9 Recordkeeping Requirements

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

a. The Permittee of the affected tanks 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 the affected tanks, the Permittee is not required to comply with any other requirements in 40 CFR 63.119 through 40

CFR 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. The Permittee shall maintain records of the following items for each affected tank at the source:

   i. A list of the types of VOL actually stored in the tank and anticipated to be stored in the tank, with date of each change in the list;

   ii. The annual throughput of each organic liquid through each tank or group of tanks;

   iii. The maximum true vapor pressure of each type of liquid as stored, psia;

   iv. The VOM emissions attributable to each organic liquid stored in each tank, tons/year, with supporting calculations; and

   v. Total emissions of each individual HAP, and combined HAPs from each tank, in tons/year, with supporting calculations.

c. Records of the storage of any organic liquid with a true vapor pressure greater than 0.5 psia at 297.0 °K (75 °F).

7.5.10 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 Permittee shall submit, as applicable, other reports as required by 40 CFR 63.152(c) or (d), for example, notification if any Group 2 storage vessel becomes a Group 1 storage vessel, including a compliance schedule as required in 40 CFR 63.100.

b. The Permittee shall promptly notify the Illinois EPA, Permit Section if any affected tank is used to store a V0L with a true vapor pressure greater than 0.5 psia within five 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 taken to avoid future non-compliance.

7.5.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.5.12 Compliance Procedures

a. Compliance with the control requirements of Condition 7.5.5 and the operating requirements of Condition 7.5.7 shall be demonstrated through the recordkeeping and reporting requirements of Conditions 7.5.9 and 7.5.10.

b. Emissions from the affected tank shall be determined through the use of standard AP-42 emission factors or the most recent version of the USEPA TANKS program.

7.6 Group 2 Loading Operations

7.6.1 Description

This source operates a loading rack and a barge loading rack in which materials and products are loaded for offsite transport.

7.6.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Loading Rack (LR1)	Phenol, Cumene, AP, AMS, and Benzene loading for offsite transport	None
Barge Loading Rack (LR1-B)	Cumene loading for offsite transport	None

7.6.3 Applicability Provisions and Applicable Regulations

a. The “affected loading operations” for the purpose of these unit-specific conditions, are all product loading operations as described in Condition 7.6.2, which are Group 2 transfer racks, according to the following definition (see also 40 CFR 63.111):

   A transfer rack that annually loads less than 0.65 million liter of liquid products that contain organic HAPs with a rack weighted average vapor pressure greater than or equal to 10.3 kPa.

b. The affected loading operations shall comply with 35 IAC 218 Subpart B, Organic Emissions from Storage and Loading Operations, which provides that:

   The Permittee shall not cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere during the loading of any organic material from the aggregate loading pipes of any loading area having through-put of greater than 151 cubic meters per day (40,000 gal/day) into any railroad tank car, tank truck or trailer unless such loading area is equipped with submerged loading pipes or a device that is equally effective in controlling emissions and is approved by the Illinois EPA according to 35 IAC 201, and further processed consistent with 35 IAC 218.108 [35 IAC 218.122(a)].

c. The affected loading operations are subject to 40 CFR 63 Subpart F, National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry.

d. The affected loading operations are subject to 40 CFR 63 Subpart G, National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Waste Water.

7.6.4 Non-Applicability of Regulations of Concern

This permit is issued based on the affected tanks not being subject to the Standards of Performance for Benzene Emissions from Benzene Transfer Operations, 40 CFR 60, Subpart BB because this source is not a benzene production facility or bulk terminal [40 CFR 61.300(a)].

7.6.5 Control Requirements

None

7.6.6 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. Emissions from the Barge Loading Rack (LR1-B) shall not exceed the following limits:

VOM Emissions	
(Ton/Month)	(Ton/Year)
0.20	1.85

These limits are based on the maximum operation as limited Condition 7.6.7 and standard AP-42 emission factors.

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].

The above limitations contain revisions to previously issued Permit 97050012. 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 annual VOM emission limit was increased by 1.68 tons per year due to the increased throughput as indicated in Condition 7.6.7 [T1R].

7.6.7 Operating Requirements

a. The Permittee shall not allow the loading of 0.65 million or more liter per year of liquid products that contain organic HAPs with a rack weighted average vapor pressure greater than or equal to 10.3 kPa (1.49 psia). Operation in excess of this amount requires the use of a vapor collection system and control device, pursuant to 40 CFR 63.126.

b. Operation of the Barge Loading Rack shall not exceed 24,600,000 gallons per year and the maximum vapor pressure of materials loaded shall not exceed 0.16 psia.

