



AIR QUALITY PROGRAM
836 Fulton Street
Pittsburgh, PA 15233-2124

Title V Operating Permit
& Federally Enforceable State Operating Permit

Issued To: Synthomer Jefferson Hills LLC **ACHD Permit #:** 0058-OP24

Facility: Synthomer Jefferson Hills LLC **Date of Issuance:** September 17, 2024
2200 State Highway 837

P.O.Box 545 **Expiration Date:** September 17, 2029
West Elizabeth, PA 15088

Renewal Date: April 17, 2029

Issued By: _____
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Air Quality Engineer

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TABLE OF CONTENTS

I.	CONTACT INFORMATION.....	5
II.	FACILITY DESCRIPTION	6
III.	GENERAL CONDITIONS – MAJOR SOURCE	27
IV.	SITE LEVEL TERMS AND CONDITIONS.....	38
V.	EMISSION UNIT LEVEL TERMS AND CONDITIONS.....	47
	A. C5 UNIT – ALCl₃ HANDLING OPERATION.....	47
	B. C5 UNIT – POLYMERIZATION PROCESS	50
	C. C5 UNIT – PASTILLATION PROCESS	56
	D. C5 UNIT – STORAGE TANKS.....	59
	E. MP POLY (MULTI-PURPOSE POLYMERIZATION) UNIT - PROCESS	65
	F. MP POLY UNIT - STORAGE TANKS.....	71
	G. WW POLY (WATER WHITE POLYMERIZATION) UNIT - PROCESS.....	74
	H. WW POLY - STORAGE TANKS	80
	I. HYDROGENATION (HYDRO) UNIT - PROCESS.....	85
	J. HYDROGENATION (HYDRO) UNIT - STORAGE TANKS.....	90
	K. LTC OPERATIONS - PROCESS.....	95
	L. DRESINATE UNIT	102
	M. PILOT PLANT	105
	N. WASTEWATER TREATMENT PLANT	107
VI.	MISCELLANEOUS	110
	A. COOLING TOWERS (C5 UNIT, MP POLY, WW POLY, HYDRO UNIT, LTC UNIT, PILOT PLANT).....	110
	B. BOILERS BU-1, BU-2, BU-3, AND BU-4.....	111
	C. BOILER #5 (TRANE BOILER)	114
	D. EMERGENCY GENERATOR	116
	E. #2 LTC AND #4 LTC HEATERS AND C-5 HOT OIL FURNACE	119
	F. SOURCES OF MINOR SIGNIFICANCE	121
	G. LEAK DETECTION AND REPAIR (LDAR).....	125

VII. 40 CFR 63 SUBPART FFFF - NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS: MISCELLANEOUS ORGANIC CHEMICAL MANUFACTURING (MON).....128

A. REQUIREMENTS APPLICABLE TO SPECIFIC EQUIPMENT..... 128

VIII. ALTERNATIVE OPERATING SCENARIOS143

IX. EMISSIONS LIMITATIONS SUMMARY144

AMENDMENTS:

DATE SECTION(S)

I. CONTACT INFORMATION

Facility Location: **Synthomer Jefferson Hills LLC**
2200 State Route 837
Jefferson Hills, PA 15025

Permittee/Owner: **Synthomer Jefferson Hills LLC**
25435 Harvard Road
Beachwood, OH 44122

Permittee/Operator: **same as owner**
(if not Owner)

Responsible Official: **Marshall Holmes**
Title: Site Manager
Company: Synthomer Jefferson Hills LLC
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West Elizabeth, PA 15088-0545
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Fax Number: (412) 384-7311

Facility Contact: **Alexander Quinn**
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AGENCY ADDRESSES:

ACHD Engineer: **Permitting Engineer**
Title: Air Quality Engineer
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ACHD Contact: **Program Manager, Engineering**
Allegheny County Health Department
Air Quality Program
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Pittsburgh, PA 15233-2124
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EPA Contact: **ECAD – Air Section**
Environmental Protection Agency
Four Penn Center
1600 John F. Kennedy Boulevard
Mail Code 3ED21
Philadelphia, PA 19103-2029

II. FACILITY DESCRIPTION

Synthomer Jefferson Hills LLC (Synthomer) located in Allegheny County, Pennsylvania, produces hydrocarbon resins and dispersions used primarily in hot melt adhesives, rubber and plastic compounding, coatings, sealants, and plastic modification. The resins are produced from C5 feedstock, monomers, solvents, and catalysts by way of cationic polymerization. Resins produced include aliphatic, aliphatic/aromatic, aromatic and liquids resins. Eastman Chemical Resins, Inc. acquired the Jefferson Site from Hercules, Inc. in 2001 and Synthomer acquired this facility from Eastman on April 1, 2022.

The facility presently consists of the following emission units:

Three (3) polymerization processes (C-5 Unit, MP Poly Unit, and WW Poly Unit); Hydrogenation Unit; Four (4) finishing processes (LTC Units and C5 Unit); Dresinate Unit; Emulsion Unit; Pilot Plant; Wastewater Treatment plant; Storage Tanks; Five (5) Boilers; one (1) Emergency Generator; and Miscellaneous Sources (Equipment leaks, Cooling Towers, Roadways, Degreasers).

The facility is a major source of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs) and a minor source of particulate matter (PM), particulate matter less than 10 µm in diameter (PM₁₀), particulate matter less than 2.5 µm in diameter (PM_{2.5}), oxides of nitrogen (NO_x), oxides of sulfur (SO_x), and carbon monoxide (CO) as defined in Article XXI, §2101.20. The facility is also a minor source of greenhouse gas emissions (CO_{2e}) as defined in the U.S. EPA Greenhouse Gas Tailoring Rule.

The emission units regulated by this permit are summarized in Table II-1:

TABLE II-1: Emission Unit Identification

I.D.	Source Description	Control Device(s)	Maximum Capacity	Fuel/Raw Material	Stack I.D.
C-5 Unit - AlCl₃ Handling Operation					
T-210-1	AlCl ₃ Silo	Baghouses (S-210-3), Scrubber(S-210-28)	140 MM lbs resin/year	Aluminum chloride (AlCl ₃)	S042
S-210-11	AlCl ₃ Receiver	Baghouses(S-210-11), Scrubber (S-210-28)			
H-210-14	AlCl ₃ Charging Chamber	Scrubber (S-210-28)			
C-5 Unit – Polymerization Operation					
R-302-1	Reactor	Thermal oxidizer (B-411-2)	140 MM lbs/yr	AlCl ₃ , Isobutylene, Styrene, Alpha Methyl Styrene (AMS), Piperylene concentrate, Surfactants, Inhibitors	S044
A-301-1	Calcium dryer				
R-303-1	Soaker				
T-409-1	Filtrate receiver				
T-406-2	Filter condensate decanter				
T-502-4	Depentanizer overhead receiver				
T-412-1	Wash solvent receiver				
T-412-1	ANNEX wash solvent receiver				
T-404-11	Precoat knockout pot				
T-403-1	Solvent flush tank				
T-800-1	Reclaim tank				

I.D.	Source Description	Control Device(s)	Maximum Capacity	Fuel/Raw Material	Stack I.D.
T-506-3	Inhibitor feed tank				
T-506-1	Inhibitor make-up tank				
T-609-1	Steam jet seal pot				
S-3630-1	C5 API Separator	Thermal oxidizer (B-411-2), Carbon bed (backup) (A3631-1A/1B)			S044/S044A
T-501	500 Battery tanks: Tank 501	Thermal oxidizer (B-411-2), Carbon bed (backup) (A3631-1A/1B)	60,914 gal	Polymerizate	S044/S044A
T-502	500 Battery tanks: Tank 502	Thermal oxidizer (B-411-2), Carbon bed (backup) (A3631-1A/1B)	60,914 gal	Polymerizate	S044/S044A
T-503	500 Battery tanks: Tank 503	Thermal oxidizer (B-411-2), Carbon bed (backup) (A3631-1A/1B)	51,184 gal	API Oil, Polymerizate, Toluene	S044/S044A
T-505	500 Battery tanks: Tank 505	Thermal oxidizer (B-411-2), Carbon bed (backup) (A3631-1A/1B)	8,484 gal	API Oil	S044/S044A
T-506	500 Battery tanks: Tank 506	Thermal oxidizer (B-411-2), Carbon bed (backup) (A3631-1A/1B)	8,484 gal	API Oil	S044/S044A
NA	Resin Kettle #8	None	140 MM lbs/yr	Resin, polymerizate, white oil, filtration media	S052
NA	Resin Kettle #9	None			S053
NA	Resin Kettle #10	None			S054
S-5191A/1B	Sparkler filter	Condensers (E-519-6, E-519-7)			S312
T-519-2	Sparkler precoat	None			NA
NA	Reclaim dump station	Baghouse			S051
NA	Inhibitor dump station	Baghouse			S048
NA	Precoat tank dump station	Baghouse			S310
NA	Resin product loading	Drumming controlled by UHF Filter & Filter demister (S-751-1)			S055 for drumming
J-1000-5	Cooling tower	Drift eliminator			1,700 gpm
J-1200-1	Cooling tower	Drift eliminator	1,870 gpm	Municipal make-up water	NA
T-50	Raw material tank 50	Internal floating roof	528,765 gal	J-RAF	S216

I.D.	Source Description	Control Device(s)	Maximum Capacity	Fuel/Raw Material	Stack I.D.
T-52	Raw material tank 52	Internal floating roof	528,765 gal	Piperylene Concentrate	S218
T-53	Raw material tank 53	Internal floating roof	734,000 gal	Piperylene Concentrate	S219
T-54	Raw material tank 54	Internal floating roof	1,469,451 gal	Piperylene Concentrate	S060
T-55	Raw material tank 55	Internal floating roof	579,586 gal	Piperylene Concentrate	S061
T-500	Raw material tank 500	Internal floating roof	112,251 gal	Toluene	S058
T-511	Raw material tank 511	None	15,228 gal	White oil	S274
T-121	Storage tank	None	19,432 gal	Resin	S064
T-123	Storage tank	None	20,080 gal	Resin	S066
T-124	Storage tank	None	24,864 gal	Resin	S097
T-161	Storage tank	None	158,630 gal	Resin	S238
T-365 ⁽¹⁾	Storage tank	None	20,728 gal	Resin	S266
T-366	Storage tank	None	20,132 gal	Resin	S267
T-367	Storage tank	None	20,132 gal	Resin	S268
T-504	Storage tank	None	62,817 gal	Resin	S059
T-601	Storage tank	None	108,291 gal	Resin	S269
T-602	Storage tank	None	108,291 gal	Resin	S270
C-5 Unit – Pastillation Operation					
Past. Belt #1 & #2	Pastillating Belt #1 and #2	UHF filter & Fume filter demister (S-751-1)	11,000 lb/hr pastillated resin/belt	Resin	S055
J-1000-1	Cooling tower	Drift eliminator	4,300 gpm	Municipal make-up water	NA
J-4020-1	Cooling tower	Drift eliminator	686 gpm	Municipal make-up water	NA
Pastillator Solid Handling	Belt conveyors	Baghouse (S-726-1)	11,000 lb/hr pastillated resin/belt or 140 MM lbs resin/yr	Resin	S163
	Product Bins				
	Bag Filling Stations				
	Supersack Filling Station				
MP Poly Unit					
R-400-1	Reactor	Condenser (E-400-6), BF ₃ scrubber (S-801-1)			S029

I.D.	Source Description	Control Device(s)	Maximum Capacity	Fuel/Raw Material	Stack I.D.
A-101, T-104-1, T-800-1, T-104-3	Mole sieve dryers, Mole sieve drain tank, Precoat tanks, Contaminated dryer solvent tank	None	103,000,000 lbs/year	Styrenes, HVD solvent, RHS solvent	S033
T-500-1, T-701-1, T-700-1, T-703-1, S-601-1, S-602-1	Neutralizers, Filtrate receiver, Solvent wash tank, Heel tank, Funda filter West, Funda filter East	3 Condensers (E-500-5, E-701-5, E-701-4)			S034
T-203-1, A-103-1	Preblend tank, Calcium chloride dryer	Condenser (E-203-4)			S035
T-301-1	Lime storage silo	Baghouse (S-301-2)			S030
S-303-1	Lime filter receiver	Baghouse (S-303-1)			S031
H-800-3	Precoat tank bag dump station	Baghouse (H-800-3)			F010
J-1001-1	Cooling tower	None			2,500 gpm
T-301, T-302, T-303	Storage tanks	None	75,202 gal each	Polymerizate	S039, S040, S041
WW Poly Unit					
R-600-1	North Reactor	Condensers (E-600-6, E-600-9); BF ₃ Scrubber (S-401-1)	80,000,000 lbs/yr	Styrenes, HVD solvent, RHS solvent	S017
R-601-1	South Reactor	Condensers (E-601-6, E-600-11); BF ₃ Scrubber (S-401-1)			
A-100	Feed dryers	Condensers (E-200-6, E-200-7)			S013
A-100	Feed dryer (regeneration)	None			S013a
T-301-1	West preblend tank	Condenser (E-301-4)			S014
T-300-1	North preblend tank	Condenser (E-300-4)			S015
T-500-1	Slurry tank	None			S016
T-700-1	Neutralizer	Condensers (E-700-4, E-700-6)			S018
S-800-1	Funda filter,	Condenser (E-800-3)			S019
T-800-6	Funda condensate tank	Carbon adsorber (A-800-8)			S019a
T-900-1 S-800-1	Filtrate receiver, Funda filter	Condenser (E-900-7)	S020		

I.D.	Source Description	Control Device(s)	Maximum Capacity	Fuel/Raw Material	Stack I.D.
T-1001-1	Reclaim pot	Condenser (E-1001-7) Baghouse (S-1003-1)			S022 S022a
T-700-1 T-701-1	North neutralizer and South neutralizer: local exhaust	None			S050
H-500-4	Slurry bag dump station	Baghouse (H-500-4)			S294
J-4060-1	Cooling tower	None	1,000 gpm	Municipal make-up water	S316
T-68, T-69, T-74	Storage tanks	Condenser (E-201-1)	75,202 gal each	Polymerizate, RHS, HVD	S024
T-73, T-75, T-76, T-77	Storage tanks	Condenser (E-202-1)	75,202 gal each	Polymerizate, RHS, HVD	S025
T-67	Storage tank	Condenser (E-67-3)	75,200 gal	Polymerizate, RHS, HVD	S026
T-66	Storage tank	None	75,200 gal	HVD	S228
T-204	Storage tank	Condenser (E-204-4), Carbon adsorber (A- 204-5A or 5B)	41,878 gal	Polymerizate, RHS, HVD	S300
T-205	Storage tank	Condenser (E-205-4), Carbon adsorber (A- 204-5A or 5B)	25,381 gal	Polymerizate, RHS, HVD	S300
T-206	Storage tank	Condenser (E-206-4), Carbon adsorber (A- 204-5A or 5B)	25,381 gal	Polymerizate, RHS, HVD	S300
T-207	Storage tank	Condenser (E-207-4), Carbon adsorber (A- 204-5A or 5B)	25,381 gal	Polymerizate, RHS, HVD	S300
T-200	Storage tank	None	25,381 gal	Polymerizate, RHS, HVD	S239
T-201	Storage tank	None	25,381 gal	Polymerizate, RHS, HVD	S240
T-202	Storage tank	None	25,381 gal	Polymerizate, RHS, HVD	S241
T-10	Storage tank	None	110,159 gal	Polymerizate, RHS, HVD	S195
T-22	Storage tank	None	15,863 gal	Paramethyl styrene	S206
T-23	Storage tank	None	15,863 gal	Vinyl toluene	S207
T-24	Storage tank	None	15,863 gal	Paramethyl styrene	S208
T-25	Storage tank	None	15,863 gal	Vinyl toluene	S209
T-26	Storage tank	None	16,257 gal	Polymerizate, RHS	S210

I.D.	Source Description	Control Device(s)	Maximum Capacity	Fuel/Raw Material	Stack I.D.
T-28	Storage tank	None	16,257 gal	Polymerizate, RHS	S212
T-29	Storage tank	None	16,257 gal	Polymerizate, RHS	S213
T-34	Storage tank	None	169,000 gal	Polymerizate, RHS, HVD	S074
T-71	Storage tank	None	75,200 gal	Alpha methyl styrene	S230
T-72	Storage tank	None	75,200 gal	Styrene	S231
Hydrogenation (Hydro) Unit					
T-502-1	Solvent tank (tank 103)	Condensers (E-200-6, E-201-2)	22,500,000 lbs/yr	Poly oil, catalyst, hydrogen	S004
T-501-1	Unfiltered product tank (tank 104)				
T-200-1	Metering tank				
T-603-3	Catalyst Catch tank				
S-603-1	Mott Filter				
T-603-5	Heel tank				
H-203-2	Catalyst unloading system	Baghouse (S-203-5)		Catalyst	S005
R-301-1	Autoclave #1	Condensers (E-401-2, E-402-2, E-403-2)	1,000 gal	Poly oil, catalyst	S007
R-302-1	Autoclave #2		1,000 gal		
T-303-1	Vent tank				
T-100	Storage tank	Condenser (E-101-4)	6,000 gal	Polymerizate, RHS, HVD	S001
T-101	Storage tank		6,000 gal		
T-102	Storage tank	Condensers (E-104-1, E-104-2)	6,000 gal	Solvents	S012
T-105	Storage tank		6,000 gal		
T-106	Storage tank		6,000 gal		
J-4005-1	Cooling tower	None	400gpm	Municipal make-up water	NA
LTC Units					
T-301-1	Reclaim Solution Tank	Condenser E-301-4	67,240,000 lbs/yr	Intermediate Polymerizate, Blending Solvents	S108
NA	#1 Vacuum System	Condenser E-301B-E3			S109
NA	#2 Vacuum System	Condenser E-607-2			S110
NA	#4 Vacuum System	Condenser E-106-3			S124
RK#5	Resin Kettle #5	Condenser E-RK5-4			S111

I.D.	Source Description	Control Device(s)	Maximum Capacity	Fuel/Raw Material	Stack I.D.
RK#6	Resin Kettle #6	Condenser E-RK6-5			S112
RK#7	Resin Kettle #7	Condenser E-RK7-4			S113
NA	#1 and #2 Pastillator Belts	Scrubber S-127-3			S114
NA	Berndorf Belt	Scrubber S-105-1			S165
T-610-1	#1/#2 oil/water separator	Carbon Bed A-610-3A/3B			S110A
S-105-1	#4 oil/water separator	Carbon Bed A-108-5A/5B			S125
NA	#1 Pastillator baghouse	Baghouse S-108			S115
NA	#2 Pastillator baghouse	Baghouse S-640-1			S116
NA	Berndorf belt baghouse	Baghouse S-104-1			S084
NA	Drumming operation	None			1,250,000 gal/yr
NA	Truck loading	None	2,500,000 gal/yr	NA	
J-101-1	Cooling tower #1	None	375 gpm	Municipal make-up water	NA
J-645	Cooling tower #2	None	1,200 gpm	Municipal make-up water	NA
J-4030-1	Cooling tower #4	None	2,800 gpm	Municipal make-up water	NA
Dresinate Unit					
R-1-A	Crude Tall Oil Storage Tank	None	67,631 gal	Crude tall oil	S187
T-782	Tall Oil Rosin Storage Tank	None	10,000 gal	Tall oil rosin	S290
T-783 ⁽¹⁾	Tall Oil Rosin Storage Tank	None	11,400 gal	Tall oil rosin	S160
T-80 ⁽¹⁾	Dresinate TX Rosin Soap Percussor Storage Tank	None	24,881 gal	Dresinate TX Rosin Soap Percussor	S091
L-500-1	Double Drum Dryer	None	500 lbs/hr wet product	Wet product	S085
H-503-1	Auger Conveyor	Baghouse & Conveyor enclosure	300 lbs/hr dry product	Dry product	S086
L-501-1	Grinder	Baghouse			
NA	Bagging	Baghouse			
Emulsion Unit					
T-301-1	Emulsion Kettle #1	None	1,000 gal	Resin Blends	S291
T-302-1	Emulsion Kettle #2	None	1,000 gal	Resin Blends	S292
T-403-1	Storage vessel	None	2,200 gal	Water	None