7.6.8 Inspection Requirements

None

7.6.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected loading operations to demonstrate compliance with Conditions 5.5.1 and 7.6.3, pursuant to Section 39.5(7)(b) of the Act:

a. The Permittee of the affected loading operations shall record, update annually, and maintain the information specified in Condition 7.6.9(a)(i) through (iii) 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 HAPs 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. An analysis documenting the annual rack weighted average HAP partial pressure of the transfer rack [40 CFR 63.130(f)(3)].

A. For Group 2 transfer racks that are limited to transfer of organic HAPs with partial pressures less than 10.3 kilopascals, documentation is required of the organic HAPs (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 HAPs with partial pressures greater than 10.3 kilopascals, as well as one or more organic HAPs 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. The Permittee shall maintain records of the following items for the affected loading operations at the source:

i. A list of the types of VOL processed through the affected loading operations, with date of each change in the list;

ii. Records of the monthly throughput of barge loading rack LR1-B and annual throughput of loading rack LR1 (gallons).

iii. The VOM emissions attributable to each organic liquid stored in the affected loading operations, tons/year, with supporting calculations; and

iv. Total emissions of each individual HAP, and combined HAPs from the affected loading operations, in tons/year, with supporting calculations.

7.6.10 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:

a. The Permittee shall submit, as applicable, other reports as required by 40 CFR 63.152(c) or (d), for example, notification if any Group 2 transfer rack becomes a Group 1 transfer rack, including a compliance schedule as required in 40 CFR 63.100.

7.6.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.6.12 Compliance Procedures

a. Compliance with the operating requirements in Condition 7.6.7 shall be determined by the recordkeeping and reporting requirements in Conditions 7.6.9 and 7.6.10.

b. Compliance with the emission limits in Condition 5.5.1 and 7.6.6 shall be determined by the recordkeeping requirements in Condition 7.6.9 and the following emission factor:

EF = 12.46 * (S*P*M/T)

Where:

EF = Total VOM loading emission factor (lb/1000 gallons);

S = Saturation factor (dimensionless; see Table 5.2-1 of AP-42, Volume I, Fifth Edition, January, 1995);

P = Vapor pressure of the material loaded at temperature T (psia);

M = Vapor molecular weight (lb/lb-mole)

T = Temperature (°R)

c. To demonstrate compliance with Condition 7.6.7(a), the rack-weighted average vapor pressure shall be calculated using the equation below [40 CFR 63.111]:

$$P = \frac{\sum P_i * G_i}{\sum G_i}$$

Where:

P = Rack-weighted average partial pressure, kilopascals.

P_i = Individual HAP maximum true vapor pressure, kilopascals, = X_i*P, where X_i is the mole fraction of compound i in the liquid.

G_i = Yearly volume of each liquid that contains organic HAP that is transferred at the rack, liters.

i = Each liquid that contains HAP that is transferred at the rack.

7.7 Group 2 Wastewater Streams

7.7.1 Description

The Cumene unit and the Phenolic unit each have their own independent closed sewer systems that collect all the unit process wastewater streams that are subject to 40 CFR 63 Subpart G, National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Waste Water.

7.7.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Stream WW1	Phenolic Sump V-2015	None
Stream WW2	Non-Phenolic Sump	
Stream WW3	API Separator (North Side)	
Stream WW4	API Separator (South Side)	
Stream WW5	Phenolic Sump #5 (South side of Phenol unit)	
Stream WW6	Non-Phenolic Sump #6 (North side of Phenol unit)	
Stream WW7	Floor Drain to Phenolic sump	
Stream WW8	Condenser pipe to Phenolic sump	
Stream WW9	Phenol wash	

7.7.3 Applicability Provisions and Applicable Regulations

a. The “affected wastewater streams” for the purpose of these unit-specific conditions, consists of all the wastewater streams as described in Condition 7.7.2, which are Group 2 wastewater streams, according to the following definitions (see also 40 CFR 63.111):

   i. A process wastewater stream from a process unit with a total volatile organic HAP average concentration less than 10,000 ppm by weight of compounds listed in table 9 of 40 CFR 63 Subpart G at any flowrate;

   ii. A process wastewater stream from a process unit that has an average flow rate less than 10 l/min or a total volatile organic HAP average concentration less than 1,000 ppm by weight; and

   iii. A process wastewater stream from a new source (constructed or reconstructed after December 31, 1992) that has an average flow rate less than 0.02 l/min or an average concentration

less than 10 ppm by weight of any one of the components listed in table 8 of 40 CFR 63 Subpart G.

b. The affected wastewater streams shall comply with 35 IAC 218, Subpart G, Use of Organic Material, which provides that:

No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303 and 218.304 and the following exception: If no odor nuisance exists the limitation in 35 IAC 218 Subpart G shall apply only to photochemically reactive material [35 IAC 218.301].

c. The affected wastewater streams are subject to 40 CFR 63 Subpart F, National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry.

d. The affected wastewater streams subject to 40 CFR 63 Subpart G, National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Waste Water.