I.D.	Source Description	Control Device(s)	Maximum Capacity	Fuel/Raw Material	Stack I.D.
T-403-3	Storage vessel	None	2,200 gal	Water	None
M-500-1, M-500-2	Mixing unit	None	NA	Emulsion product	None
T-783 ⁽¹⁾	Tall Oil Rosin Storage Tank	None	11,400 gal	Tall oil rosin	S160
T-200-1	Storage tank	None	1,000 gal	Water condensate	S284
T-201-1	Storage tank	None	1,000 gal	Water condensate	S284
T-766	Storage tank	None	800 gal	Surfactant	S288
T-782	Storage tank	None	7,000 gal	Resin/Rosin	S290
T-761	Storage tank	None	10,000 gal	Heavy distillate	S283
T-773	Storage tank	None	2,500 gal	Crude tall oil	S289
T-402-3	Storage tank	None	17 gal	29% ammonium hydroxide	S161
T-411-1	Storage tank	None	500 gal	Surfactant	NA
T-408-1	Storage tank	None	500 gal	Surfactant	NA
T-407-1	Storage tank	None	500 gal	Surfactant	NA
T-405-1	Storage tank	None	500 gal	Surfactant	NA
T-406-1	Storage tank	None	500 gal	Surfactant	NA
T-412-1	Storage tank	None	500 gal	Surfactant	NA
T-401-1	Storage tank	None	80 gal	45% potassium hydroxide	None
T-R-1-A	Storage tank	None	17,600 gal	Crude tall oil	S187
T-775	Storage tank	None	8,768 gal	Emulsion waste	S287
T-605-1	Blend tank #5	None	20,000 gal	Bulk dispersion	S401
T-606-1	Blend tank #6	None	20,000 gal	Bulk dispersion	S400
T-504-1	Blend tank #4	None	5,000 gal	Bulk dispersion	S162
T-503-1	Blend tank #3	None	5,000 gal	Bulk dispersion	
T-502-1	Blend tank #2	None	6,000 gal	Bulk dispersion	
T-501-1	Blend tank #1	None	6,000 gal	Bulk dispersion	
Pilot Plant					
NA	Reactor – 50 gal	Carbon bed	Various	Hydrocarbon resin	S155
NA	Neutralizer				

I.D.	Source Description	Control Device(s)	Maximum Capacity	Fuel/Raw Material	Stack I.D.
NA	Funda filter				
J-125-1/J-400-1	Cooling Tower	None	400 gpm	Municipal make-up water	NA
Wastewater Treatment Plant					
701A	Wastewater tank	Condenser E-701-3, Carbon adsorber A-701-5A/5B	50,000 gal	Facility wastewater	S147
701B	Wastewater tank		50,000 gal		
T-713-1	Raw sump	Condenser E-713-2, Carbon adsorber A-701-5A/5B			
S-302-1	Air floatation tank		50,000 gal		
T-717-1	Oil sump				
T-714-1	Acid sump				
T-715-1	Final sump				
T-702-A	Pretreated water tank	None	50,000 gal	Facility wastewater	F033
T-702-B	Pretreated water tank	None	50,000 gal	Facility wastewater	F034
T-702-C	Pretreated water tank	None	50,000 gal	Facility wastewater	F035
T-411-1	Biotreatment aeration tank, including digester	None	47,304,000 gal/yr	Facility wastewater	F027
NA	Biotreatment clarifier	None	47,304,000 gal/yr	Facility wastewater	F028
T-724-1	Sludge batch tank	None	47,304,000 gal/yr	Facility wastewater	F036
S-410-1	Filter press (sludge solids handling)	None	47,304,000 gal/yr	Facility wastewater	F037
Storage Tanks (Minor significance)					
T-35	Storage tank	None	169,000 gal	Various solvent or stormwater	S075
T-78	Storage tank	None	169,000 gal	Recovered oil	S232
T-4	Storage tank	None	88,128 gal	Coproduct fuel (JSOL3)	S190
T-151	Storage tank	None	1,504,044 gal	Coproduct fuel (JSOL3)	S236
T-2	Storage tank	None	169,205 gal	Stormwater	S189
T-9	Storage tank	None	110,159 gal	C5 Ammonia water	S194
T-12	Storage tank	None	110,159 gal	Stormwater	S197
T-13	Storage tank	None	110,159 gal	Stormwater	S198
T-14	Storage tank	None	110,159 gal	C5 Ammonia water	S199

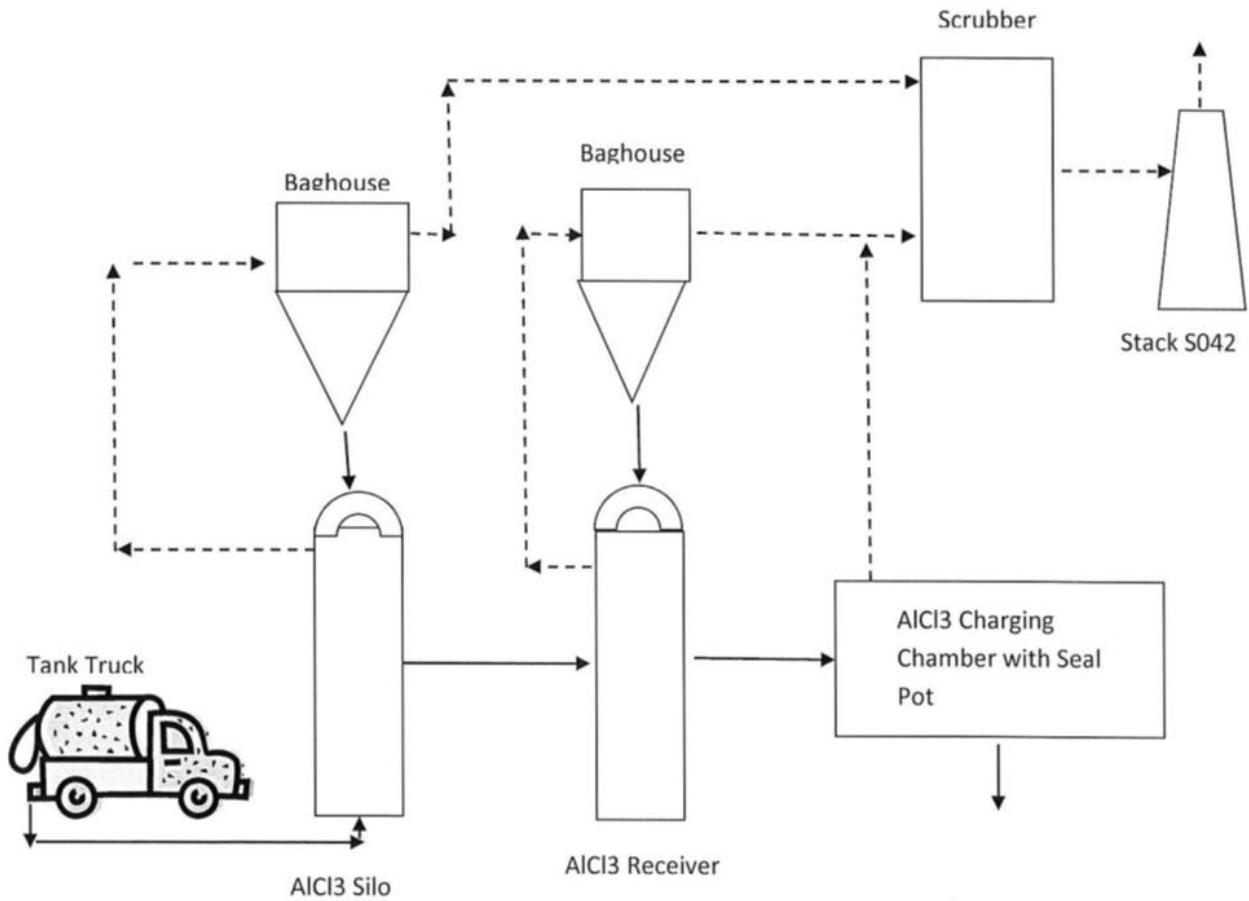
I.D.	Source Description	Control Device(s)	Maximum Capacity	Fuel/Raw Material	Stack I.D.
T-15	Storage tank	None	110,159 gal	C5 Ammonia water	S200
T-16	Storage tank	None	110,159 gal	C5 Ammonia water	S201
T-27	Storage tank	None	16,257 gal	Hazardous Waste	S211
T-150	Storage tank	None	1,504,044 gal	C5 Ammonia water/PMR water	S235
T-160	Storage tank	None	158,630 gal	Stormwater	-
T-208	Storage tank	None	25,381 gal	Hazardous waste (mix of. RHS/HVD)	S244
T-250	Storage tank	None	30,457 gal	Deluge water	S246
T-251	Storage tank	None	30,457 gal	Deluge water	S247
T-252	Storage tank	None	30,457 gal	Styrene or AMS	S248
T-254	Storage tank	None	15,275 gal	C5 API Discharge water (reserved for storm weather conditions)	S249
T-257	Storage tank	None	15,275 gal	C5 API Discharge water (reserved for storm weather conditions)	S252
T-261	Storage tank	None	20,728 gal	C5 Ammonia water	S256
T-262	Storage tank	None	20,080 gal	C5 Ammonia water	S038
T-263	Storage tank	None	20,080 gal	C5 API Discharge water	S257
T-264	Storage tank	None	20,080 gal	C5 API Discharge water	S258
T-265	Storage tank	None	20,080 gal	Hazardous Waste	S259
T-408	Storage tank	None	9,776 gal	Anhydrous ammonia	NA
T-510	Storage tank	None	100,000 gal	Isobutylene	NA
T-513	Storage tank	None	3,714 gal	40/60 Ethylene Glycol/Water	S275
T-514	Storage tank	None	3,714 gal	40/60 Ethylene Glycol/Water	S276
T-762	Storage tank	None		Steam condensate	S284
T-763	Storage tank	None		Steam condensate	S285
T-2004-1 (T-278)	Storage tank	None		40/60 Ethylene Glycol/Water	S260
T-7065-1	Storage tank	None		40/60 Ethylene Glycol/Water	

I.D.	Source Description	Control Device(s)	Maximum Capacity	Fuel/Raw Material	Stack I.D.
T-703-3	Storage tank	None		40/60 Ethylene Glycol/Water	
T-105-2	Storage tank	None		40/60 Ethylene Glycol/Water	
T-801-4	Storage tank	None		8% Soda ash in water	
T-401-1	Storage tank	None		8% Soda ash in water	
Combustion Units					
BU-1	Unilux water-tube boiler #1, Model ZF 1800HS	Ultra-Low NOx Burner	18.6 MMBtu/hr	Natural gas	S141
BU-2	Unilux water-tube boiler #2, Model ZF 1800HS	Ultra-Low NOx Burner	18.6 MMBtu/hr	Natural gas	S141
BU-3	Unilux water-tube boiler #3, Model ZF 1800HS	Ultra-Low NOx Burner	18.6 MMBtu/hr	Natural gas	S143
BU-4	Unilux water-tube boiler #4, Model ZF 1800HS	Ultra-Low NOx Burner	18.6 MMBtu/hr	Natural gas	S143
B-5	Trane/Murray boiler #5, Model MCF2-38	None	38 MMBtu/hr	Natural gas	S144
B-3000	C5 Hot oil furnace	None	10.33 MMBtu/hr	Natural gas	S056
B-620-1	#2 LTC heater	None	8.8 MMBtu/hr	Natural gas	S107
B-9020-1	#4 LTC heater	None	10.0 MMBtu/hr	Natural gas	S119
NA	Boiler house emergency generator	None	250 kW	Diesel fuel	F100
E-9000-1	Electric heater (Emulsion Unit)	None	-	Hot oil	NA
Miscellaneous Sources					
NA	Equipment Leaks	None	NA	NA	NA
NA	Roadways	None	NA	NA	NA
NA	Barges	None	NA	NA	NA
NA	Degreasers	None	NA	NA	NA

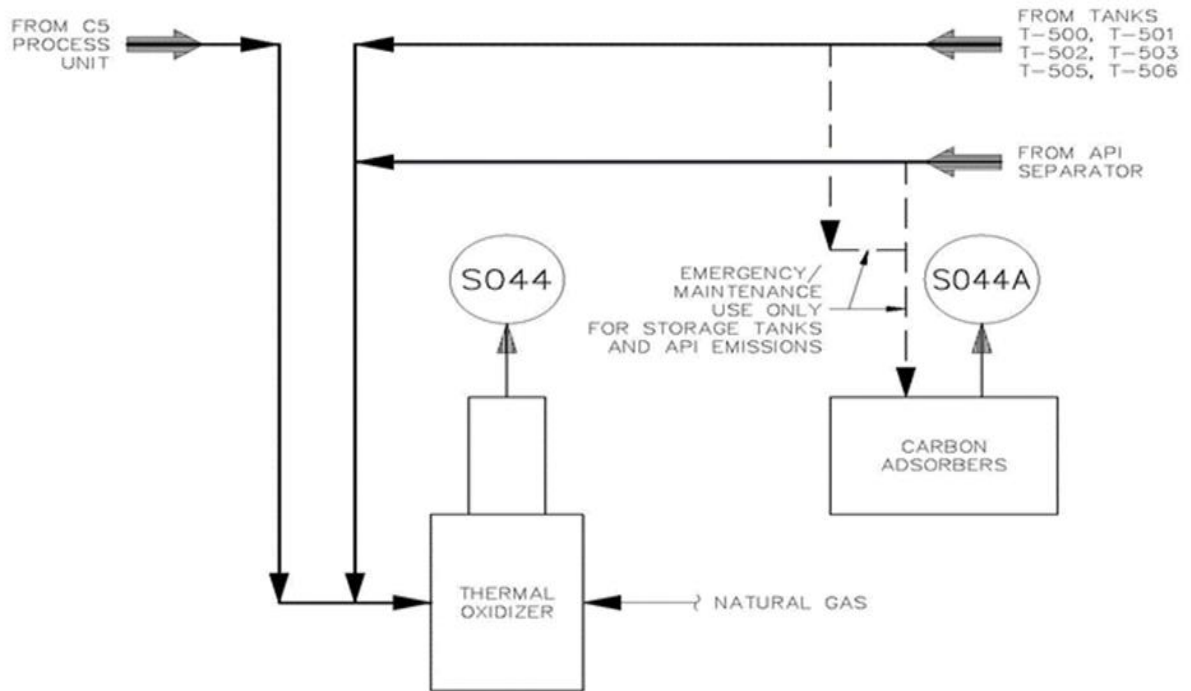
⁽¹⁾ Tank not included in any installation permit.