7.7.4 Non-Applicability of Regulations of Concern

a. This permit is issued based on the affected wastewater streams not being subject to 40 CFR Part 61, Subpart FF, National Emission Standard for Benzene Waste Operations, specifically the requirements of 40 CFR 61.342(b) and (c), pursuant to 40 CFR 61.342(a).

b. This permit is issued based on the affected wastewater streams not being subject to 35 IAC 218 Subpart TT, Other Emission Units, because the requirements of Subpart TT apply to a source’s VOM emission units which are not included within the industrial wastewater category [35 IAC 218.960(b)(2)].

7.7.5 Control Requirements

None

7.7.6 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.

7.7.7 Operating Requirements

The Permittee shall not allow the operation of the affected wastewater streams such that they meet the definition of a Group 1 wastewater stream in 40 CFR 63.111. Operation as a Group 1 wastewater stream requires additional emission control techniques, pursuant to 40 CFR 63.133 through 63.140.

7.7.8 Inspection Requirements

None

7.7.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected wastewater streams to demonstrate compliance with Condition 5.5.1, pursuant to Section 39.5(7)(b) of the Act:

If the Permittee uses process knowledge to determine the annual average concentration of a wastewater stream as specified in 40 CFR 63.144(b)(3) and/or uses process knowledge to determine the annual average flow rate as specified in 40 CFR 63.144(c)(1), and determines that the wastewater stream is not a Group 1 wastewater stream, the Permittee shall keep in a readily accessible location the documentation of how process knowledge was used to determine the annual average concentration and/or the annual average flow rate of the wastewater stream [40 CFR 63.147(f)].

7.7.10 Reporting Requirements

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

a. For the affected wastewater streams, the Permittee shall comply with the requirements in Condition 7.7.10(c)(i) through (ii).

i. The Permittee shall submit the information specified in 40 CFR 63.146(a)(1) through (a)(3) as part of the Implementation Plan as required by 40 CFR 63.151(c), (d), or (e) [40 CFR 63.146(a)].

ii. The Permittee shall submit the information specified in 40 CFR 63.146(b)(1) through(b)(9) as part of the Notification of Compliance Status required by 40 CFR 63.152(b) [40 CFR 63.146(b)].

iii. The Permittee shall submit, as applicable, other reports as required by 40 CFR 63.152(c) or (d), for example, notification if any Group 2 wastewater stream becomes a Group 1 wastewater stream, including a compliance schedule as required in 40 CFR 63.100.

7.7.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.7.12 Compliance Procedures

a. Compliance with the operating requirements in Condition 7.7.7 shall be determined by the recordkeeping and reporting requirements in Conditions 7.7.9 and 7.7.10.

b. Emissions from the affected wastewater streams shall be determined through the use of standard AP-42 emission factors or the most recent version of the USEPA WATER program.

7.8 Fuel Combustion Units

7.8.1 Description

Two (2) boilers and a cumene hot oil heater are utilized to produce steam and heat respectively. Each boiler can be operated by multiple fuels, including natural gas, refinery gas, and fuel oil. Boiler #1 and #2 produce 86.7 mmBtu/hr and 65.3 mmBtu/hr respectively when they operate by natural gas, or 80.7 mmBtu/hr and 67.1 mmBtu/hr, respectively when they operate by fuel oil. Boiler #1 and #2 were installed in 1993 and 1990 respectively. The cumene hot oil heater was installed in 1963 and can also operate by multiple fuels, including natural gas, propane, and fuel oil.

7.8.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
CMB1	Boiler #1	Low-NO_x Burners
CMB2	Boiler #2	Low-NO_x Burners
CMB4	Cumene Hot Oil Heater	None

7.8.3 Applicability Provisions and Applicable Regulations

a. The “affected fuel combustion units” for the purpose of these unit-specific conditions, are boiler #1 and #2 operated by natural gas, refinery gas, or fuel oil and a cumene hot oil heater as described in Condition 7.8.2.

b. The affected fuel combustion units are subject to 35 IAC 212 Subpart B, Visual Emissions, which provides that:

i. The Permittee shall not cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to 35 IAC 212.122 [35 IAC 212.123(a)].

ii. The emission of smoke or other particulate matter from any such emission unit may have an opacity greater than 30 percent but not greater than 60 percent 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 m (1000 ft) radius from the center point of any other such emission unit owned or operated by such person, and provided

further that such opaque emissions permitted from each such emission unit shall be limited to 3 times in any 24 hour period [35 IAC 212.123(b)].

c. The affected fuel combustion units are subject to 35 IAC 216 Subpart B, Fuel Combustion Emission Sources, which provides that:

The Permittee shall not cause or allow the emission of carbon monoxide (CO) into the atmosphere from any fuel combustion emission source with actual heat input greater than 2.9 MW (10 mmBtu/hr) to exceed 200 ppm, corrected to 50 percent excess air [35 IAC 216.121].

d. The affected fuel combustion units are subject to 40 CFR 60 Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, because each affected fuel combustion unit was constructed after the applicable date of June 9, 1989, and each boiler has a design heat input greater than 10 mmBtu/hr and less than 100 mmBtu/hr.

7.8.4 Non-Applicability of Regulations of Concern

a. The affected fuel combustion units are not subject to 35 IAC 214.122 because the affected fuel combustion units do not burn solid fuel exclusively or liquid fuel exclusively.

b. The affected fuel combustion units are not subject to 35 IAC 217.121 because each affected fuel combustion unit has an actual heat input less than 250 mmBtu/hr.

c. Pursuant to 35 IAC 215.303, each affected fuel combustion unit is not subject to 35 IAC 218.301, Use of Organic Material.

7.8.5 Operational Limits and Work Practices

a. Natural gas, refinery gas, distillate oil, and propane shall be the only fuels fired in the affected fuel combustion units.

b. The use of distillate oil shall not exceed 374,000 gallons during any 12 month period.

c. Combined fuel usage for Boiler #1 and Boiler #2 shall not exceed 127,600 mmBtu per month. Combined fuel usage for the Cumene Hot Oil Heater shall not exceed 47,600 mmBtu per month.

d. The Permittee shall not keep, store, or use distillate fuel oil (Grades No. 1 and 2 fuels) in the affected fuel combustion units with a sulfur content greater than the larger of the following two values:

i. 0.28 weight percent, or

ii. The Wt percent given by the formula:

Maximum Wt percent sulfur = (0.000015) x (Gross heating value of oil, Btu/lb).

e. At all times, the Permittee shall, to the extent practicable, maintain and operate each affected fuel combustion unit, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions.

7.8.6 Emission Limitations

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

a. Pursuant to the NSPS, the emissions of SO_2 into the atmosphere in any one hour period from any affected fuel combustion unit shall not exceed 215 ng/J of actual heat input (0.5 lb/mmBtu) when distillate fuel oil is burned; as an alternative the Permittee shall not combust oil in any affected fuel combustion units that contains greater than 0.5 weight percent sulfur. Except as provided in Condition 7.8.7(c), compliance with this limit shall be determined on a 30-day rolling average basis. This limit applies at all times, including periods of startup, shutdown, and malfunction [40 CFR 60.42c(d), (g), and (i)].

b. Pursuant to the NSPS, the emission of gases into the atmosphere from any affected fuel combustion unit, except during periods of startup, malfunction and shutdown, shall not exhibit an opacity greater than 20 percent (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity [40 CFR 60.43c(c) and (d)].

c. Emissions from Boiler #1 and Boiler #2 shall not exceed the following limits:

Fuel	NO_x Emissions (Ton/Mo)	NO_x Emissions (Ton/Yr)	CO Emissions (Ton/Mo)	CO Emissions (Ton/Yr)
Natural and/or Refinery Gas	4.78	38.3	11.47	91.8
Distillate Oil	2.60	2.6	2.90	2.9
Combined Use		39.5		91.8

These limits are based on the maximum fuel usage as limited in Condition 7.8.5 and emission factors listed in Condition 7.8.12. These limits include any emergency use of distillate fuel oil.

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].

The above limitations contain revisions to previously issued Permit 91110056. 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 short term limits were revised from an hourly basis to a monthly basis [T1R].

d. Emissions from the Cumene Hot Oil Heater shall not exceed the following limits:

Fuel	NO_x Emissions (Ton/Mo)	NO_x Emissions (Ton/Yr)	CO Emissions (Ton/Mo)	CO Emissions (Ton/Yr)
Natural Gas	4.78	38.27	0.28	2.29
Distillate Oil	0.88	0.88	0.06	0.06
Refinery Gas	6.42	51.41	0.39	3.15
Propane	7.10	56.83	0.32	2.57
Combined Use		56.83		3.21

These limits are based on the maximum fuel usage as limited in Condition 7.8.5 and emission factors listed in Condition 7.8.12. These limits include any emergency use of distillate fuel oil.

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].