PROCESS FLOW DIAGRAMS

C5 Unit – AlCl₃ Handling Operation

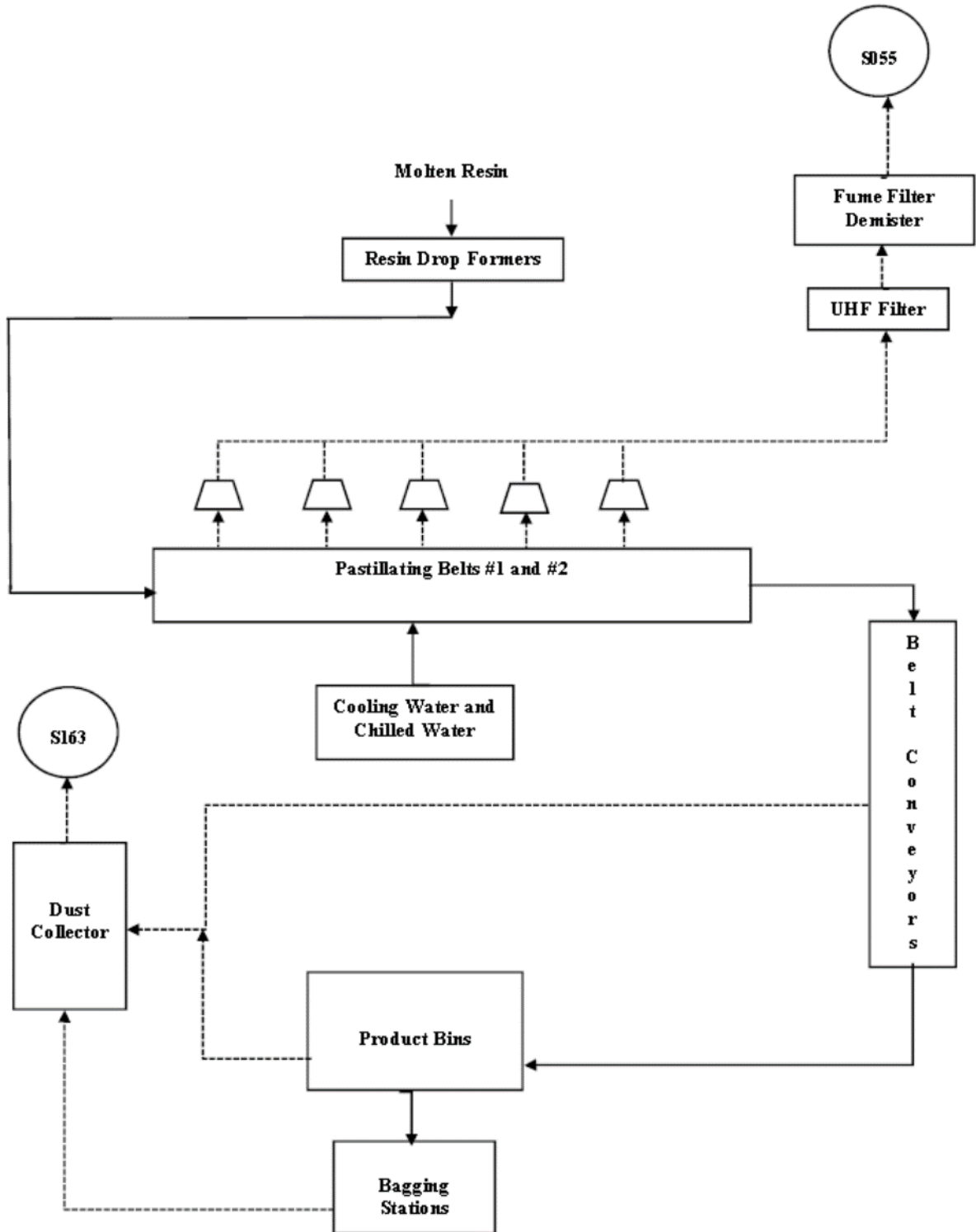


C5 Unit – Polymerization Process

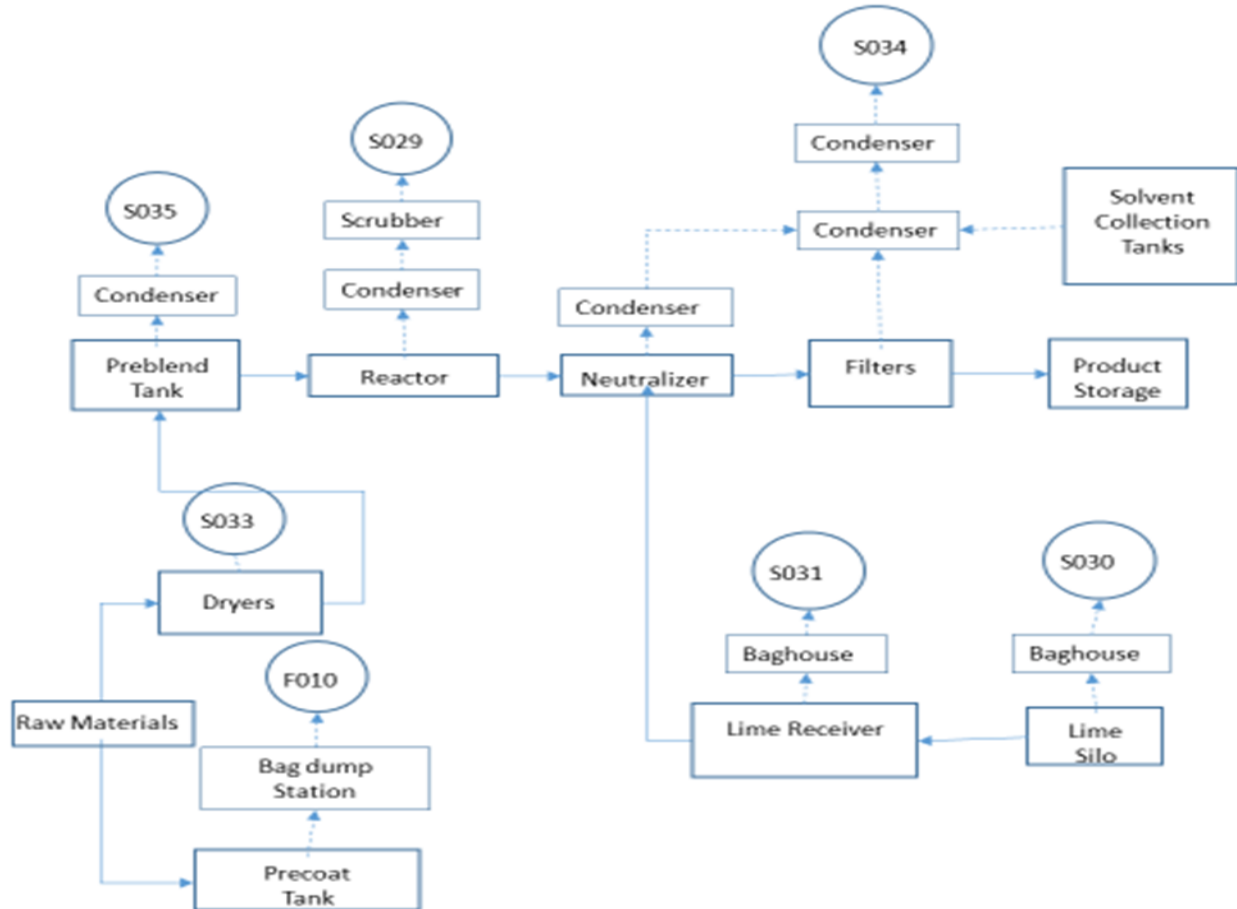


C5 POLY UNIT

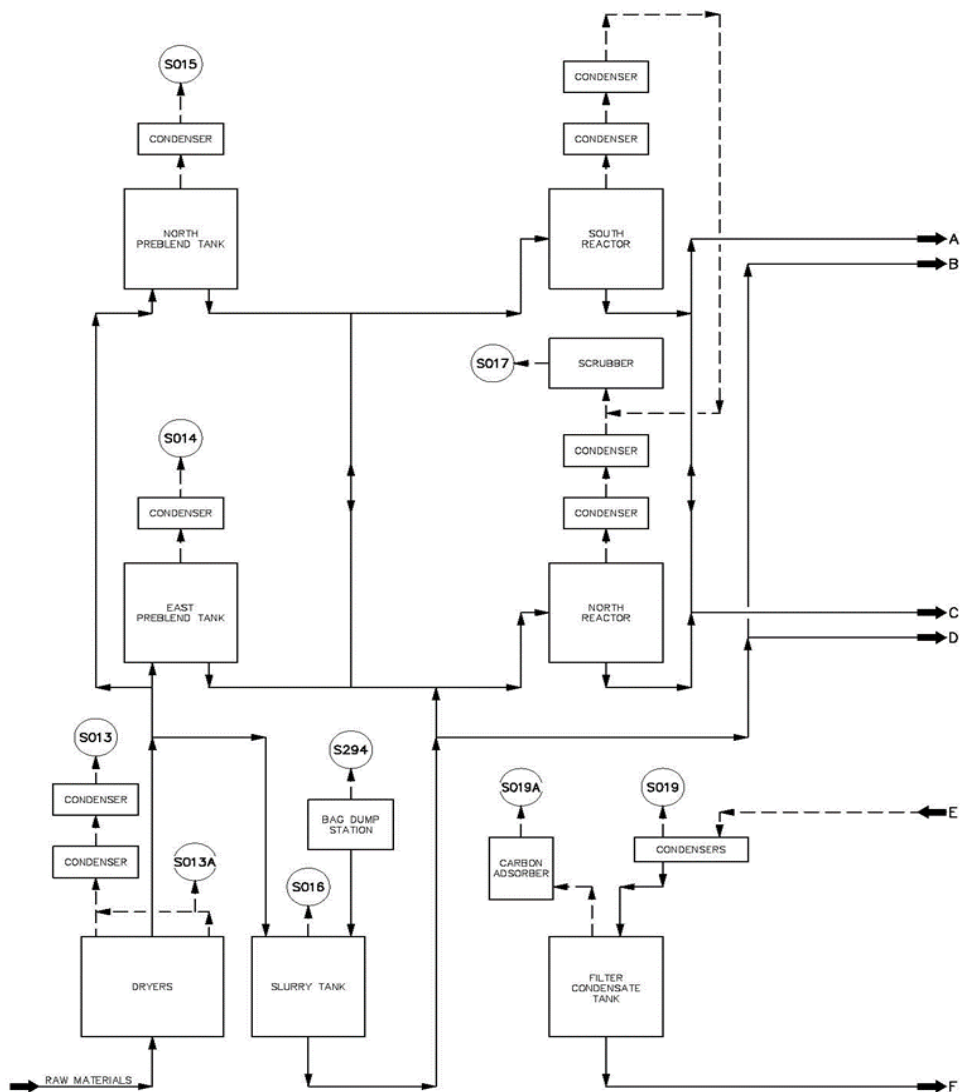
C5 Unit – Pastillation Operation



MP Poly Unit



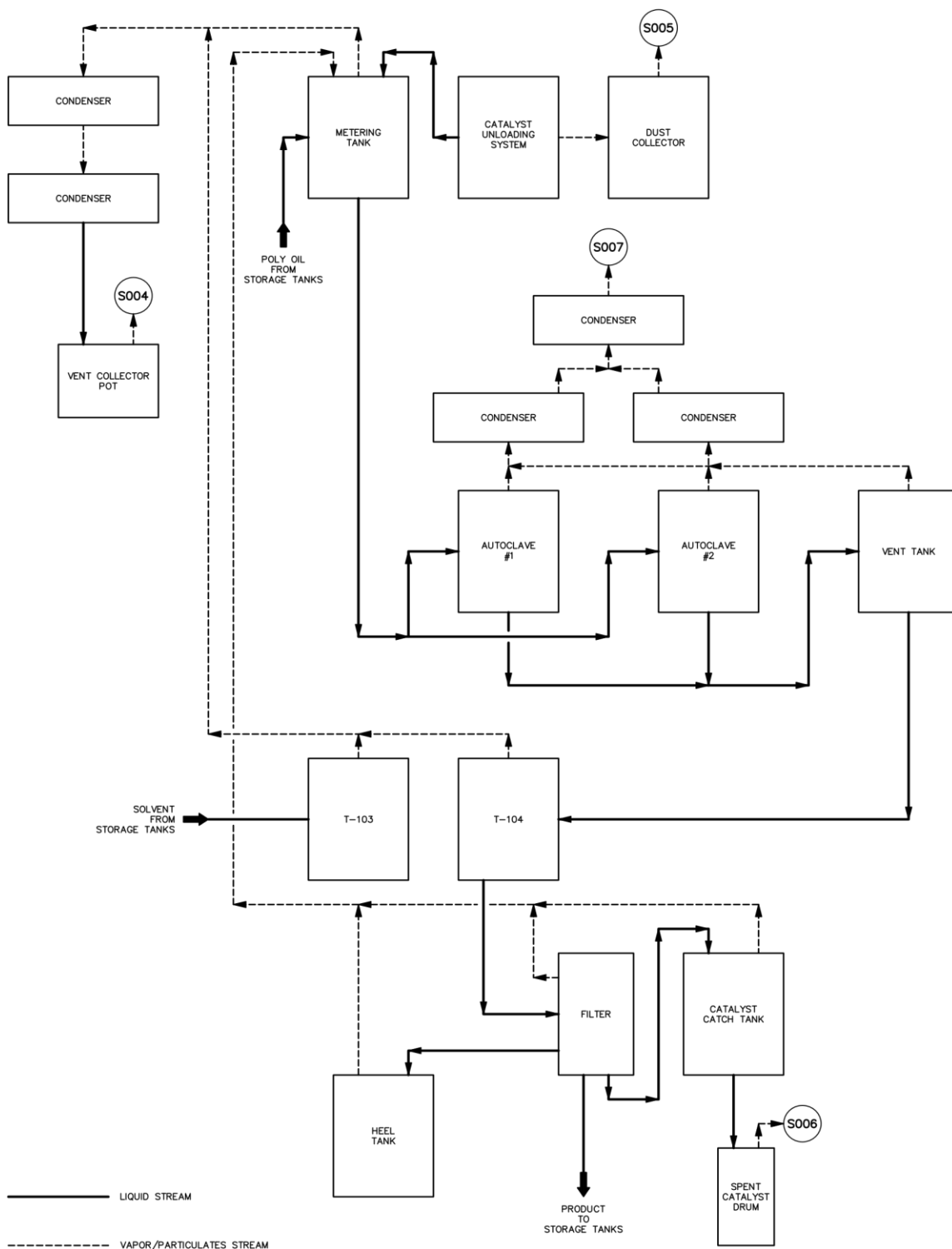
WW Poly Unit



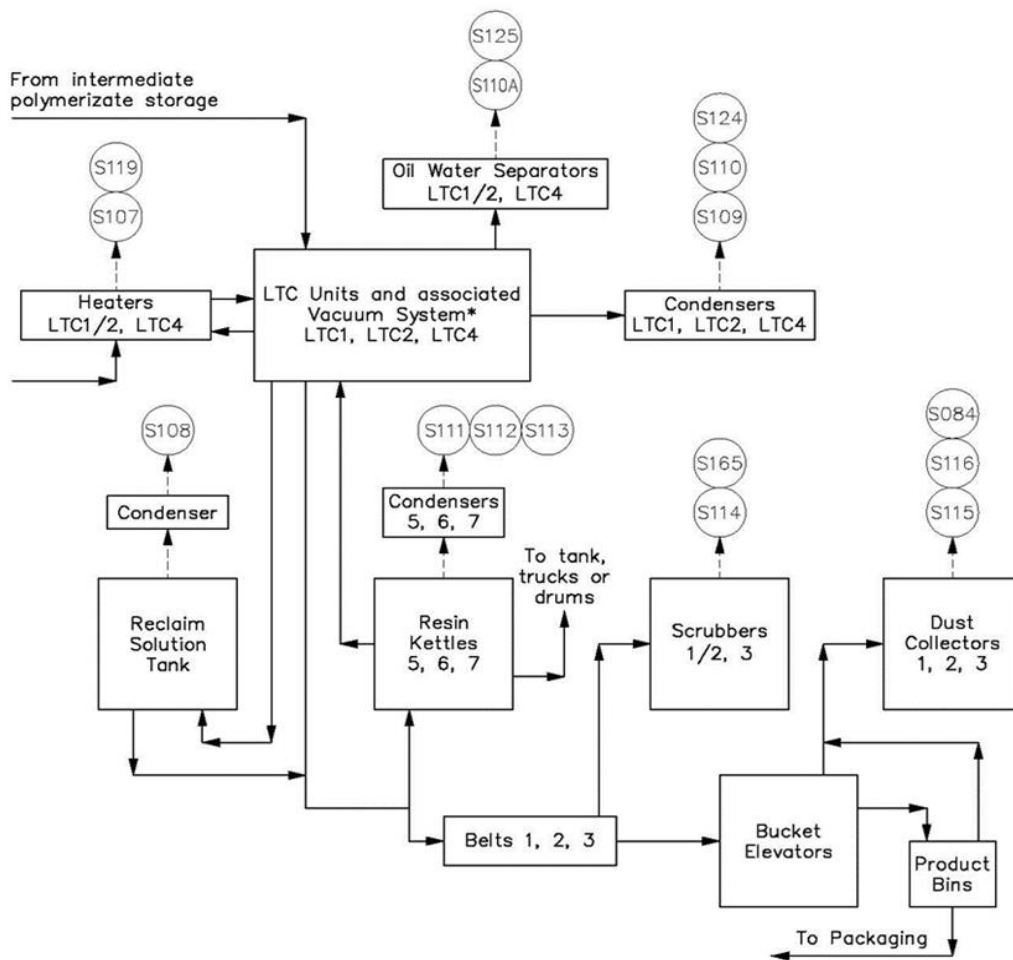
WATER WHITE POLY AIR EMISSION POINTS

SHEET #1

Hydrogenation Unit

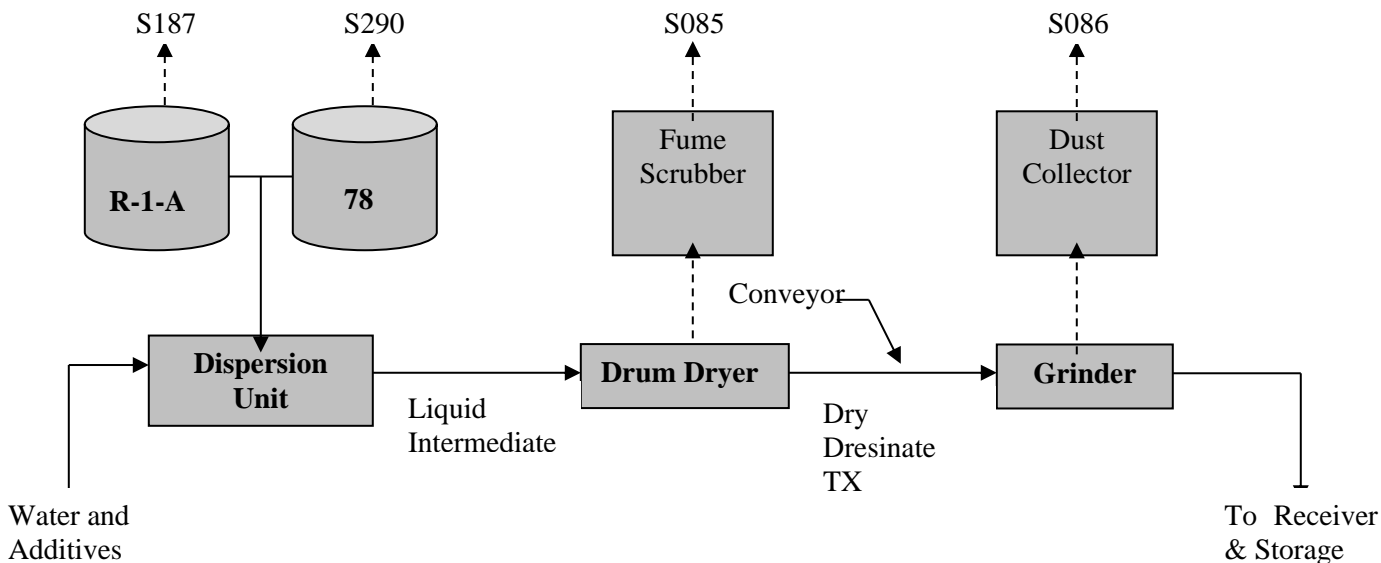


Principal of LTC Operations

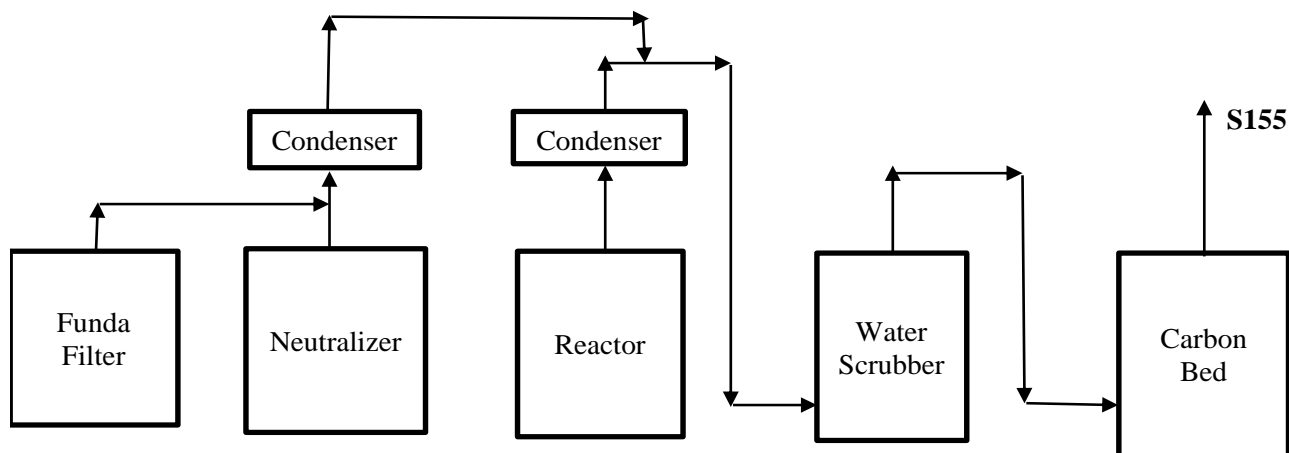


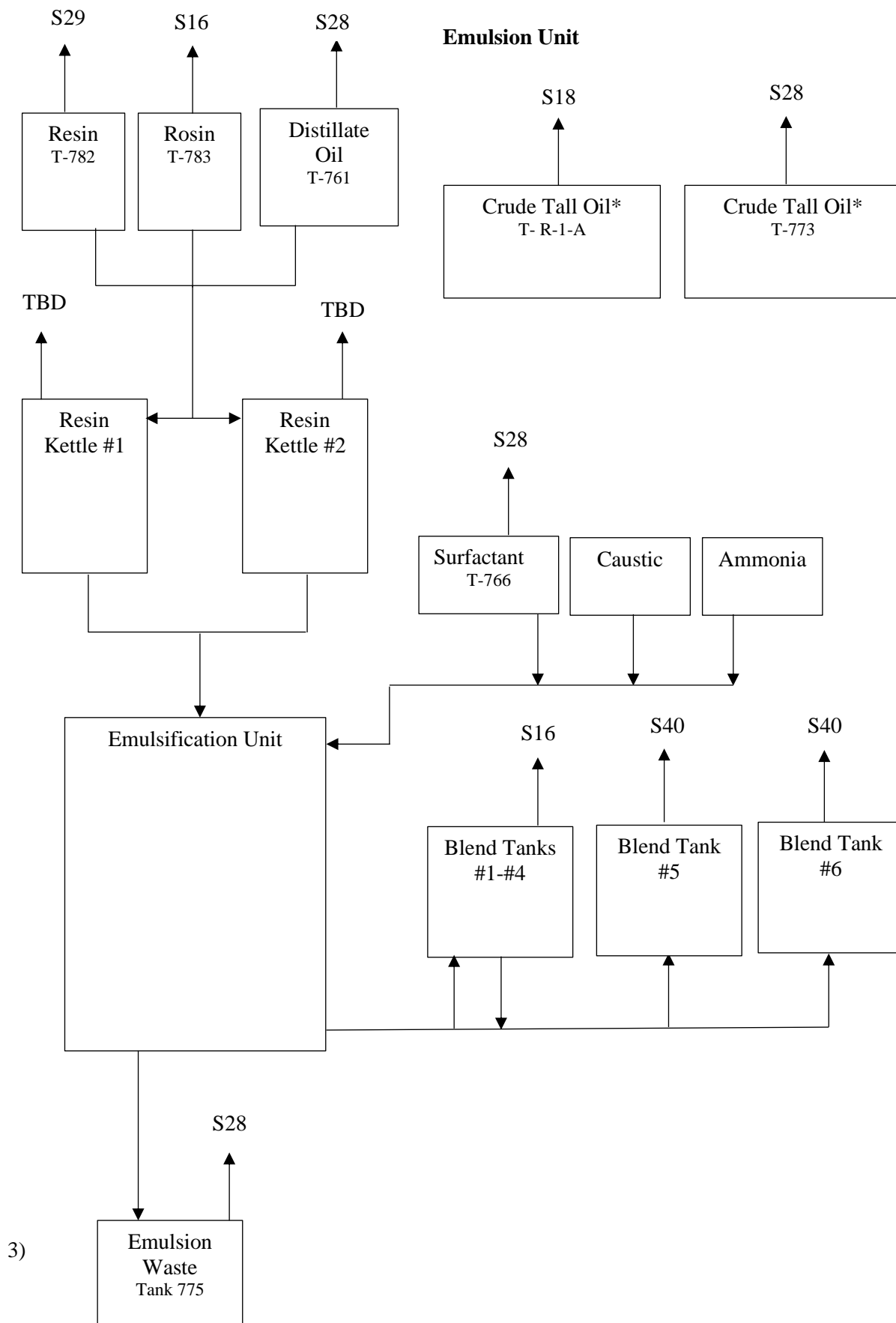
*LTC Unit and associated Vacuum System can include: Rising film evaporator, separator, rectification column, reboiler, process condensers, vacuum pump, and cooling tower.

Dresinate Unit



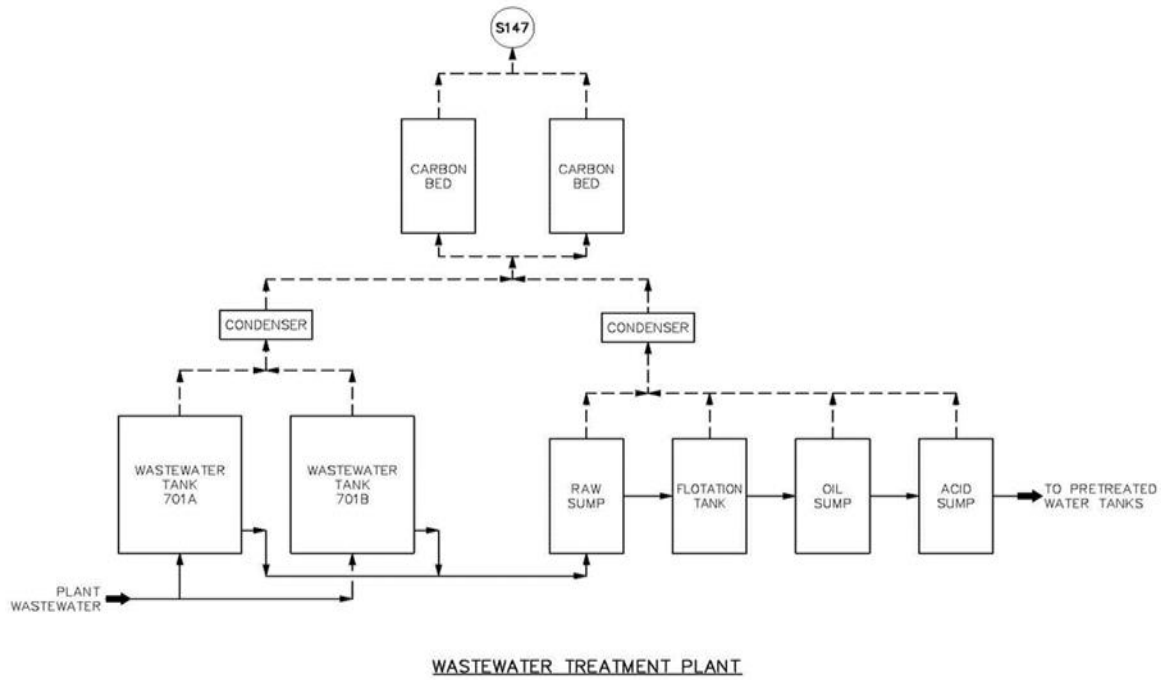
Pilot Plant (controlled sources only)





3)

Wastewater Treatment Plant



DECLARATION OF POLICY

Pollution prevention is recognized as the preferred strategy (over pollution control) for reducing risk to air resources. Accordingly, pollution prevention measures should be integrated into air pollution control programs wherever possible, and the adoption by sources of cost-effective compliance strategies, incorporating pollution prevention, is encouraged. The Department will give expedited consideration to any permit modification request based on pollution prevention principles.

The permittee is subject to the terms and conditions set forth below. These terms and conditions constitute provisions of Allegheny County Health Department Rules and Regulations, Article XXI Air Pollution Control. The subject equipment has been conditionally approved for operation. The equipment shall be operated in conformity with the plans, specifications, conditions, and instructions which are part of your application, and may be periodically inspected for compliance by the Department. In the event that the terms and conditions of this permit or the applicable provisions of Article XXI conflict with the application for this permit, these terms and conditions and the applicable provisions of Article XXI shall prevail. Additionally, nothing in this permit relieves the permittee from the obligation to comply with all applicable Federal, State and Local laws and regulations.

III. GENERAL CONDITIONS – Major Source

1. Prohibition of Air Pollution (§2101.11)

- a. It shall be a violation of this permit to fail to comply with, or to cause or assist in the violation of, any requirement of this permit, or any order or permit issued pursuant to authority granted by Article XXI. The permittee shall not willfully, negligently, or through the failure to provide and operate necessary control equipment or to take necessary precautions, operate any source of air contaminants in such manner that emissions from such source:
 - 1) Exceed the amounts permitted by this permit or by any order or permit issued pursuant to Article XXI;
 - 2) Cause an exceedance of the ambient air quality standards established by Article XXI §2101.10; or
 - 3) May reasonably be anticipated to endanger the public health, safety, or welfare.
- b. It shall be a violation of this permit to operate, or allow to be operated, any source in such manner as to allow the release of air contaminants into the open air or to cause air pollution as defined in Article XXI, except as is explicitly permitted by this permit or Article XXI.

2. Definitions (§2101.20)

- a. Except as specifically provided in this permit, terms used retain the meaning accorded them under the applicable provisions and requirements of Article XXI or the applicable federal or state regulation. Whenever used in this permit, or in any action taken pursuant to this permit, the words and phrases shall have the meanings stated, unless the context clearly indicates otherwise.
- b. Unless specified otherwise in this permit or in the applicable regulation, the term “year” shall mean any twelve (12) consecutive months.

3. Conditions (§2102.03.c)

It shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02, for any person to fail to comply with any terms or conditions set forth in this permit.

4. Certification (§2102.01)

Any report, or compliance certification submitted under this permit shall contain written certification by a responsible official as to truth, accuracy, and completeness. This certification and any other certification required under this permit shall be signed by a responsible official of the source, and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

5. Transfers (§2102.03.e)

This permit shall not be transferable from one person to another, except in accordance with Article XXI §2102.03.e and in cases of change-in-ownership which are documented to the satisfaction of the Department, and shall be valid only for the specific sources and equipment for which this permit was issued. The transfer of permits in the case of change-in-ownership may be made consistent with the administrative permit amendment procedure of Article XXI §2103.14.b. The required documentation and fee must be received by the Department at least 30 days before the intended transfer date.

6. Term (§2103.12.e, §2103.13.a)

- a. This permit shall remain valid for five (5) years from the date of issuance, or such other shorter period if required by the Clean Air Act, unless revoked. The terms and conditions of an expired permit shall automatically continue pending issuance of a new operating permit provided the permittee has submitted a timely and complete application and paid applicable fees required under Article XXI Part C, and the Department through no fault of the permittee is unable to issue or deny a new permit before the expiration of the previous permit.
- b. Expiration. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with the requirements of Article XXI Part C.

7. Need to Halt or Reduce Activity Not a Defense (§2103.12.f.2)

It shall not be a defense for a 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.

8. Property Rights (§2103.12.f.4)

This permit does not convey any property rights of any sort, or any exclusive privilege.

9. Duty to Provide Information (§2103.12.f.5)

- a. The permittee shall furnish to the Department in writing within a reasonable time, any information that the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Department copies of any records required to be kept by the permit.

- b. Upon cause shown by the permittee the records, reports, or information, or a particular portion thereof, claimed by the permittee to be confidential shall be submitted to the Department in accordance with the requirements of Article XXI, §2101.07.d.4. Information submitted to the Department under a claim of confidentiality, shall be available to the US EPA and the PADEP upon request and without restriction. Upon request of the permittee the confidential information may be submitted to the USEPA and PADEP directly. Emission data or any portions of any draft, proposed, or issued permits shall not be considered confidential.

10. Modification of Section 112(b) Pollutants which are VOCs or PM₁₀ (§2103.12.f.7)

Except where precluded under the Clean Air Act or federal regulations promulgated under the Clean Air Act, if this permit limits the emissions of VOCs or PM₁₀ but does not limit the emissions of any hazardous air pollutants, the mixture of hazardous air pollutants which are VOCs or PM₁₀ can be modified so long as no permit emission limitations are violated. A log of all mixtures and changes shall be kept and reported to the Department with the next report required after each change.

11. Right to Access (§2103.12.h.2)

Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized Department and other federal, state, county, and local government representatives to:

- a. Enter upon the permittee's premises where a permitted source is located or an emissions-related activity is conducted, or where records are or should be kept under the conditions of the permit;
- b. Have access to, copy and remove, at reasonable times, any records that must be kept under the conditions of the permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
- d. As authorized by either Article XXI or the Clean Air Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements.

12. Certification of Compliance (§2103.12.h.5)

- a. The permittee shall submit on an annual basis, certification of compliance with all terms and conditions contained in this permit, including emission limitations, standards, or work practices. The certification of compliance shall be made consistent with General Condition III.4 above and shall include the following information at a minimum:
 - 1) The identification of each term or condition of the permit that is the basis of the certification;
 - 2) The compliance status;
 - 3) Whether any noncompliance was continuous or intermittent;
 - 4) The method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with the provisions of this permit; and
 - 5) Such other facts as the Department may require to determine the compliance status of the source.
- b. All certification of compliance forms must be submitted to the Administrator as well as the Department by September 1 of each year for the time period beginning July 1 of the previous year and ending June 30 of the same year. The first report shall be due September 1, 2025 for the time

period beginning on the issuance date of this permit through June 30, 2025. Compliance certifications should be submitted online through the ACHD Air Quality Regulated Entities Portal (REP). If REP is not available, written notice should be sent to the Department at aqreports@alleghenycounty.us.

13. Record Keeping Requirements (§2103.12.j.1)

- a. The permittee shall maintain records of required monitoring information that include the following:
 - 1) The date, place as defined in the permit, and time of sampling or measurements;
 - 2) The date(s) analyses were performed;
 - 3) The company or entity that performed the analyses;
 - 4) The analytical techniques or methods used;
 - 5) The results of such analyses; and
 - 6) The operating parameters existing at the time of sampling or measurement.
- b. The permittee shall maintain and make available to the Department, upon request, records including computerized records that may be necessary to comply with the reporting and emission statements in Article XXI §2108.01.e. Such records may include records of production, fuel usage, maintenance of production or pollution control equipment or other information determined by the Department to be necessary for identification and quantification of potential and actual air contaminant emissions.

14. Retention of Records (§2103.12.j.2)

The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

15. Reporting Requirements (§2103.12.k)

- a. The permittee shall submit reports of any required monitoring at least every six (6) months. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by the Responsible Official.
- b. Prompt reporting of deviations from permit requirements is required, including those attributable to upset conditions as defined in this permit and Article XXI §2108.01.c, the probable cause of such deviations, and any corrective actions or preventive measures taken.
- c. All reports submitted to the Department shall comply with the certification requirements of General Condition III.4 above.
- d. Semiannual reports required by this permit shall be submitted to the Department as follows:
 - 1) One semiannual report is due by July 31 of each year for the time period beginning January 1 and ending June 30.
 - 2) One semiannual report is due by February 1 of each year for the time period beginning July 1 and ending December 31.
 - 3) The first semiannual report shall be due February 1, 2025 for the time period beginning on the issuance date of this permit through December 31, 2024.

- e. Reports should be submitted online through the ACHD Air Quality Regulated Entities Portal (REP). If REP is not available, written notice should be sent to the Department at aqreports@alleghenycounty.us.

16. Severability Requirement (§2103.12.l)

The provisions of this permit are severable, and if any provision of this permit is determined by a court of competent jurisdiction to be invalid or unenforceable, such a determination will not affect the remaining provisions of this permit.

17. Existing Source Reactivations (§2103.13.d)

The permittee shall not reactivate any source that has been out of operation or production for a period of one year or more unless the permittee has submitted a reactivation plan request to, and received a written reactivation plan approval from, the Department. Existing source reactivations shall meet all requirements of Article XXI §2103.13.d.

18. Administrative Permit Amendment Procedures (§2103.14.b)

An administrative permit amendment may be made consistent with the procedures of Article XXI §2103.14.b and §2103.24.b. Administrative permit amendments are not authorized for any amendment precluded by the Clean Air Act or the regulations there under.

19. Revisions and Minor Permit Modification Procedures (§2103.14.c)

Sources may apply for revisions and minor permit modifications on an expedited basis in accordance with Article XXI §2103.14.c and §2103.24.a.

20. Significant Permit Modifications (§2103.14.d)

Significant permit modifications shall meet all requirements of the applicable subparts of Article XXI, Part C, including those for applications, fees, public participation, review by affected States, and review by EPA, as they apply to permit issuance and permit renewal. The approval of a significant permit modification, if the entire permit has been reopened for review, shall commence a new full five (5) year permit term. The Department shall take final action on all such permits within nine (9) months following receipt of a complete application.

21. Duty to Comply (§2103.12.f.1)

The permittee shall comply with all permit conditions and all other applicable requirements at all times. Any permit noncompliance constitutes a violation of the Clean Air Act, the Air Pollution Control Act, and Article XXI and is grounds for any and all enforcement action, including, but not limited to, permit termination, revocation and reissuance, or modification, and denial of a permit renewal application.

22. Renewals (§2103.13.b.)

Renewal of this permit is subject to the same fees and procedural requirements, including those for public participation and affected State and EPA review, that apply to initial permit issuance. The application for renewal shall be submitted at least six (6) months but not more than eighteen (18) months prior to expiration of this permit. The application shall also include submission of a supplemental compliance review as required by Article XXI §2102.01.

23. Reopenings for Cause (§2103.12.f.3, §2103.25.a)

a. This permit shall be reopened and reissued under any of the following circumstances:

- 1) Additional requirements under the Clean Air Act become applicable to a major source with a remaining permit term of three (3) or more years. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended solely due to the failure of the Department to act on a permit renewal application in a timely fashion.
- 2) Additional requirements, including excess emissions requirements, become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into this permit.
- 3) The Department or EPA determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit.
- 4) The Administrator or the Department determines that this permit must be reissued or revoked to assure compliance with the applicable requirements.

b. This permit may be modified; revoked, reopened, and reissued; or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes, for changes that are provided for in this permit.

24. Reopenings for Cause by the EPA (§2103.25.b)

This permit may be modified, reopened and reissued, revoked or terminated for cause by the EPA in accordance with procedures specified in Article XXI §2103.25.b.

25. Annual Operating Permit Maintenance Fee (§2103.40)

In each year during the term of this permit, on or before December 31 of each year for the next calendar year, the permittee shall submit to the Department, in addition to any other applicable administration fees, an Annual Operating Permit Maintenance Fee in accordance with §2103.40. by check or money order payable to the "Allegheny County Air Pollution Control Fund" in the amount specified in the fee schedule applicable at that time.

26. Annual Major Source Emissions Fees Requirements (§2103.41)

No later than September 1 of each year, the permittee shall pay an annual emission fee in accordance with Article XXI §2103.41 for each ton of a regulated pollutant (except for carbon monoxide) actually emitted

from the source. The permittee shall not be required to pay an emission fee for emissions of more than 4,000 tons of each regulated pollutant. The emission fee shall be increased in each year after 1995 by the percentage, if any, by which the Consumer Price Index for the most recent calendar year exceeds the Consumer Price Index for the previous calendar year.

27. Other Requirements not Affected (§2104.08, §2105.02)

Compliance with the requirements of this permit shall not in any manner relieve any person from the duty to fully comply with any other applicable Federal, State, or County statute, rule, regulation, or the like, including but not limited to the odor emission standards under Article XXI §2104.04, any applicable NSPSs, NESHAPs, MACTs, or Generally Achievable Control Technology (GACT) standards now or hereafter established by the EPA, and any applicable requirements of BACT or LAER as provided by Article XXI, any condition contained in any applicable Installation or Operating Permit and/or any additional or more stringent requirements contained in an order issued to such person pursuant to Article XXI Part I.

28. Termination of Operation (§2108.01.a)

In the event that operation of any source of air contaminants is permanently terminated, the person responsible for such source shall so report, in writing, to the Department within 60 days of such termination.

29. Tests by the Department (§2108.02.d)

Notwithstanding any tests conducted pursuant to Article XXI §2108.02, the Department or another entity designated by the Department may conduct emissions testing on any source or air pollution control equipment. At the request of the Department, the person responsible for such source or equipment shall provide adequate sampling ports, safe sampling platforms and adequate utilities for the performance of such tests.

30. Other Rights and Remedies Preserved (§2109.02.b)

Nothing in this permit shall be construed as impairing any right or remedy now existing or hereafter created in equity, common law or statutory law with respect to air pollution, nor shall any court be deprived of such jurisdiction for the reason that such air pollution constitutes a violation of this permit.

31. Enforcement and Emergency Orders (§2109.03, §2109.05)

- a. The person responsible for this source shall be subject to any and all enforcement and emergency orders issued to it by the Department in accordance with Article XXI §2109.03, §2109.04 and §2109.05.
- b. Upon request, any person aggrieved by an Enforcement Order or Emergency Order shall be granted a hearing as provided by Article XXI §2109.03.d; provided however, that an Emergency Order shall continue in full force and effect notwithstanding the pendency of any such appeal.
- c. Failure to comply with an Enforcement Order or immediately comply with an Emergency Order shall be a violation of this permit thus giving rise to the remedies provided by Article XXI §2109.02.