The above limitations contain revisions to previously issued Permit 91110056. 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 annual limits were revised since a portion of the construction in Permit 91110056 was never completed. The total NO_x emission limit increased from 26.80 tons per year to 56.83 tons per year, and the CO emission limit decreased from 5.40 tons per year to 3.21 tons per year. In addition, the short term limits were revised from an hourly basis to a monthly basis [T1R].

7.8.7 Testing Requirements

a. Where the Permittee seeks to demonstrate compliance with the SO_2 standards based on fuel supplier certification, the performance test shall consist of the certification from the fuel supplier as described under Condition 7.8.9(a)(iv) [40 CFR 60.44c(h)].

b. The Permittee of an affected fuel combustion unit subject to Condition 7.8.6(b) shall conduct performance tests as required by the Illinois EPA, to determine compliance with the standards using the following procedures and reference methods:

i. Method 9 (6-minute average of 24 observations) shall be used for determining the opacity of stack emissions [40 CFR 60.45c(a)(7)].

c. The Illinois EPA shall be allowed to sample all fuels stored at the source.

7.8.8 Monitoring Requirements

The monitoring requirements of 40 CFR 60.46c(a) and (d) shall not apply to affected fuel combustion units where the Permittee seeks to demonstrate compliance with the SO_2 standards based on fuel supplier certification, as described in Condition 7.8.9(a)(iv) [40 CFR 60.46c(e)].

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 fuel combustion units to demonstrate compliance with Conditions 5.5.1 and 7.8.3, pursuant to Section 39.5(7)(b) of the Act:

a. The following fuel usage information:

i. Total natural gas and refinery gas usage for affected fuel combustion units (ft^3/day) [40 CFR 60.48c(g)];

ii. Total distillate fuel oil and propane usage for affected fuel combustion units (gal/day) [40 CFR 60.48c(g)];

iii. The maximum sulfur content (in weight percent) for each shipment of distillate fuel oil used in the affected fuel combustion units;

iv. For affected fuel combustion units complying with Condition 7.8.7(a), fuel oil supplier certification, including

A. The name of the oil supplier [40 CFR 60.48c(f)(i)]; and

B. A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil found at 40 CFR 60.41c [40 CFR 60.48c(f)(ii)];

v. Maximum heat content for all fuels (Btu/ft^3 or Btu/gal).

b. The Permittee shall keep records of the following information for the quarterly reports:

i. Calendar dates in the reporting period [40 CFR 60.48c(e)(1)];

ii. Each 30-day average SO_2 emission rate (ng/J or lb/mmBtu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period in the quarter; reasons for any non-compliance with the emission standard; and a description of corrective actions taken [40 CFR 60.48c(e)(2)];

iii. Identification of any steam generating unit operating day for which SO_2 or diluent (oxygen or carbon dioxide) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and a description of corrective action taken [40 CFR 60.48c(e)(4)];

iv. Identification of any times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and a description of corrective actions taken if data have been excluded for periods other than those during which coal or oil were not combusted in the affected fuel combustion unit [40 CFR 60.48c(e)(5)];

v. Identification of the F factor used in calculations, method of determination, and type of fuel combusted [40 CFR 60.48c(e)(6)];

vi. If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under Condition 7.8.9(a)(iv) [40 CFR 60.48c(e)(11)].

c. Annual aggregate NO_x, PM, SO_2, and VOM emissions from each affected fuel combustion unit, based on fuel consumption and the applicable emission factors, with supporting calculations.

7.8.10 Reporting Requirements

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

a. Notification within 60 days of operation of an affected fuel combustion unit that may not have been in compliance with the opacity limitations in Condition 5.5.2(b) only or Conditions 5.5.2(b) and 7.8.6(b), with a copy of such record for each incident.

b. If there is an exceedance of sulfur content of distillate fuel oil in excess of the limit specified in Condition 7.8.5, the Permittee shall submit a report within 30 days after receipt of a noncompliant shipment of distillate fuel oil.

c. The Permittee shall submit to the Illinois EPA the performance test data from any performance tests using the applicable performance specifications in 40 CFR 60 Appendix B [40 CFR 60.48c(b)].

d. The Permittee shall submit quarterly reports to the Illinois EPA. Each quarterly report shall be postmarked by the 30th day following the end of the reporting period. The reports shall include the information in Condition 7.8.9(b). In addition to the fuel supplier certification required in Condition 7.8.9(b)(x), the quarterly reports shall include a certified statement signed by the Permittee that the records of fuel supplier certifications submitted represent all of the fuel consumed during the quarter [40 CFR 60.48c(d) and (e)].

e. Emissions of NO_x, PM, SO_2, or VOM from the affected fuel combustion units in excess of the limits specified in Condition 5.5.1 or Condition 7.8.6 based on the current month's records plus the preceding 11 months within 30 days of such an occurrence.