32. Penalties, Fines, and Interest (§2109.07.a)

A source that fails to pay any fee required under this permit when due shall pay a civil penalty of 50% of the fee amount, plus interest on the fee amount computed in accordance with Article XXI §2109.06.a.4 from the date the fee was required to be paid. In addition, the source may have this permit revoked for failure to pay any fee required.

33. Appeals (§2109.10)

In accordance with State Law and County regulations and ordinances, any person aggrieved by an order or other final action of the Department issued pursuant to Article XXI or any unsuccessful petitioner to the Administrator under Article XXI Part C, Subpart 2, shall have the right to appeal the action to the Director in accordance with the applicable County regulations and ordinances.

34. Risk Management (§2104.08, 40 CFR Part 68)

This source, as defined in 40 CFR Part 68.3, is subject to Part 68. This stationary source shall submit a risk management plan (RMP) by the date specified in Part 68.10. This stationary source shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by General Condition III.12 above.

35. Operational Flexibility (§2103.14.a)

- a. The owner or operator shall not make any changes at this source, including trades of increases and decreases in emissions within the permitted source, without first obtaining a permit revision for such changes, unless:
 - 1) The changes do not require an Installation Permit under §2102.04 of this Article or violate the terms of an Operating Permit or an Installation Permit;
 - 2) The permit specifically allows for changes that do not cause specific emissions increases greater than a *de minimis* emission increase, and the changes do not exceed such emissions increase allowed under the permit, in accordance with General Condition III.36 below;
 - 3) The changes do not violate major source applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements; and
 - 4) By no later than seven (7) days prior to the date on which the implementation of the proposed change is commenced, a written notification is submitted to the Department, for attachment to the Department's copy of the relevant permit, which includes:
 - a) A brief description of the change within the permitted source;
 - b) The date on which the change will occur;
 - c) The pollutants emitted; and
 - d) Any change in emissions.

36. De Minimis Emission Increases (§2103.14.e)

- a. The Department may allow, as a condition of an Operating Permit, *de minimis* emission increases from a new or existing source up to the amounts authorized in condition III.36.d below.
- b. A *de minimis* increase may not occur at a source if it either:

- 1) Increases the emissions of a pollutant regulated under Section 112 of the Clean Air Act (42 U.S.C.A. §7412) except as authorized in conditions III.36.d.4) and 5) below;
 - 2) Subjects the source to the permit requirements of Article XXI, §§2102.05, 2102.06, or 2102.07 (relating to prevention of significant deterioration of air quality and major new source and major modification review); or
 - 3) Violates an applicable requirement of this Article, the state Air Pollution Control Act, the Clean Air Act, or the regulations promulgated under the Air Pollution Control Act or the Clean Air Act.
- c. The permittee shall provide the Department with 7 days prior written notice of any *de minimis* emission increase. The notice shall identify and describe the pollutants that will be emitted as a result of the *de minimis* emissions increase and provide emission rates in tons/year and in terms necessary to establish compliance consistent with any applicable requirement. The Department may disapprove or condition the *de minimis* emission increase at any time.
- d. Except as provided in condition III.36.e below, the maximum *de minimis* emission rate increases, as measured in tons/year, that may be authorized in the permit during the term of the permit are:
- 1) Four tons of carbon monoxide from an emissions unit during the term of the permit and 20 tons of carbon monoxide at the source during the term of the permit;
 - 2) One ton of NO_x from an emissions unit during the term of the permit and 5 tons of NO_x at the source during the term of the permit;
 - 3) One and six-tenths tons of oxides of sulfur from an emissions unit during the term of the permit and 8.0 tons of oxides of sulfur at the source during the term of the permit;
 - 4) Six-tenths of a ton of PM₁₀ from an emissions unit during the term of the permit and 3.0 tons of PM₁₀ at the source during the term of the permit. This shall include emissions of a pollutant regulated under Section 112 of the Clean Air Act unless precluded by the Clean Air Act, the regulations thereunder, or Article XXI; and
 - 5) One ton of VOC's from an emissions unit during the term of the permit and 5 tons of VOC's at the source during the term of the permit. This shall include emissions of a pollutant regulated under Section 112 of the Clean Air Act unless precluded by the Clean Air Act, the regulations thereunder, or Article XXI.
- e. The Department may allow, as a condition of an operating permit, installation of the minor sources exempted under §2102.04.a.5 of Article XXI.
- f. *De minimis* emission threshold levels cannot be met by offsetting emission increases with emission decreases at the same emissions unit.

37. Permit Shield (§2103.22)

- a. The permittee's compliance with the conditions of this permit shall be deemed compliance with all major source applicable requirements as of the date of permit issuance, provided that:
- 1) Such major source applicable requirements are included and are specifically identified in the permit; or
 - 2) The Department, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.

- b. Nothing in Article XXI §2103.22.e or the Title V Permit shall alter or affect the following:
 - 1) The provisions of Section 303 of the Clean Air Act and the provisions of Article XXI regarding emergency orders, including the authority of the Administrator and the Department under such provisions;
 - 2) The liability of any person who owns, operates, or allows to be operated, a source in violation of any major source applicable requirements prior to or at the time of permit issuance;
 - 3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; or
 - 4) The ability of the EPA or the County to obtain information from the permittee pursuant to Section 114 of the Clean Air Act, the provisions of Article XXI and State law.
- c. Unless precluded by the Clean Air Act or regulations therein, final action by the Department on administrative amendments, minor and significant permit modifications, and operational flexibility changes shall be covered by the permit shield provided such amendments, modifications and changes meet the relevant requirements of Article XXI.
- d. The permit shield authorized under Article XXI §2103.22 is in effect for the permit terms and conditions as identified in this permit.

38. Circumvention (§2101.14)

For purposes of determining compliance with the provisions of this permit and Article XXI, no credit shall be given to any person for any device or technique, including but not limited to the operation of any source with unnecessary amounts of air, the combining of separate sources except as specifically permitted by Article XXI and the Department, the use of stacks exceeding Good Engineering Practice height as defined by regulations promulgated by the US EPA at 40 CFR §§51.100 and 51.110 and Subpart I, and other dispersion techniques, which without reducing the amount of air contaminants emitted, conceals or dilutes an emission of air contaminants which would otherwise violate the provisions of this Article; except that, for purposes of determining compliance with Article §2104.04 concerning odors, credit for such devices or techniques, except for the use of a masking agent, may be given.

39. Duty to Supplement and Correct Relevant Facts (§2103.11.d.2)

- a. The permittee shall provide additional information as necessary to address requirements that become applicable to the source after the date it files a complete application but prior to the Department taking action on the permit application.
- b. The permittee shall provide supplementary fact or corrected information upon becoming aware that incorrect information has been submitted or relevant facts were not submitted.
- c. Except as otherwise required by this permit and Article XXI, the Clean Air Act, or the regulations thereunder, the permittee shall submit additional information as necessary to address changes occurring at the source after the date it files a complete application but prior to the Department taking action on the permit application.
- d. The applicant shall submit information requested by the Department which is reasonably necessary to evaluate the permit application.

40. Effect (§2102.03.g.)

- a. Except as specifically otherwise provided under Article XXI, Part C, issuance of a permit pursuant to Article XXI Part B or Part C shall not in any manner relieve any person of the duty to fully comply with the requirements of this permit, Article XXI or any other provision of law, nor shall it in any manner preclude or affect the right of the Department to initiate any enforcement action whatsoever for violations of this permit or Article XXI, whether occurring before or after the issuance of such permit. Further, except as specifically otherwise provided under Article XXI Part C the issuance of a permit shall not be a defense to any nuisance action, nor shall such permit be construed as a certificate of compliance with the requirements of this permit or Article XXI.

41. Installation Permits (§2102.04.a.1.)

It shall be a violation of this permit giving rise to the remedies set forth in Article XXI Part I for any person to install, modify, replace, reconstruct, or reactivate any source or air pollution control equipment which would require an installation permit or permit modification in accordance with Article XXI Part B or Part C.

IV. SITE LEVEL TERMS AND CONDITIONS

1. Reporting of Upset Conditions (§2103.12.k.2)

The permittee shall promptly report all deviations from permit requirements, including those attributable to upset conditions as defined in Article XXI §2108.01.c, the probable cause of such deviations, and any corrective actions or preventive measures taken.

2. Visible Emissions (§2104.01.a)

Except as provided for by Article XXI §2108.01.d pertaining to a cold start, no person shall operate, or allow to be operated, any source in such manner that the opacity of visible emissions from a flue or process fugitive emissions from such source, excluding uncombined water:

- a. Equal or exceed an opacity of 20% for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period; or,
- b. Equal or exceed an opacity of 60% at any time.

3. Odor Emissions (§2104.04) (*County-only enforceable*)

No person shall operate, or allow to be operated, any source in such manner that emissions of malodorous matter from such source are perceptible beyond the property line of such source. In addition, the Department may pursue the remedies provided by §2109.02 for any violation of this Section. source are perceptible beyond the property line.

4. Materials Handling (§2104.05)

The permittee shall not conduct, or allow to be conducted, any materials handling operation in such manner that emissions from such operation are visible at or beyond the property line.

5. Operation and Maintenance (§2105.03)

All air pollution control equipment required by this permit or any order under Article XXI, and all equivalent compliance techniques approved by the Department, shall be properly installed, maintained, and operated consistently with good air pollution control practice.

6. Open Burning (§2105.50)

No person shall conduct, or allow to be conducted, the open burning of any material, except where the Department has issued an Open Burning Permit to such person in accordance with Article XXI §2105.50 or where the open burning is conducted solely for the purpose of non-commercial preparation of food for human consumption, recreation, light, ornament, or provision of warmth for outside workers, and in a manner which contributes a negligible amount of air contaminants.

7. Shutdown of Control Equipment (§2108.01.b)

- a. In the event any air pollution control equipment is shut down for reasons other than a breakdown, the person responsible for such equipment shall report, in writing, to the Department the intent to

shut down such equipment at least 24 hours prior to the planned shutdown. Notwithstanding the submission of such report, the equipment shall not be shut down until the approval of the Department is obtained; provided, however, that no such report shall be required if the source(s) served by such air pollution control equipment is also shut down at all times that such equipment is shut down.

- b. The Department shall act on all requested shutdowns as promptly as possible. If the Department does not take action on such requests within ten (10) calendar days of receipt of the notice, the request shall be deemed denied, and upon request, the owner or operator of the affected source shall have a right to appeal in accordance with the provisions of Article XI.
- c. The prior report required by Site Level Condition IV.7.a above shall include:
 - 1) Identification of the specific equipment to be shut down, its location and permit number (if permitted), together with an identification of the source(s) affected;
 - 2) The reasons for the shutdown;
 - 3) The expected length of time that the equipment will be out of service;
 - 4) Identification of the nature and quantity of emissions likely to occur during the shutdown;
 - 5) Measures, including extra labor and equipment, which will be taken to minimize the length of the shutdown, the amount of air contaminants emitted, or the ambient effects of the emissions;
 - 6) Measures which will be taken to shut down or curtail the affected source(s) or the reasons why it is impossible or impracticable to shut down or curtail the affected source(s) during the shutdown; and
 - 7) Such other information as may be required by the Department.
- d. Written notice required by this condition should be submitted online through the ACHD Air Quality Regulated Entities Portal (REP). If REP is not available, written notice should be sent to the Department at aqreports@alleghenycounty.us.

8. Breakdowns (§2108.01.c)

- a. In the event that any air pollution control equipment, process equipment, or other source of air contaminants breaks down in such manner as to have a substantial likelihood of causing the emission of air contaminants in violation of this permit, or of causing the emission into the open air of potentially toxic or hazardous materials, the person responsible for such equipment or source shall immediately, but in no event later than sixty (60) minutes after the commencement of the breakdown, notify the Department of such breakdown and shall, as expeditiously as possible but in no event later than seven (7) days after the original notification, provide written notice to the Department.
- b. To the maximum extent possible, all oral and written notices required shall include all pertinent facts, including:
 - 1) Identification of the specific equipment which has broken down, its location and permit number (if permitted), together with an identification of all related devices, equipment, and other sources which will be affected.
 - 2) The nature and probable cause of the breakdown.
 - 3) The expected length of time that the equipment will be inoperable or that the emissions will continue.
 - 4) Identification of the specific material(s) which are being, or are likely to be emitted, together

- with a statement concerning its toxic qualities, including its qualities as an irritant, and its potential for causing illness, disability, or mortality.
- 5) The estimated quantity of each material being or likely to be emitted.
 - 6) Measures, including extra labor and equipment, taken or to be taken to minimize the length of the breakdown, the amount of air contaminants emitted, or the ambient effects of the emissions, together with an implementation schedule.
 - 7) Measures being taken to shut down or curtail the affected source(s) or the reasons why it is impossible or impractical to shut down the source(s), or any part thereof, during the breakdown.
- c. Notices required shall be updated, in writing, as needed to advise the Department of changes in the information contained therein. In addition, any changes concerning potentially toxic or hazardous emissions shall be reported immediately. All additional information requested by the Department shall be submitted as expeditiously as practicable.
- d. Unless otherwise directed by the Department, the Department shall be notified whenever the condition causing the breakdown is corrected or the equipment or other source is placed back in operation by no later than 9:00 AM on the next County business day. Within seven (7) days thereafter, written notice shall be submitted pursuant to Paragraphs a and b above.
- e. Breakdown reporting shall not apply to breakdowns of air pollution control equipment which occur during the initial startup of said equipment, provided that emissions resulting from the breakdown are of the same nature and quantity as the emissions occurring prior to startup of the air pollution control equipment.
- f. In no case shall the reporting of a breakdown prevent prosecution for any violation of this permit or Article XXI.
- g. Written notice required by this condition should be submitted online through the ACHD Air Quality Regulated Entities Portal (REP). If REP is not available, written notice should be sent to the Department at aqreports@alleghenycounty.us.

9. Cold Start (§2108.01.d)

In the event of a cold start on any fuel-burning or combustion equipment, except stationary internal combustion engines and combustion turbines used by utilities to meet peak load demands, the person responsible for such equipment shall report in writing to the Department the intent to perform such cold start at least 24 hours prior to the planned cold start. Such report shall identify the equipment and fuel(s) involved and shall include the expected time and duration of the startup. Upon written application from the person responsible for fuel-burning or combustion equipment which is routinely used to meet peak load demands and which is shown by experience not to be excessively emissive during a cold start, the Department may waive these requirements and may instead require periodic reports listing all cold starts which occurred during the report period. The Department shall make such waiver in writing, specifying such terms and conditions as are appropriate to achieve the purposes of Article XXI. Such waiver may be terminated by the Department at any time by written notice to the applicant. Cold start notifications should be submitted online through the ACHD Air Quality Regulated Entities Portal (REP). If REP is not available, written notice should be sent to the Department at aqreports@alleghenycounty.us.

10. Emissions Inventory Statements (§2108.01.e & g)

- a. Emissions inventory statements in accordance with Article XXI §2108.01.e shall be submitted to the Department by March 15 of each year for the preceding calendar year. The Department may require more frequent submittals if the Department determines that more frequent submissions are required by the EPA or that analysis of the data on a more frequent basis is necessary to implement the requirements of Article XXI or the Clean Air Act.
- b. The failure to submit any report or update within the time specified, the knowing submission of false information, or the willful failure to submit a complete report shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02.

11. Orders (§2108.01.f)

In addition to meeting the requirements of General Condition III.28 and Site Level Conditions IV.7 through IV.10 above, inclusive, the person responsible for any source shall, upon order by the Department, report to the Department such information as the Department may require in order to assess the actual and potential contribution of the source to air quality. The order shall specify a reasonable time in which to make such a report.

12. Violations (§2108.01.g)

The failure to submit any report or update thereof required by General Condition III.28 and Site Level Conditions IV.7 through IV.11 above, inclusive, within the time specified, the knowing submission of false information, or the willful failure to submit a complete report shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02.

13. Emissions Testing (§2108.02)

- a. **Orders:** The person responsible for any source shall, upon order by the Department, conduct, or cause to be conducted, such emissions tests as specified by the Department within such reasonable time as is specified by the Department. Test results shall be submitted in writing to the Department within 20 days after completion of the tests, unless a different period is specified in the Department's order. Emissions testing shall comply with all applicable requirements of Article XXI §2108.02.e.
- b. **Tests by the Department:** Notwithstanding any tests conducted pursuant to this permit, the Department or another entity designated by the Department may conduct emissions testing on any source or air pollution control equipment. At the request of the Department, the permittee shall provide adequate sampling ports, safe sampling platforms and adequate utilities for the performance of such tests.
- c. **Testing Requirements:** No later than 45 days prior to conducting any tests required by this permit, the person responsible for the affected source shall submit for the Department's approval a written test protocol explaining the intended testing plan, including any deviations from standard testing procedures, the proposed operating conditions of the source during the test, calibration data for specific test equipment and a demonstration that the tests will be conducted under the direct supervision of persons qualified by training and experience satisfactory to the Department to conduct such tests. In addition, at least 30 days prior to conducting such tests, the person responsible shall notify the Department in writing of the time(s) and date(s) on which the tests will be conducted

and shall allow Department personnel to observe such tests, record data, provide pre-weighed filters, analyze samples in a County laboratory and to take samples for independent analysis. Test results shall be comprehensively and accurately reported in the units of measurement specified by the applicable emission limitations of this permit.

- d. Test methods and procedures shall conform to the applicable reference method set forth in this permit or Article XXI Part G, or where those methods are not applicable, to an alternative sampling and testing procedure approved by the Department consistent with Article XXI §2108.02.e.2.
- e. **Violations:** The failure to perform tests as required by this permit or an order of the Department, the failure to submit test results within the time specified, the knowing submission of false information, the willful failure to submit complete results, or the refusal to allow the Department, upon presentation of a search warrant, to conduct tests, shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02.

14. Abrasive Blasting (§2105.51)

- a. Except where such blasting is a part of a process requiring an operating permit, no person shall conduct or allow to be conducted, abrasive blasting or power tool cleaning of any surface, structure, or part thereof, which has a total area greater than 1,000 square feet unless such abrasive blasting complies with all applicable requirements of Article XXI §2105.51.
- b. In addition to complying with all applicable provisions of §2105.51, no person shall conduct, or allow to be conducted, abrasive blasting of any surface unless such abrasive blasting also complies with all other applicable requirements of Article XXI unless such requirements are specifically addressed by §2105.51.

15. Asbestos Abatement (§2105.62, §2105.63)

In the event of removal, encasement, or encapsulation of Asbestos-Containing Material (ACM) at a facility or in the event of the demolition of any facility, the permittee shall comply with all applicable provisions of Article XXI §2105.62 and §2105.63.

16. Protection of Stratospheric Ozone (40 CFR Part 82)

- a. Permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
 - 1) All containers in which a Class I or Class II substance is stored or transported, all products containing a Class I substance, and all products directly manufactured with a process that uses a Class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to §82.106;
 - 2) The placement of the required warning statement must comply with the requirements pursuant to §82.108;
 - 3) The form of the label bearing the required warning statement must comply with the requirements pursuant to §82.110; and
 - 4) No person may modify, remove or interfere with the required warning statement except as described in §82.112.
- b. Permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F:

- 1) Persons opening appliances for maintenance, service, repair or disposal must comply with the prohibitions and required practices pursuant to §82.154 and §82.156;
 - 2) Equipment used during the maintenance, service, repair or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158;
 - 3) Persons maintaining, servicing, repairing or disposing of appliances, must be certified by an approved technician certification program pursuant to §82.161;
 - 4) Persons maintaining, servicing, repairing or disposing of appliances must certify to the Administrator of the U.S. Environmental Protection Agency pursuant to §82.162;
 - 5) Persons disposing of small appliances, motor vehicle air conditioners (MVAC) and MVAC-like appliances, must comply with the record keeping requirements pursuant to §82.166;
 - 6) Owners of commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §82.156; and
 - 7) Owners or operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.
- c. If the permittee manufactures, transforms, destroys, imports or exports a Class I or Class II substance, the Permittee is subject to all the requirements as specified in 40 CFR Part 82, Subpart A (Production and Consumption Controls).
- d. If the permittee performs a service on a motor vehicle that involves an ozone-depleting substance, refrigerant or regulated substitute substance in the MVAC, the Permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B (Servicing of Motor Vehicle Air Conditioners).
- e. The permittee may switch from any ozone-depleting substance to any alternative that is listed as acceptable in the Significant New Alternatives Policy (SNAP) program promulgated pursuant to 40 CFR Part 82, Subpart G.

17. Volatile Organic Compound Storage Tanks (§2105.12.a)

No person shall place or store, or allow to be placed or stored, a volatile organic compound having a vapor pressure of 1.5 psia or greater under actual storage conditions in any aboveground stationary storage tank having a capacity equal to or greater than 2,000 gallons but less than or equal to 40,000 gallons, unless there is in operation on such tank pressure relief valves which are set to release at the higher of 0.7 psig of pressure or 0.3 psig of vacuum or at the highest possible pressure and vacuum in accordance with State or local fire codes, National Fire Prevention Association guidelines, or other national consensus standard approved in writing by the Department. Petroleum liquid storage vessels that are used to store produced crude oil and condensate prior to lease custody transfer are exempt from these requirements.

18. Permit Source Premises (§2105.40)

- a. **General:** No person shall operate, or allow to be operated, any source for which a permit is required by Article XXI Part C in such manner that emissions from any open land, roadway, haul road, yard, or other premises located upon the source or from any material being transported within such source or from any source-owned access road, haul road, or parking lot over five (5) parking spaces:
- 1) Are visible at or beyond the property line of such source;
 - 2) Have an opacity of 20% or more for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period; or
 - 3) Have an opacity of 60% or more at any time.

- b. **Deposition on Other Premises:** Visible emissions from any solid or liquid material that has been deposited by any means from a source onto any other premises shall be considered emissions from such source within the meaning of Site Level Condition IV.18.a above.

19. Parking Lots and Roadways (§2105.42)

- a. The permittee shall not maintain for use, or allow to be used, any parking lot over 50 parking spaces or used by more than 50 vehicles in any day or any other roadway carrying more than 100 vehicles in any day or 15 vehicles in any hour in such manner that emissions from such parking lot or roadway:
 - 1) Are visible at or beyond the property line;
 - 2) Have an opacity of 20% or more for a period or periods aggregating more than three (3) minutes in any 60 minute period; or
 - 3) Have an opacity of 60% or more at any time.
- b. Visible emissions from any solid or liquid material that has been deposited by any means from a parking lot or roadway onto any other premises shall be considered emissions from such parking lot or roadway.
- c. Site Level Condition IV.19.a above shall apply during any repairs or maintenance done to such parking lot or roadway.
- d. Notwithstanding any other provision of this permit, the prohibitions of Site Level Condition IV.19 may be enforced by any municipal or local government unit having jurisdiction over the place where such parking lots or roadways are located. Such enforcement shall be in accordance with the laws governing such municipal or local government unit. In addition, the Department may pursue the remedies provided by Article XXI §2109.02 for any violations of Site Level Condition IV.19.

20. Permit Source Transport (§2105.43)

- a. No person shall transport, or allow to be transported, any solid or liquid material outside the boundary line of any source for which a permit is required by Article XXI Part C in such manner that there is any visible emission, leak, spill, or other escape of such material during transport.
- b. Notwithstanding any other provision of this permit, the prohibitions of Site Level Condition IV.20 may be enforced by any municipal or local government unit having jurisdiction over the place where such visible emission, leak, spill, or other escape of material during transport occurs. Such enforcement shall be in accordance with the laws governing such municipal or local government unit. In addition, the Department may pursue the remedies provided by Article XXI §2109.02 for any violation of Site Level Condition IV.20.

21. Construction and Land Clearing (§2105.45)

- a. No person shall conduct, or allow to be conducted, any construction or land clearing activities in such manner that the opacity of emissions from such activities:
 - 1) Equal or exceed 20% for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period; or

2) Equal or exceed 60% at any time.

- b. Notwithstanding any other provision of this permit, the prohibitions of Site Level Condition IV.21 may be enforced by any municipal or local government unit having jurisdiction over the place where such construction or land clearing activities occur. Such enforcement shall be in accordance with the laws governing such municipal or local government unit. In addition, the Department may pursue the remedies provided by Article XXI §2109.02 for any violations of Site Level Condition IV.21.

22. Mining (§2105.46)

No person shall conduct, or allow to be conducted, any mining activities in such manner that emissions from such activities:

- a. Are visible at or beyond the property line;
b. Have an opacity of 20% or more for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period; or,
c. Have an opacity of 60% or more at any time.

23. Demolition (§2105.47)

- a. No person shall conduct, or allow to be conducted, any demolition activities in such manner that the opacity of the emissions from such activities equal or exceed 20% for a period or periods aggregating more than three (3) minutes in any 60 minute period.
- b. Notwithstanding any other provisions of this permit, the prohibitions of Site Level Condition IV.23 may be enforced by any municipal or local government unit having jurisdiction over the place where such demolition activities occur. Such enforcement shall be in accordance with the laws governing such municipal or local government unit. In addition, the Department may pursue the remedies provided by Article XXI §2109.02 for any violations of Site Level Condition IV.23.

24. Fugitive Emissions (§2105.49)

The person responsible for a source of fugitive emissions, in addition to complying with all other applicable provisions of this permit shall take all reasonable actions to prevent fugitive air contaminants from becoming airborne. Such actions may include, but are not limited to:

- a. The use of asphalt, oil, water, or suitable chemicals for dust control;
b. The paving and maintenance of roadways, parking lots and the like;
c. The prompt removal of earth or other material which has been deposited by leaks from transport, erosion or other means;
d. The adoption of work or other practices to minimize emissions;
e. Enclosure of the source; and
f. The proper hooding, venting, and collection of fugitive emissions.

25. Episode Plans (§2106.02 and Article XXI Part F)

The permittee shall upon written request of the Department, submit a source curtailment plan, consistent with good industrial practice and safe operating procedures, designed to reduce emissions of air

contaminants during air pollution episodes. Such plans shall meet the requirements of Article XXI §2106.02.

26. New Source Performance Standards (§2105.05)

- a. It shall be a violation of this permit giving rise to the remedies provided by §2109.02 of Article XXI for any person to operate, or allow to be operated, any source in a manner that does not comply with all requirements of any applicable NSPS now or hereafter established by the EPA, except if such person has obtained from EPA a waiver pursuant to Section 111 or Section 129 of the Clean Air Act or is otherwise lawfully temporarily relieved of the duty to comply with such requirements.
- b. Any person who operates, or allows to be operated, any source subject to any NSPS shall conduct, or cause to be conducted, such tests, measurements, monitoring and the like as is required by such standard. All notices, reports, test results and the like as are required by such standard shall be submitted to the Department in the manner and time specified by such standard. All information, data and the like which is required to be maintained by such standard shall be made available to the Department upon request for inspection and copying.

27. National Emission Standards for Hazardous Air Pollutants (§2104.08)

- a. The permittee shall comply with each applicable emission limitation, work practice standard, and operation and maintenance requirement of 40 CFR Part 63, Subpart DDDDD – *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters*.
- b. The permittee shall comply with each applicable emission limitation, work practice standard, and operation and maintenance requirement of 40 CFR Part 61, Subpart FF – *National Emission Standard for Benzene Waste Operations*.
- c. The permittee shall comply with each applicable emission limitation, work practice standard, and operation and maintenance requirement of 40 CFR Part 63, Subpart FFFF - *National Emission Standard for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing*.
- d. The permittee shall comply with each applicable emission limitation, work practice standard, and operation and maintenance requirement of 40 CFR Part 63, Subpart SS (as referenced by Subpart FFFF) - *National Emission Standard for Closed Vent Systems, Control Devices, Recovery Devices and Routing*.
- e. The permittee shall comply with each applicable emission limitation, work practice standard, and operation and maintenance requirement of 40 CFR Part 63, Subpart UU (as referenced by Subpart FFFF) - *National Emission Standard for Equipment Leaks – Control Level 2 Standards*.

28. Greenhouse Gas Reporting (40 CFR Part 98)

If the facility emits 25,000 metric tons or more of carbon dioxide equivalent (CO₂e) in any 12-month period, the facility shall submit reports to the US EPA in accordance with 40 CFR Part 98.

V. EMISSION UNIT LEVEL TERMS AND CONDITIONS

A. C5 Unit – AlCl₃ Handling Operation

Process Description: AlCl₃ silo, AlCl₃ receiver, AlCl₃ charging chamber
Max. Design Rate: 140 MM lbs resin/year
Raw Materials: Aluminum Chloride (AlCl₃)
Control Device: 2 Baghouses and Wet Scrubber

1. Restrictions:

- a. Permittee shall at no time, conduct or allow to be conducted, AlCl₃ filling of, or material transfer through, the AlCl₃ Silo, AlCl₃ Receiver and AlCl₃ Charging Chamber unless the subject silo, receiver, charging chamber and associated control equipment are properly maintained and operated according to the following conditions, at all times: [IP #0058-I008c, V.A.1.a; §2103.12.a.2.D]
 - 1) The silo, receiver and charging chamber shall be closed, with the exception of required ventilation and maintenance access, at all times while in AlCl₃ service. The silo and receiver shall exhaust all AlCl₃ emissions to their respective baghouses, at all times while in AlCl₃ service.
 - 2) The silo baghouse and receiver baghouse shall be in service treating all AlCl₃ emissions from the silo and receiver at all times during the unloading of, or transfer through, the silo and receiver, of AlCl₃. Each baghouse shall be equipped with automatic cleaning controls.
 - 3) The silo baghouse, receiver baghouse and charging chamber shall exhaust all AlCl₃ emissions to the 2 eductors-type scrubbers at all times while in AlCl₃ service.
 - 4) The subject scrubber shall be placed in series and shall be in service treating all AlCl₃ emissions from the subject baghouses and charging chamber while the baghouses and charging chamber are in AlCl₃ service. The scrubber shall be equipped with instrumentation that shall continuously measure the recycle rate to within 6.0% of the measuring span of the device during operation in AlCl₃ service.
 - 5) The scrubbing liquid recycle rate shall be a minimum of 77 gpm based on an hourly block average.
 - 6) The scrubbing liquid pH shall be greater than 5.0 based on an hourly block average while in operation treating AlCl₃ emissions.
 - 7) The subject silo, receiver and charging chamber shall handle AlCl₃ only.
- b. Emissions from the AlCl₃scrubber system shall not exceed the following at any time: [IP #0058-I008c, V.A.1.b; §2103.12.a.2.D]

TABLE V-A-1: Emission Limitations

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Total Suspended Particulates	0.16	0.55
PM ₁₀	0.16	0.55
Hydrochloric Acid	0.16	0.55

* A year is defined as any consecutive 12-month period.

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [§2103.12.h.1]

3. Monitoring Requirements:

- a. The permittee shall inspect the AlCl₃ Silo, AlCl₃ Receiver, AlCl₃ charging Chamber and control equipment for compliance with conditions in section V.A.1.a above, as follows. [IP #0058-I008c, V.A.3.a; §2103.12.a.2.D]
 - 1) The permittee shall inspect the AlCl₃ silo during truck unloading, a minimum of once per month for compliance with conditions V.A.1.a.1) through V.A.1.a.4) above.
 - 2) The permittee shall inspect the AlCl₃ receiver weekly for compliance with conditions V.A.1.a.1) through V.A.1.a.4) above.
 - 3) The permittee shall inspect the AlCl₃ charging chamber weekly for compliance with conditions V.A.1.a.1) and V.A.1.a.4) above.
- b. The permittee shall record the scrubbing liquid pH and recycle rate at least once every 15 minutes while the equipment associated with the scrubber is in operation. [IP #0058-I008c, V.A.3.b; §2103.12.a.2.D]
- c. Any excursions from the subject specifications shall be corrected as soon as possible. [IP #0058-I008c, V.A.3.c; §2103.12.a.2.D]

4. Record Keeping Requirements:

- a. The Permittee shall record the quantity of AlCl₃ unloaded per truck, the number of incoming AlCl₃ trucks, the duration of each truck unloading and the hours of operation of the AlCl₃ silo baghouse during unloading, for each AlCl₃ truck unloading event. [IP #0058-I008c, V.A.4.a; §2103.12.a.2.D]
- b. The permittee shall record the results of the inspections required by conditions V.A.3.a.1) through V.A.3.a.3) above at the time of each inspection. Episodes of non-compliance with the specified conditions and corrective actions taken shall be recorded upon occurrence. [IP #0058-I008c, V.A.4.b; §2103.12.a.2.D]
- c. The permittee shall record the AlCl₃ usage for the C-5 process on a monthly basis. [IP #0058-I008c, V.A.4.c; §2103.12.a.2.D]
- d. All records required under this section shall be maintained by the permittee for a period of five years following the date of such record. [§2103.12.j.2]

5. Reporting Requirements:

- a. The permittee shall report all instances of non-compliance with conditions V.A.1.a, V.A.1.b, V.A.3.a and V.A.4.a through V.A.4.d above along with all corrective action taken to restore compliance, to the Department every six months. Reports shall be submitted in accordance with Condition III.15 above. [IP #0058-I008c, V.A.5.a; §2103.12.a.2.D; §2103.12.k]

- b. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [§2103.12.k]

6. Work Practice Standard:

- a. The permittee may periodically replace the existing baghouse with a unit with the same or better air volume and efficiency. The permittee shall notify the Department at least 10 days prior to any such replacement. [IP #0058-I008c, V.A.6.a; §2103.12.a.2.D]
- b. The permittee shall maintain and implement the Preventative Maintenance and Operations (PMO) Plan submitted to and approved by the Department. The permittee shall maintain the original approved PMO Plan and all subsequent revisions for a period of five years and have them available for inspection. [IP #0058-I008c, V.A.6.b; §2103.12.a.2.D]

7. Additional Requirements:

None except as provided elsewhere.

~PERMIT SHIELD IN EFFECT~

B. C5 Unit – Polymerization Process

Process Description:	Hydrocarbon resin manufacture
Facility ID:	C-5 Polymerization Unit
Max. Design Rate:	140 MM lbs resin/year
Raw Materials:	Toluene, alpha methyl styrene, isobutylene, styrene & piperylene
Control Device:	Thermal Oxidizer, UHF Filter, Baghouses, Condensers

1. Restrictions:

- a. The C-5 polymerization process shall be limited to 140 million pounds of finished resin produced in any consecutive 12-month period. [IP #0058-I011f, V.A.1.a; §2103.12.a.2.D]
- b. The permittee shall not operate or allow to be operated the following process equipment unless all emissions from these units are ducted to the subject thermal oxidizer: [IP #0058-I011f, V.A.1.b; §2103.12.a.2.D; 40 CFR 63.2450(a)]

R-302-1 Reactor	T-412-1 Wash Solvent Receiver
R-303-1 Soaker	T-412-1 ANNEX Wash Solvent Receiver
T-409-1 Filtrate Receiver	T-502-4 Depentanizer Overhead Receiver
T-406-2 Filter Condensate Decanter	S-404-11 Precoat Knock-out Pot
T-403-1 Solvent Flush Tank	T-506-3 Inhibitor Feed Tank
T-506-1 Inhibitor Make-up Tank	A-301-1 Calcium Dryer (out of service)
S-3630-1 C-5 API Separator	T-800-1 Reclaim Tank
500 Battery Tanks (501, 502, 503, 505 & 506)	T-609-1 Steam Jet Seal Pot
- c. The thermal oxidizer shall be properly operated and maintained according to good engineering practices, manufacturer's recommendations and the following conditions at all times while treating process emissions: [IP #0058-I011f, V.A.1.c; §2105.30; §2103.12.a.2.D; 40 CFR 63, Subpart FFFF Table 1.1.a.i; 40 CFR 63, Subpart FFFF Table 2.1.a.; 40 CFR §63.2450(a); 40 CFR §63.988(a)(1) and (2)]
 - 1) The minimum VOC destruction efficiency shall be 98% by weight;
 - 2) The minimum HAPs destruction efficiency shall be 98% by weight;
 - 3) The minimum ammonia destruction efficiency shall be 98% by weight;
 - 4) The residence time shall be greater than 0.5 second;
 - 5) The minimum operating temperature shall be temperature that corresponds to 98% destruction efficiency as demonstrated by the most recent stack test or 1,400 °F, whichever is greater; and
 - 6) The maximum flowrate at the inlet to the oxidizer shall not exceed 500 scfm at any time.
- d. The thermal oxidizer shall be equipped with instrumentation that continuously monitors the temperature of gases exiting the combustion chamber to within 2.2 °C (4 °F) of actual and records temperatures to within ½°F. The permittee shall at all times properly maintain and calibrate the continuous temperature monitor and recorder in accordance with manufacturer's specifications and good engineering practices. [IP #0058-I011f, V.A.1.d; §2103.12.a.2.D]
- e. When the thermal oxidizer is not operating, the permittee shall reroute emissions from Tanks 501, 502, 503, 505 and 506, and oil/water separator S-3630-1 to a carbon bed to reduce emissions by 95% by weight, or to a VOC outlet gas concentration of 20 ppm or less. This requirement shall not apply during the first 45 minutes after the thermal oxidizer shuts down or otherwise unexpectedly

goes out of service. The permittee shall cease filling the above-mentioned storage tanks and shall cease operating the C-5 Process Unit as soon as practicable after the thermal oxidizer shuts down, but in any event no later than thirty (30) minutes after the thermal oxidizer shuts down. All periods of thermal oxidizer shut down must be recorded. [IP #0058-I011f, V.A.1.e; §2103.12.a.2.D; Subpart FFFF Table 1.1.a.i]

- f. The permittee shall not operate the Reclaim Dump station, Inhibitor Dump station, or Precoat Tank Dump station unless emissions of particulate matter are exhausted to baghouses which are properly maintained and operated at all times. [IP #0058-I011f, V.A.1.f; §2103.12.a.2.D; §2105.03]
- g. The baghouses shall have a particulate matter and PM₁₀ minimum control efficiency of 99.9% at all times during process operations. [IP #0058-I011f, V.A.1.g; §2103.12.a.2.D]
- h. The permittee shall not operate the Resin product loading (drumming) unless VOC emissions are exhausted to the UHF Filter at all times. [IP #0058-I011f, V.A.1.h; §2103.12.a.2.D]
- i. The permittee shall not operate or allow to be operated the Sparkler Filter unless all emissions are routed to the condensers E-519-6 and E-519-7. [IP #0058-I011f, V.A.1.i; §2103.12.a.2.D; §2105.06.b.3]
- j. The permittee shall properly maintain and operate the condensers E-519-6 and E-519-7 at all times when emissions from Sparkler filters are routed to them. [IP #0058-I011f, V.A.1.j; §2103.12.a.2.D; §2105.03]
- k. Emissions from the Thermal Oxidizer shall not exceed the following at any time: [IP #0058-I011f, V.A.1.k; §2103.12.a.2.D]

TABLE V-B-1: Emission Limitations

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter	0.05	0.20
PM ₁₀	0.05	0.20
Nitrogen Oxides	5.99	26.24
Carbon Monoxide	0.09	0.41
Volatile Organic Compounds	0.11	0.46
Total HAPs	0.11	0.46
Ammonia	0.02	0.09
Toluene	0.11	0.46

* A year is defined as any consecutive 12-month period.