7.8.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.8.12 Compliance Procedures

a. Compliance with Condition 7.8.3(b) and (c) is assumed to be achieved by the work practices inherent in operation of each affected fuel combustion unit, thus no compliance procedures are set in this permit addressing this regulation.

b. Compliance with the emission limits of this permit shall be based on the recordkeeping requirements in

Condition 7.8.9 and the emission factors and formulas listed below:

i. Emissions from the affected fuel combustion units burning natural gas shall be calculated based on the most recent stack test emission factors or the following emission factors:

Pollutant	Emission Factor ($lb/10^6\ ft^3$)
PM	7.6
SO_2	0.6
VOM	5.5
NO_x (boiler)	50.0
CO (boiler)	120.0
NO_x (heater)	134.0
CO (heater)	8.0

Except for NO_x and CO, these are the emission factors for uncontrolled natural gas combustion in small boilers (< 100 mmBtu/hr), Table 1.4-2, AP-42, Volume I, Supplement D, March 1998. The NO_x and CO emission factors are based on manufacturer specifications.

Boiler Emissions (lb) = Natural Gas Consumed (ft^3) * the appropriate emission factor.

ii. Emissions from the affected fuel combustion units burning distillate fuel oil shall be calculated based on the most recent stack test emission factors or the following emission factors:

Pollutant	Emission Factor ($lb/10^3$ gal)
PM	3.3
SO_2	142*S
VOM	0.2
NO_x (boiler)	15.4
CO (boiler)	16.8
NO_x (heater)	43.1
CO (heater)	3.1

Except for NO_x and CO, these are the emission factors for uncontrolled fuel oil combustion in small (<100 mmBtu/hr) industrial boilers, Tables 1.3-1, 1.3-2, and 1.3-3, AP-42, Volume I, Supplement E, September 1998. “S” indicates that the weight % of sulfur in the oil should be multiplied by the value given. For example, if the fuel is 1% sulfur, then

S=1. The NO_x and CO emission factors are based on manufacturer specifications.

Boiler Emissions (lb) = Distillate Fuel Oil Consumed (gallons) * the appropriate emission factor.

iii. Emissions from the affected fuel combustion units burning refinery gas or propane shall be calculated based on the most recent stack test emission factors or the following emission factors:

Pollutant	Refinery Gas Emission Factor (Lb/mmBtu)	Propane Emission Factor (Lb/mmBtu)
PM	0.0076	0.0064
SO_2	0.0006	0.0002
VOM	0.0055	0.0052
NO_x (boiler)	0.06	-
CO (boiler)	0.12	-
NO_x (heater)	0.18	0.199
CO (heater)	0.011	0.009

These are the emission factors for refinery gas and propane combustion provided in the permit application, based on manufacturer specifications.

Boiler Emissions (lb) = Fuel Consumed (ft^3 or gallons) * Heat Content ($mmBtu/ft^3$ or mmBtu/gal) * the appropriate emission factor.

iv. Total emissions for each pollutant are to be determined by combining the results of Conditions 7.8.12(c)(i), (ii) and (iii) for all affected fuel combustion units.

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 March 23, 2000 (the date of issuance of the draft permit) unless this permit has been modified to reflect such new requirements.

8.2 Applicability of Title IV Requirements (Acid Deposition Control)

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

8.3 Emissions Trading Programs

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

8.4 Operational Flexibility/Anticipated Operating Scenarios

8.4.1 Changes Specifically Addressed by Permit

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

8.4.2 Changes Requiring Prior Notification

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

a. The changes do not violate applicable requirements;

b. The changes do not contravene federally enforceable permit terms or conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements;

c. The changes do not constitute a modification under Title I of the CAA;

d. Emissions will not exceed the emissions allowed under this permit following implementation of the physical or operational change; and

e. The Permittee provides written notice to the Illinois EPA, Division of Air Pollution Control, Permit Section, at least 7 days before commencement of the change. This notice shall:

i. Describe the physical or operational change;

ii. Identify the schedule for implementing the physical or operational change;

iii. Provide a statement of whether or not any New Source Performance Standard (NSPS) is applicable to the physical or operational change and the reason why the NSPS does or does not apply;

iv. Provide emission calculations which demonstrate that the physical or operational change will not result in a modification; and

v. Provide a certification that the physical or operational change will not result in emissions greater than authorized under the Conditions of this permit.

8.5 Testing Procedures

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

8.6 Reporting Requirements

8.6.1 Monitoring Reports

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

Monitoring Period	Report Due Date
April - September	November 19
October - March	May 19

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
9511 West Harrison
Des Plaines, Illinois 60016

iii. Illinois EPA - Air Permit Section

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

iv. USEPA Region 5 - Air Branch

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

b. Unless otherwise specified in the particular provision of this permit, reports shall be sent to the Illinois EPA - Air Compliance Section with a copy sent to the Illinois EPA - Air Regional Field Office.