- l. Baghouses PM/PM₁₀ emissions due to operation of the Reclaim Dump station, Inhibitor Dump station, or Precoat Tank Dump station shall not exceed the following at any time [IP #0058-I011f, V.A.1.l; §2103.12.a.2.D]:

TABLE V-B-2: Emission Limitations

STACK ID	SOURCE DESCRIPTION	ANNUAL EMISSION LIMIT (tons/year)*
S051	Reclaim Dump Station	0.03
S048	Inhibitor Dump Station	0.01
S310	Precoat Tank Dump Station	≤0.01

* A year is defined as any consecutive 12-month period.

- m. UHF filter VOC emissions due to resin product loading operation (drumming) shall not exceed 0.14 tons/year at any time. A year is defined as any consecutive 12-month period. [IP #0058-I011f, V.A.1.m; §2103.12.a.2.D].
- n. Sparkler filter VOC, toluene, and HAP emissions due to operation shall not exceed 0.05 tons/year at any time. A year is defined as any consecutive 12-month period. [IP #0058-I011f, V.A.1.n; §2103.12.a.2.D].
- o. Except as provided in Condition V.B.1.p below, the permittee shall operate the C5 Polymerization Unit using a 75% molar substitution rate of caustic for ammonia. Caustic is defined as a solution of 50% sodium hydroxide. [IP #0058-I011f, V.A.1.o; §2103.12.a.2.D].
- p. The permittee may operate C5 Polymerization Unit using 100% ammonia as the neutralizing solution provided that it operates using only one Funda Filter. [IP #0058-I011f, V.A.1.p; §2103.12.a.2.D]

2. Testing Requirements:

- a. Testing shall be performed in accordance with the Site Level Condition IV.13 (“Emissions Testing Requirements”) to determine compliance with the emission limitations and efficiencies of conditions V.B.1.c and V.B.1.k. [IP #0058-I011f, V.A.2.a; §2103.12.a.2.D]
- b. Emissions testing of the thermal oxidizer for VOC, HAP, and ammonia shall be conducted at least once every five years in accordance with §2108.02. [IP #0058-I011f, V.A.2.b; §2103.12.a.2.D; §2108.02]
 - 1) Testing shall be performed at the inlet and outlet of the thermal oxidizer to demonstrate compliance with the VOC, HAP, and ammonia destruction efficiencies required by Conditions V.B.1.c.1) through V.B.1.c.3) above.
 - 2) Testing for VOC, HAP, and ammonia emissions (inlet and outlet) shall consist of three one-hour test runs conducted at maximum VOC, HAP, and ammonia process emission production. VOC efficiency and emission tests shall include one filter cleaning cycle per test run.
 - 3) Testing for VOC, HAP and ammonia emissions shall consist of EPA methods 1, 2, and 18 and EPA approved methodology for ammonia. HAP testing shall consist of EPA method 18.
- c. The Department reserves the right to require additional emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [§2103.12.h.1]

3. Monitoring Requirements:

- a. The permittee shall inspect the thermal oxidizer, the equipment in Condition V.B.1.b above and associated ductwork monthly for proper operation of and integrity of the oxidizer, process equipment and gaseous collection systems. [IP #0058-I011f, V.A.3.a; §2103.12.a.2.D]
- b. The permittee shall install, operate, and maintain a colorimetric indicator to monitor the performance of the carbon bed. In the absence of any bright purple color in the indicator, the carbon canister shall be replaced within 24 hours. [IP #0058-I011f, V.A.3.c; §2103.12.a.2.D]
- c. The permittee shall install, operate, and maintain instrumentation to continuously measure the differential pressure drops across the UHF Filter and baghouses to within 0.5" w.c. The monitoring device used to determine differential pressure shall be certified by the manufacturer to be accurate to within a gage pressure of $\pm 10\%$ of the maximum pressure drop measured. A one-hour block average differential pressure drop shall be established as a required limit for the C-5 UHF filter. The permittee shall record the differential pressure drop across the UHF filter every fifteen (15) minutes while the process unit is in operation. [IP #0058-I011f, V.A.3.d; §2103.12.a.2.D]
- d. The permittee shall inspect the process line and control equipment weekly for compliance with conditions V.B.1.c through V.B.1.g above. [IP #0058-I011f, V.A.3.e; §2103.12.a.2.D]
- e. The permittee shall inspect the process lines and control equipment prior to the cleaning of the sparkler filters for compliance with conditions V.B.1.i and V.B.1.j above. [IP #0058-I011f, V.A.3.f; §2103.12.a.2.D]
- f. The permittee shall inspect the process lines and control equipment at the drumming station prior to any drumming activity for compliance with condition V.B.1.h above. [IP #0058-I011f, V.A.3.g; §2103.12.a.2.D]
- g. Inlet and outlet testing ports shall be provided on the UHF Filter. Such test ports shall be located in accordance with EPA test methods 1 and 2 (40 CFR Part 60). [IP #0058-I011f, V.A.3.h; §2103.12.a.2.D]

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain the following data: [IP #0058-I011f, V.A.4.a; §2103.12.a.2.D]
 - 1) All records of monitoring required by V.B.3 above;
 - 2) Resin production and hours of operation; (daily, monthly, 12-month);
 - 3) Records of operation, maintenance, inspection, calibration and/or replacement of equipment;
 - 4) Record of natural gas combusted in the thermal oxidizer and calculation emissions based on AP-42 factors monthly;
 - 5) Stack test protocols and reports; and
 - 6) Manufacturer's specifications.
- b. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [IP #0058-I011f, V.A.4.b; §2103.12.a.2.D]

- c. All records required under this section shall be maintained by the permittee for a period of five years following the date of such record. [§2103.12.j.2; 40 CFR 63.10(b)]

5. Reporting Requirements:

- a. The permittee shall report the following information to the Department in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: [IP #0058-I011f, V.A.5.a; §2103.12.a.2.D]
- 1) Monthly and 12-month data required to be recorded by condition V.B.4.a; and
 - 2) Non-compliance information required to be recorded by V.B.4.b above.
- b. The notification of compliance status report must include the information below. [40 CFR 63.2520(d)(2); §2103.12.a.2.B]
- 1) The results of any applicability determinations, emission calculations, or analyses used to identify and quantify HAP usage or HAP emissions from the affected source.
 - 2) The results of emissions profiles, performance tests, engineering analyses, design evaluations, inspections and repairs, and calculations used to demonstrate initial compliance. For performance tests, results must include descriptions of sampling and analysis procedures and quality assurance procedures.
 - 3) Descriptions of monitoring devices, monitoring frequencies, and the operating limits established during the initial compliance demonstrations, including data and calculations to support the levels established.
- c. The compliance report must contain the information specified below. [40 CFR 63.2520(e); §2103.12.a.2.B]
- 1) Company name and address.
 - 2) Statement by a responsible official with that official's name, title, and signature, certifying the accuracy of the content of the report.
 - 3) Date of report and beginning and ending dates of the reporting period.
- d. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [§2103.12.k]

6. Work Practice Standard:

- a. The permittee is authorized to periodically replace the existing condensers and baghouses listed in this permit with a unit of the same or better efficiency. The permittee shall notify the Department in writing at least ten (10) days prior to any such replacement. [IP #0058-I011f, V.A.6.a; §2103.12.a.2.D]
- b. The permittee shall maintain and implement the Preventative Maintenance and Operations (PMO) Plan submitted to and approved by the Department. The permittee shall maintain the original approved PMO Plan and all subsequent revisions for a period of five years and have them available for inspection. [IP #0058-I011f, V.A.6.b; §2103.12.a.2.D]
- c. Under the requirements of 40 CFR Part 63, Subpart FFFF, the permittee is required to have a Leak

Detection and Repair (LDAR) program. The permittee shall comply with each applicable conditions of Section VI.G below.

7. **Additional Requirements:**
None except as provided elsewhere.

~PERMIT SHIELD IN EFFECT~

C. C5 Unit – Pastillation Process

Process Description: Resin Production Line
Max. Design Rate: 11,000 lbs/hr Pastillated Resin per Belt or 140 MM lbs resin/year
Raw Materials: Molten Resin from C-5
Control Device(s): UHF Filter, Fume Filter Demister & Baghouse

1. Restrictions:

- a. The permittee shall not operate the #1 and #2 Pastillating Belts unless VOC emissions are exhausted to the UHF Filter and the Fume Filter Demister (S-751-1) at all times. The minimum capture efficiency of the UHF Filter/Demister shall be 90%. [IP #0058-I018a, V.A.1.a; §2103.12.a.2.D]
- b. The permittee shall not operate the #1 or #2 belt conveyor, product bin, or bag filling station unless emissions of particulate matter are exhausted to a baghouse (S-726-1) which is properly maintained and operated at all times. [IP #0058-I018a, V.A.1.b; §2103.12.a.2.D; §2105.03]
- c. The baghouse (S-726-1) shall have a particulate matter and PM₁₀ minimum control efficiency of 99.9% at all times during process operations. [IP #0058-I018a, V.A.1.c; §2103.12.a.2.D]
- d. Baghouse (S-726-1) emissions due to the pastillator solid handling operations after pastillation shall not exceed the following at any time: [IP #0058-I018a, V.A.1.d; §2103.12.a.2.D]

TABLE V-0-1: Emission Limitations

Pollutant	Emissions (lbs/hr)	Annual Emissions (tons/year) ¹
PM ²	1.10	3.50
PM ₁₀	1.10	3.50
PM _{2.5}	1.10	3.50

¹ A year is defined as any 12 consecutive months.

² PM includes PM₁₀ and PM_{2.5}.

- e. Fume filter & demister stack (S-751-1) emissions due to operation of the #1 and #2 Pastillating Belts shall not exceed the following at any time: [IP #0058-I018a, V.A.1.e; §2103.12.a.2.D]

TABLE V-0-2: Emission Limitations

Pollutant	Emissions (lbs/hr)	Annual Emissions (tons/year) ¹
VOCs	1.95	6.21

¹ A year is defined as any 12 consecutive months.

- f. Combined production of the #1 and #2 Pastillating Belts shall be limited to 140,000,000 pounds of pastillated resin per consecutive 12-month period. [IP #0058-I018a, V.A.1.f; §2103.12.a.2.D]

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [§2103.12.h.1]

3. Monitoring Requirements:

- a. The permittee shall install, operate and maintain instrumentation to measure the pressure drops across the UHF Filter/Demister (S-751-1) and baghouse (S-726-1) to within 1" w.c. of actual. [IP #0058-I018a, V.A.3.a; §2103.12.a.2.D]
- b. The permittee shall inspect the process line and control equipment weekly for compliance with conditions V.C.1.a, V.C.1.b and V.C.1.c above. [IP #0058-I018a, V.A.3.b; §2103.12.a.2.D]
- c. Inlet and outlet testing ports shall be provided on the UHF Filter/Demister (S-751-1) and baghouse (S-726-1). Such test ports shall be located in accordance with EPA test methods 1 and 2 (40 CFR Part 60). [IP #0058-I018a, V.A.3.c; §2103.12.a.2.D]

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain the following data: [IP #0058-I018a, V.A.4.a; §2103.12.a.2.D]
 - 1) Amount (lbs.) of molten resin pastillated (monthly, 12-month rolling total);
 - 2) Hours of operation of the production line (monthly, 12-month rolling total);
 - 3) The results of all inspections conducted according to condition V.C.3.b above (weekly);
 - 4) Data recorded as per condition V.C.3.b above (weekly, monthly high and low values);
 - 5) Calculated VOC emissions (monthly);
 - 6) Records of testing, maintenance, inspection, calibration and/or replacement of process or control equipment.
- b. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [IP #0058-I018a, V.A.4.b; §2103.12.a.2.D]
- c. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [IP #0058-I018a, V.A.4.c; §2103.12.a.2.D]

5. Reporting Requirements:

- a. The permittee shall report the following information to the Department in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: [IP #0058-I018a, V.A.5.a; §2103.12.a.2.D]
 - 1) Monthly and 12-month data required to be recorded by condition V.C.4.a above; and
 - 2) Non-compliance information required to be recorded by V.C.4.b above.

- b. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 above, if appropriate. [IP #0058-I018a, V.A.5.b; §2103.12.a.2.D]

6. Work Practice Standard:

- a. The permittee shall maintain and implement the Preventative Maintenance and Operations (PMO) Plan submitted to and approved by the Department. The permittee shall maintain the original approved PMO Plan and all subsequent revisions for a period of five years and have them available for inspection. [IP #0058-I018a, V.A.6.a; §2103.12.a.2.D]
- b. The permittee shall do the following for Pastillating Belts #1 and #2 and associated equipment: [§2105.03; IP #0058-I026a, V.B.2.a; §2103.12.a.2.D]
 - 1) Perform regular maintenance in accordance with the manufacturer's or the operator's maintenance procedures;
 - 2) Keep records of any maintenance; and
 - 3) Keep a copy of either the manufacturer's or the operator's maintenance procedures.
- c. The Pastillating Belts #1 and #2 shall be properly operated and maintained at all times according to good engineering practices, with the exception of activities to mitigate emergency conditions. [§2105.03; IP #0058-I026a, V.B.2.b; §2103.12.a.2.D]
- d. The permittee may periodically replace the existing baghouse with a unit of the same or better air volume and efficiency. The permittee shall notify the Department at least 10 days prior to any such replacement. [§2103.12.a.2.D]

7. Additional Requirements:

None except as provided elsewhere.

~PERMIT SHIELD IN EFFECT~

D. C5 Unit – Storage Tanks

Tank ID	Material Stored	Capacity (gal)	Control Device	Emission Point
T-50	J-RAF	528,765	Floating Roof	S216
T-52	Piperylene Concentrate	528,765	Floating Roof	S218
T-53	Piperylene Concentrate	734,000	Floating Roof	S219
T-54	Piperylene Concentrate	1,469,451	Floating Roof	S060
T-55	Piperylene Concentrate	579,586	Floating Roof	S061
T-500	Toluene	112,251	Floating Roof	S058
T-511	White Oil	15,228	NA	S274
T-121	Resin	19,432	NA	S064
T-123	Resin	20,080	NA	S066
T-124	Resin	24,864	NA	S097
T-161	Resin	158,630	NA	S238
T-365	Resin	20,728	NA	S266
T-366	Resin	20,132	NA	S267
T-367	Resin	20,132	NA	S268
T-504	Resin	60,914	NA	S059
T-601	Resin	108,291	NA	S269
T-602	Resin	108,291	NA	S270
T-501	Polymerizate	60,914	TO/Carbon Bed	S044/S044A
T-502	Polymerizate	60,914	TO/Carbon Bed	S044/S044A
T-503	API Oil, Polymerizate, Toluene	51,184	TO/Carbon Bed	S044/S044A
T-505	API Oil	8,484	TO/Carbon Bed	S044/S044A
T-506	API Oil	8,484	TO/Carbon Bed	S044/S044A

1. Restrictions:

The permittee shall store all materials in accordance with the table above and Site Level Condition IV.17 above, with the exceptions in condition V.D.5.b below. [§2105.12.a]

- a. The maximum throughput for Tank 53 shall not exceed 12.482 million gallons per year during any 12 consecutive months. [IP #0058-I021, V.A.1.b; §2103.12.a.2.D]
- b. The permittee shall equip Tanks 50, 52, 53, 54, 55, and 500 with an internal floating roof with the following specifications: [IP #0058-I017, V.A.1.b; IP #0058-I021, V.A.1.c; §2105.12(b)(1); §2103.12.a.2.D; §60.112b(a)(1)(i)-(ix)]
 - 1) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it). 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 or subsequently emptied and 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.[§60.112b(a)(1)(i)]
 - 2) The internal floating roof shall be equipped with a mechanical shoe seal. A mechanical shoe seal 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. [§2105.12(c)(2)(A); §60.112b(a)(1)(ii)]

- 3) 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. [§60.112b(a)(1)(iii)]
 - 4) 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. [§2105.12(c)(2)(C)(i); §60.112b(a)(1)(iv)]
 - 5) 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. [§2105.12(c)(2)(C)(ii); §60.112b(a)(1)(v)]
 - 6) 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. [§2105.12(c)(2)(C)(iii); §60.112b(a)(1)(vi)]
 - 7) 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. [§60.112b(a)(1)(vii)]
 - 8) 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. [§60.112b(a)(1)(viii)]
 - 9) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover. [§60.112b(a)(1)(ix)]
- c. Emissions from the storage tanks shall not exceed the following at any time: [IP #0058-I011f, V.B.1.b; IP #0058-I017, V.A.1.c; IP #0058-I021, V.A.1.d; §2103.12.a.2.B&D]

TABLE V-D-1: Emission Limitations

Storage Tank	VOC Emissions (tons/year)*	HAP Emissions (tons/year)*
T-50, T-52, T-53 T-54, T-55, & T-500	9.1	0.33
T-121, T-123, T-124, T-366, T-365, T-367, T-601, T-602, T-161, T-504, & T-511	3.9	0.26
Total	12.96	0.59

* A year is defined as any consecutive 12-month period.