8.7 Obligation to Comply with Title I Requirements

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

9.0 STANDARD PERMIT CONDITIONS

9.1 Effect of Permit

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

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

a. The provisions of Section 303 (emergency powers) of the CAA, including USEPA's authority under that Section;

b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;

c. The applicable requirements of the acid rain program consistent with Section 408(a) of the CAA; and

d. The ability of USEPA to obtain information from a source pursuant to Section 114 (inspections, monitoring, and entry) of the CAA.

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

9.2 General Obligations of Permittee

9.2.1 Duty to Comply

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

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

9.2.2 Duty to Maintain Equipment

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

9.2.3 Duty to Cease Operation

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

9.2.4 Disposal Operations

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

9.2.5 Duty to Pay Fees

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

9.3 Obligation to Allow Illinois EPA Surveillance

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

a. Enter upon the Permittee's premises where an actual or potential emission unit is located; where any regulated equipment, operation, or activity is located or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect during hours of operation any sources, equipment (including monitoring and air pollution control

equipment), practices, or operations regulated or required under this permit;

d. Sample or monitor any substances or parameters at any location:

i. At reasonable times, for the purposes of assuring permit compliance; or

ii. As otherwise authorized by the CAA, or the Act.

e. Obtain and remove samples of any discharge or emission of pollutants authorized by this permit; and

f. Enter and utilize any photographic, recording, testing, monitoring, or other equipment for the purposes of preserving, testing, monitoring, or recording any activity, discharge or emission at the source authorized by this permit.

9.4 Obligation to Comply With Other Requirements

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

9.5 Liability

9.5.1 Title

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

9.5.2 Liability of Permittee

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

9.5.3 Structural Stability

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

9.5.4 Illinois EPA Liability

This permit in no manner implies or suggests that the Illinois EPA (or its officers, agents or employees) assumes any liability, directly or indirectly, for any

loss due to damage, installation, maintenance, or operation of the source.

9.5.5 Property Rights

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

9.6 Recordkeeping

9.6.1 Control Equipment Maintenance Records

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

9.6.2 Records of Changes in Operation

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

9.6.3 Retention of Records

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

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

9.7 Annual Emissions Report

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

9.8 Requirements for Compliance Certification

Pursuant to Section 39.5(7)(p)(v) of the Act, the Permittee shall submit annual compliance certifications. The compliance

certifications shall be submitted no later than May 1 or more frequently as specified in the applicable requirements or by permit condition. The compliance certifications shall be submitted to the Air Compliance Section, Air Regional Field Office, and USEPA Region 5 – Air Branch. The addresses for the submittal of the compliance certifications are provided in Condition 8.6.4 of this permit.

a. The certification shall include the identification of each term or condition of this permit that is the basis of the certification; the compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source, both currently and over the reporting period consistent with the conditions of this permit.

b. All compliance certifications shall be submitted to USEPA Region 5 in Chicago as well as to the Illinois EPA.

c. All compliance reports required to be submitted shall include a certification in accordance with Condition 9.9.

9.9 Certification

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

9.10 Defense to Enforcement Actions

9.10.1 Need to Halt or Reduce Activity Not a Defense

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

9.10.2 Emergency Provision

a. An emergency shall be an affirmative defense to an action brought for noncompliance with the technology-based emission limitations under this permit if the following conditions are met through properly signed, contemporaneous operating logs, or other relevant evidence:

i. An emergency occurred as provided in Section 39.5(7)(k) of the Act and the Permittee can identify the cause(s) of the emergency.

Normally, an act of God such as lightning or flood is considered an emergency;

ii. The permitted source was at the time being properly operated;

iii. The Permittee submitted notice of the emergency to the Illinois EPA within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken; and

iv. During the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission limitations, standards, or regulations in this permit.

b. This provision is in addition to any emergency or upset provision contained in any applicable requirement. This provision does not relieve a Permittee of any reporting obligations under existing federal or state laws or regulations.

9.11 Permanent Shutdown

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

9.12 Reopening and Reissuing Permit for Cause

9.12.1 Permit Actions

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

9.12.2 Reopening and Revision

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

a. Additional requirements become applicable to the equipment covered by this permit and three or more years remain before expiration of this permit;

b. Additional requirements become applicable to an affected source for acid deposition under the acid rain program;

c. The Illinois EPA or USEPA determines that this permit contains a material mistake or inaccurate statement when establishing the emission standards or limitations, or other terms or conditions of this permit; and

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

9.12.3 Inaccurate Application

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

9.12.4 Duty to Provide Information

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

9.13 Severability Clause

The provisions of this permit are severable, and should any one or more be determined to be illegal or unenforceable, the validity of the other provisions shall not be affected. The rights and obligations of the Permittee shall be construed and enforced as if this permit did not contain the particular provisions held to be invalid and the applicable requirements

underlying these provisions shall remain in force [Section 39.5(7)(i) of the Act].

9.14 Permit Expiration and Renewal

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

10.0 ATTACHMENTS

10.1 Attachment 1 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: _____

JS:psj

10.2 Attachment 2 Permit Condition/Federal Rule Reference

CAAPP Permit Condition	40 CFR Citation
5.2.7	Part 60, Subpart V V
5.2.8	Part 63, Subpart H
5.4.1	Part 60, Subpart V V
5.4.2	Part 63, Subpart H
5.5.2	40 CFR 63.112
5.6.3	Part 60, Subpart V V
5.6.4	Part 63, Subpart H
5.7.4(a) and (b)	Part 60, Subpart V V
5.7.4(c)	Part 63, Subpart H
7.1.3(d)	Part 63, Subpart F
7.1.3(e)	Part 63, Subpart G
7.1.3(f)	Part 63, Subpart H
7.1.5(a)	63.112(c)
7.1.5(b)	63.112(e)
7.1.5(c)	63.112(h)
7.1.5(d)	63.113(a)
7.1.5(e)	63.11(b)
7.1.7(a)	63.116(a)
7.1.7(b)	63.116(c)
7.1.8(a)	63.114(a)
7.1.8(b)	63.11(b)
7.1.9(b)	63.117(a)
7.1.9(c)	63.118(a)
7.1.10(b)	63.118(f)
7.2.3(d)	Part 63, Subpart F
7.2.3(e)	Part 63, Subpart G
7.2.3(f)	Part 63, Subpart H
7.2.5(a)	63.112(c)
7.2.5(b)	63.112(e)
7.2.5(c)	63.112(h)
7.2.5(d)	63.113(a)
7.2.7(a)	63.116(c)
7.2.8(a)	63.114(a)
7.2.8(b)	63.114(d)
7.2.9(b)	63.117(a)
7.2.9(c)	63.118(a)
7.2.10(b)	63.118(f)
7.3.3(b)	Part 63, Subpart F
7.3.3(c)	Part 63, Subpart G
7.3.5(a)	63.119(a)
7.3.5(b)	63.119(b)
7.3.5(c)	63.121(a)
7.3.5(d)	63.121(b)
7.3.8(a)	63.120(a)
7.3.9(a)	63.123(a)
7.3.9(b)	63.123(c)
7.3.9(c)	63.123(g)
7.3.10(a)	63.120(a)(5)
7.3.10(b)	63.120(a)(6)

CAAPP Permit Condition	40 CFR Citation
7.3.10(c)	63.122(a)
7.3.10(d)	63.122(d)
7.3.10(e)	63.122(h)
7.4.3(b)	Part 63, Subpart F
7.4.3(c)	Part 63, Subpart G
7.4.5(a)	63.119(a)
7.4.7	Part 63, Subpart G
7.4.9	63.123(a)
7.4.10(a)	Part 63, Subpart G
7.5.3(b)	Part 63, Subpart F
7.5.3(c)	Part 63, Subpart G
7.5.5(a)	63.119(a)
7.5.7	Part 63, Subpart G
7.5.9	63.123(a)
7.5.10(a)	Part 63, Subpart G
7.6.3(c)	Part 63, Subpart F
7.6.3(d)	Part 63, Subpart G
7.6.7	Part 63, Subpart G
7.6.9(a)	63.130(f)
7.6.10(d)	Part 63, Subpart G
7.7.3(c)	Part 63, Subpart F
7.7.3(d)	Part 63, Subpart G
7.7.7	Part 63, Subpart G
7.7.9	63.147(f)
7.7.10(a)	63.146(a), (b)
7.8.3(d)	Part 60, Subpart D
7.8.6(a)	60.42c(d), (g), (i)
7.8.6(b)	60.43c(c), (d)
7.8.7(a)	60.44c(a)
7.8.7(b)	60.44c(g)
7.8.7(c)	60.44c(h)
7.8.7(d)	60.45c(a)
7.8.8(a)	60.46c(a)
7.8.8(b)	60.46c(d)
7.8.8(c)	60.46c(e)
7.8.9(a)	60.48c(g)
7.8.9(b)	60.48c(e)
7.8.10(c)	60.48c(b)
7.8.10(d)	60.48c(d), (e)