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [§2103.12.h.1]

3. Monitoring Requirements:

- a. The permittee shall measure and record the throughput of material that is pumped into each storage tank using material receipt records, level measurement changes, or mass flow meters. [IP #0058-I011f, V.B.3.a; §2103.12.a.2.D; §2103.12.i]
- b. The permittee shall include the operation, calibration, and maintenance of the level instrumentation and mass flow meters in the Preventative Maintenance and Operation Plan required by condition V.D.6.a below if such instruments are being used to comply with condition V.D.3.a above. [IP #0058-I011f, V.B.3.b; §2103.12.a.2.D; §2103.12.i]
- c. The permittee shall visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel. 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 permittee shall repair the items before filling the storage vessel. [IP #0058-I017, V.A.3.a; IP #0058-I021, V.A.3.a; §2105.12.c.2.; §2103.12.a.2.D; §60.113b(a)(1)]
- d. The permittee shall 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 liquid inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the permittee 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 paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Department in the inspection report required in condition V.D.5.c.3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. [IP #0058-I017, V.A.3.b; IP #0058-I021, V.A.3.b; §2103.12.a.2.D; §60.113b(a)(2)]
- e. The permittee shall 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 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 surfaces 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 this paragraph exist before refilling the storage vessel. In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years. [IP #0058-I017, V.A.3.c; IP #0058-I021, V.A.3.c; §2103.12.a.2.D; §60.113b(a)(4)]
- f. The permittee shall notify the Department in writing at least 30 days prior to the filling or refilling of the tank to afford the Department the opportunity to have an observer present. If the inspection required in condition V.D.3.e above is not planned and the permittee could not have known about the inspection 30 days in advance or refilling the tank, the permittee shall notify the Department at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Department at least 7 days prior to the refilling. [IP #0058-I017, V.A.3.d; IP #0058-I021, V.A.3.d; §2103.12.a.2.B&D ; §60.113b(a)(5)]

4. Record Keeping Requirements:

- a. The permittee shall maintain an Above-Ground Storage Tank Log (AST log) for the tanks T-50, T-54, T-55, T-500, T-511, T-121, T-123, T-124, T-161, T-365, T-366, T-367, T-504, T-501, T-502, T-503, T-505, T-506, T-601, T-602; update the log at least once per week and shall make the log available for inspection by the Department. The AST log shall include the information on the parameters listed in Table below, using the methodologies identified therein. [IP #0058-I011f, V.B.4.a; §2103.12.a.2.D; §2103.12.j]

PARAMETER	METHODOLOGY
<ul style="list-style-type: none"> - AST ID and date installed and/or modified - AST size 	Engineering records and diagrams. Permittee shall provide the installation and modification dates where the dates are known.
<ul style="list-style-type: none"> - Material store by name - A daily measurement of the level of material in each AST 	The level of the material in each tank shall be measured daily and entered into the AST log at a minimum weekly.
<ul style="list-style-type: none"> - Temperature 	<p>Unheated tanks: Use 28°C (equal to the local maximum monthly (July)) average temperature as reported by the National Weather Service for the Pittsburgh area to calculate vapor pressure of the tank for the AST Log. Use the default temperature for Pittsburgh, Pennsylvania as provided by TANKS4.09d (or the most recent version) or replacement as identified by ACHD for emission calculation and compliance determinations.</p> <p>Heated Tanks: Use the heater setting as the temperature for each heated tank.</p>
<ul style="list-style-type: none"> - Pressure (unpressurized or Nitrogen blanketed tanks) 	Use the default atmospheric pressure for Pittsburgh, Pennsylvania as provided by TANKS 4.09.d (or the most recent version) for emission calculation and compliance determinations.
<ul style="list-style-type: none"> - Vapor pressure of the material stored 	Use the Antoine’s coefficients developed from vapor pressure testing as well as tank temperature (28°C for unheated tanks) and material data from the AST log entries to calculate vapor pressure.

- b. The permittee shall keep readily accessible records for Tanks 52 and 53 showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. These records shall be kept for the life of the tank. [IP #0058-I017, V.A.4.a; IP #0058-I021, V.A.4.a; §2103.12(j); §60.116b(a)-(b)]
- c. The permittee shall record the following information for Tanks 52 and 53. Such records shall provide sufficient data and calculations to clearly demonstrate that the applicable requirements are being met, and shall include but not be limited to the following: [IP #0058-I017, V.A.4.b; IP #0058-I021, V.A.4.b; §2105.12(f)(3); §60.116b(c)]
 - 1) Type, amount, and period of storage of each volatile organic liquid stored (each addition, monthly and 12-month);

- 2) Maximum true vapor pressure of each liquid as stored (monthly);
 - 3) Date and reason for each tank cleaning (monthly, 12-month summary);
 - 4) Calculated VOC and HAP emissions (monthly, rolling 12-month);
 - 5) Results of all inspections performed on the tank.
- d. The maximum true vapor pressure for Tanks 52 and 53 shall be calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service. The vapor pressure under actual storage conditions shall be determined using a temperature which is representative of the average storage temperature for the hottest month of the year in which such storage takes place. [IP #0058-I017, V.A.4.c; IP #0058-I021, V.A.4.c; §2105.12(d); §60.116b(e)(1)]
- e. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [IP #0058-I021, V.A.4.d; §2103.12.a.2.D; §2103.12.h.5.B]
- f. All records required under this section shall be maintained by the permittee for a period of five years following the date of such record. These records shall be made available to the Department upon request for inspection and/or copying. [§2103.12.j.2; §60.116b(a)]

5. Reporting Requirements:

- a. The permittee shall submit semiannual reports to the Department in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: [IP #0058-I017, V.A.5.a; IP #0058-I021, V.A.5.a; §2103.12(k)]
- 1) Data required to be recorded by conditions, V.D.4.c, and V.D.4.d above; and
 - 2) Non-compliance information required to be recorded by V.D.4.e above.
- b. The permittee shall submit notification of intent to store any new material in storage tanks, other than indicated in the table in Section II and the table at the beginning of this section, V.D above, to the Department a minimum of ten (10) working days prior to the intended store date. This notification shall at minimum include the Safety Data Sheet, the maximum true vapor pressure and the emissions calculations for the new materials. [IP #0058-I011f, V.B.5.a; §2103.12.a.2.D]
- c. For the internal floating roof tanks, the permittee shall meet the following requirements: [IP #0058-I017, V.A.5.b; IP #0058-I021, V.A.5.b; §60.115b(a)(1)-(3)]
- 1) Furnish the Department with a report that describes the control equipment and certifies that the control equipment meets the specifications of conditions V.D.1.b and V.D.3.c. This report shall be an attachment to the notification required by condition above.[§60.115b(a)(1)]
 - 2) Keep a record of each inspection performed as required by conditions V.D.3.c, V.D.3.d, and V.D.3.e. 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 roof, and fittings). [§60.115b(a)(2)]
 - 3) If any of the conditions described in condition V.D.3.d are detected during the annual visual inspection required by condition V.D.3.d, a report shall be furnished to the Department within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.[§60.115b(a)(3)]

- d. The permittee shall report to the Department the calculated VOC and HAP emissions from the storage tanks in the previous 12-month period within 30 days upon request by the Department. Emissions estimates shall be based on storage tank emissions using Tanks 4.0 or other EPA approved methodology. [IP #0058-I017, V.A.5.c; IP #0058-I021, V.A.5.c; IP #0058-I011f, V.B.5.b; §2103.12.k]
- e. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [§2103.12.k]

6. Work Practice Standard:

- a. The permittee shall maintain and implement the Preventative Maintenance and Operations (PMO) Plan submitted to and approved by the Department. The permittee shall maintain the original approved PMO Plan and all subsequent revisions for a period of five years and have them available for inspection. [IP #0058-I011f, V.A.3.b; §2103.12.a.2.D]
- b. The permittee shall do the following for all VOC storage tanks and associated equipment: [§2105.03, IP #0058-I026a, V.A.2.a; §2103.12.a.2.D]
 - 1) Perform regular maintenance in accordance with the manufacturer's or the operator's maintenance procedures;
 - 2) Keep records of any maintenance; and
 - 3) Keep a copy of either the manufacturer's or the operator's maintenance procedures.
- c. The VOC storage tanks shall be properly operated and maintained at all times according to good engineering practices, with the exception of activities to mitigate emergency conditions. [§2105.03; IP #0058-I026a, V.A.2.b; §2103.12.a.2.D]
- d. Under the requirements of 40 CFR Part 63, Subpart FFFF, the permittee is required to have a Leak Detection and Repair (LDAR) program. The permittee shall comply with each applicable conditions of Section VI.G below.

7. Additional Requirements:

None except as provided elsewhere.

~PERMIT SHIELD IN EFFECT~

E. MP Poly (Multi-Purpose Polymerization) Unit - Process

Process Description: Batch process for hydrocarbon resin manufacturer
Facility ID: MP Poly
Max. Design Rate: 103,000,000 lbs/year polymerizate
Raw Materials: Pure monomers of styrene and substituted styrenes and recycled high-value distillate (HVD) or recycled hydrogenated solvent (RHS)
Control Device: Vent condensers (5), Wet scrubber (1), Baghouses (3)

1. Restrictions:

- a. The maximum production rate for MP Poly process unit shall not exceed 103,000,000 pounds per 12-month rolling period of polymerizate. [IP #0058-I022a, V.A.1.a; §2103.12.a.2.D]
- b. The permittee shall not operate or allow to be operated the following equipment unless all emissions from the equipment are routed to the subject control devices: [IP #0058-I022a, V.A.1.b; §2103.12.a.2.D; 40 CFR 63.2450(a)]

Table V-E-1: MP Poly Unit Controlled Equipment

Equipment I.D.	Equipment Description	Control Device(s)	Stack I.D.
R-400-1	Reactor	Condenser E-400-6, BF ₃ Scrubber	S029
T-301-1	Lime Storage Silo	Baghouse S-301-2	S030
S-303-1	Lime Filter Receiver	Baghouse S-303-1	S031
T-500-1	Neutralizer	Condenser E-500-5	S034
E-500-5 T-700-1 T-703-1 S-602-1 S-601-1 T-701-1	Neutralizer Vent Condenser Solvent Wash Tank Heel Tank Funda Filter East Funda Filter West Filtrate Receiver	Condenser E-701-5, Condenser E-701-4	S034
T-203-1 A-103-1	Preblend Tank Calcium Chloride Dryer	Condenser E-203-4	S035
H-800-3	Precoat Tank Bag Dump Station	Baghouse H-800-3	F010

- c. The BF₃ Scrubber shall be properly operated and maintained according to good engineering practices and manufacturer’s recommendations at all times while treating process emissions. [IP #0058-I022a, V.A.1.c; §2103.12.a.2.D]

- d. The existing S-301-2, S-303-1, and H-800-3 baghouses shall be properly maintained and operated with a minimum particulate removal efficiency of 99.0%. [IP #0058-I022a, V.A.1.d; §2103.12.a.2.D]
- e. The permittee shall not discharge or allow to be discharged filterable particulate matter from the S-301-2 and S-303-1 baghouses stacks in excess of 0.02 gr/dscf. [IP #0058-I022a, V.A.1.e; §2103.12.a.2.D]
- f. The permittee shall properly maintain and operate the condensers E-400-6, E-500-5, E-701-5, E-701-4, and E-203-4 at all times when emissions are routed to them. [IP #0058-I022a, V.A.1.f; IP #0058-I026a, V.C.1.b; §2103.12.a.2.D; §2105.03]
- g. The inlet coolant temperature to the condensers E-203-4 (S035) and E-701-4 (S034) shall not exceed 10°C (50°F) over any one hour block average when emissions are routed through the condensers with the exception of activities to mitigate emergency conditions. [IP #0058-I022a, V.A.1.g; IP #0058-I026a, V.C.1.c; §2103.12.a.2.D]
- h. The exit vapor temperature from the condensers E-203-4 (S035) and E-701-4 (S034) shall not exceed 35°C (95°F) over any one-hour block average when emissions are being routed through them unless the temperature exceedance is due solely to high ambient temperature. Documentation, as specified in condition V.E.1.i below must be collected for each one-hour block average exit temperature over 35 C (95 F). [IP #0058-I022a, V.A.1.h; §2103.12.a.2.B & D]
- i. If the measured one-hour block average exit vapor temperatures exceed 35°C (95°F) from condenser E-203-4 or E-701-4, the permittee shall take the following actions: [IP #0058-I026a, V.C.1.d; §2103.12.a.2.D]
- 1) Confirm that the glycol cooler is operating properly by reviewing current operating conditions (e.g., that the chiller system is operating and circulating coolant, and that glycol coolant is being supplied or exiting the condensers at required temperatures). Corrective actions are required to be taken to correct loss of coolant supply or to return the coolant supply/exit temperature to required temperatures.
 - 2) The following documentation will be maintained:
 - a) Identification of the condenser.
 - b) The exit vapor and inlet coolant supply temperatures at the time of exceedance.
 - c) The ambient air temperature at the time of exceedance.
 - d) The estimated quantity of excess VOC and total HAP emitted, if any, generated during the exceedance.
 - e) The nature and probable cause of the event causing the exceedance, including if the exceedance was due solely to high ambient temperatures.
 - f) Appropriate corrective actions taken.
 - 3) Periods of exit vapor temperatures in excess of 35 °C (95 °F) not due solely to high ambient temperature shall be considered a breakdown in accordance with §2108.01.
- j. The inlet coolant temperature to the condenser E-400-6 (S029) shall not exceed 10 °F (5.6 °C) above ambient air temperature over any one-hour block average when emissions are routed through it except during activities to mitigate emergency conditions and except that at no time will coolant temperature be required to be less than 50 °F. [IP #0058-I022a, V.A.1.i; §2103.12.a.2.D]
- k. The exit vapor temperature from condenser E-400-6 (S029) shall not exceed 40 °C (104 °F) over

any one-hour block average when emissions are being routed through it unless the temperature exceedance is due solely to high ambient temperature. Documentation as specified in condition V.E.1.1 below must be collected for each one-hour block average exit temperature over 40 °C (104 °F). [IP #0058-I022a, V.A.1.j; §2103.12.a.2.D]

- l. If the measured one-hour block average exit vapor temperatures exceed 40 °C (104 °F) from a condenser, the permittee shall take the following actions: [§2103.12.a.2.B]
 - i. Confirm that the cooling tower is operating properly by reviewing current operating conditions (e.g., that the cooling system is operating and circulating cooling water, and that cooling water is being supplied at less than 10 °F (5.6 °C) above ambient (except that at no time will coolant temperature be required to be less than 50 °F (10 °C)). Corrective actions are required to be taken to correct loss of coolant supply or to return the coolant supply temperature to less than 10 °F (5.6 °C) above ambient (except that at no time will coolant temperature be required to be less than 50 °F (10 °C)).
 - ii. The following documentation will be maintained:
 - 1. Identification of the condenser.
 - 2. The exit vapor and inlet coolant supply temperatures at the time of exceedance.
 - 3. The ambient air temperature at the time of exceedance.
 - 4. The estimated quantity of excess VOC and total HAP emitted, if any, generated during the exceedance.
 - 5. The nature and probable cause of the event causing the exceedance, including of the exceedance was due solely to high ambient temperatures.
 - 6. Appropriate corrective actions taken.
 - iii. Periods of exit vapor temperatures in excess of 40 °C (104 °F) not due solely to high ambient temperature shall be considered a breakdown in accordance with §2108.01.

- m. Emissions from MP Poly Unit process (emission points S029, S030, S031, S033, S034, S035 and cooling tower) shall not exceed the following at any time: [IP #0058-I022a, V.A.1.k; §2103.12.a.2.D]

POLLUTANT	SHORT TERM EMISSION LIMIT (lb/batch ²)	ANNUAL EMISSION LIMIT (tons/year ¹)
Volatile Organic Compounds	21.5	13.5
Hazardous Air Pollutants	0.34	0.46
Particulate Matter	NA	1.77

¹ A year is defined as any consecutive 12-month period.

² Exclusive of auxiliary operations such as flushes, unit flushes, vessel cleaning, and dryer regenerations.

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [IP #0058-I022a, V.A.2; §2103.12.a.2.D; §2103.12.h.1]

3. Monitoring Requirements:

- a. The permittee shall visually inspect the BF₃ Scrubber at least once per day for visible emissions. If visible emissions are detected, the permittee shall adjust the flow of water to the scrubber accordingly. [IP #0058-I022a, V.A.3.a; §2103.12.a.2.D; §2103.12.i;]
- b. The permittee shall inspect the BF₃ Scrubber system once per week to ensure that there is no evidence of chemical attack on the structural integrity. Immediate repairs shall be made to correct any failures or deficiencies observed in the system. [IP #0058-I022a, V.A.3.b; §2103.12.a.2.D; §2103.12.i;]
- c. The permittee shall measure the vapor pressure the HVD and RHS solvents quarterly. Determine vapor pressure in accordance with ASTM Method D 5842-04 “Standard Practice for Sampling and Handling of Fuels for Volatility Measurement” (or latest version) and ASTM Standard D 2879-97, “Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope” (or latest version). [IP #0058-I022a, V.A.3.c; §2103.12.a.2.D]
- d. The permittee shall install, operate, and maintain an inlet coolant temperature instrument on E-203-4, E-701-4, and E-400-6 condensers that continuously monitors the coolant inlet temperature. The temperature probes used shall be certified by the manufacturer to be accurate to within 2% of the temperature measured in Celsius or to within 2.5°C, whichever is greater. The permittee shall record the coolant inlet temperature at least once every 15 minutes while the equipment associated with the temperature probe and transmitter is in operation. [IP #0058-I022a, V.A.3.d; IP #0058-I026a, V.C.2.a; §2103.12.a.2.D; §2103.12.i]
- e. The permittee shall install, operate, and maintain temperature probes and transmitters capable of continuously monitoring outlet gas temperature on E-203-4, E-701-4, and E-400-6 condensers. The temperature probes used shall be certified by the manufacturer to be accurate to within 2% of the temperature measured in Celsius or to within 2.5°C, whichever is greater. The permittee shall record the outlet gas temperature at least once every 15 minutes while the equipment associated with the temperature probe and transmitter is in operation. [IP #0058-I022a, V.A.3.e; §2103.12.a.2.D; §2103.12.i]

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain sufficient records to demonstrate compliance with the requirements of this permit. Such records shall clearly demonstrate that all applicable requirements are met. [IP #0058-I022a, V.A.4.a; §2103.12.a.2.D; §2103.12.j]
- b. The permittee shall keep and maintain records of all vapor pressure measurements made pursuant to condition V.E.3.c above. [IP #0058-I022a, V.A.4.b; §2103.12.a.2.D; §2103.12.j]
- c. The permittee shall keep and maintain records of monthly and twelve months moving polymerizate production. [IP #0058-I022a, V.A.4.c; §2103.12.a.2.D; §2103.12.j]
- d. The permittee shall keep and maintain records of monthly and twelve-month moving VOC and HAP emissions to demonstrate compliance with condition V.E.1.m above. The most recent vapor pressure information determined pursuant to condition V.E.3.c above and monthly average

- condenser exit gas temperatures shall be used in the emission calculations. [IP #0058-I022a, V.A.4.d; §2103.12.a.2.D; §2103.12.j]
- e. The permittee shall keep and maintain records of monthly maximum VOC and HAP pounds per batch emissions to demonstrate compliance with condition V.E.1.m above. The most recent vapor pressure information determined pursuant to condition V.E.3.c above and the monthly maximum hourly average condenser exit gas temperatures shall be used in the emission calculations. [IP #0058-I022a, V.A.4.e; §2103.12.a.2.D; §2103.12.j]
- f. The permittee shall keep and maintain the following data on-site for these operations: [IP #0058-I022a, V.A.4.f; IP #0058-I026a, V.C.3.a; §2103.12.a.2.D; §2103.12.j & k; 40 CFR §63.2525(b)]
- 1) All records of monitoring required by V.E.3 above.
 - 2) Records of operation, inspection, calibration, maintenance and/or replacement of process vessels or control equipment.
 - 3) Stack test protocols and reports.
 - 4) Manufacturer's specifications when this information is available.
- g. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [IP #0058-I022a, V.A.4.g; §2103.12.a.2.D; §2103.12.h.5.B]
- h. The permittee shall maintain records of activities necessary to mitigate emergency conditions subject to Conditions V.E.1.g above and V.E.1.j above in this permit. Records shall include the beginning and ending time of the emergency, the nature of the emergency, and actions taken to mitigate the emergency. [IP #0058-I022a, V.A.4.h; §2103.12.a.2.D]
- i. The permittee shall maintain relevant records for all documentation supporting initial notifications and notification of compliance status. [40 CFR 63.10(b)(2)(xiv), §2103.12.a.2.B]
- j. All records required under this section shall be maintained by the permittee for a period of five years following the date of such record. [§2103.12.j.2; 40 CFR 63.10(b)]

5. Reporting Requirements:

- a. The permittee shall submit semi-annual reports to the Department in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: [IP #0058-I022a, V.A.5.a; §2103.12.a.2.D; §2103.12.k]
- 1) Vapor pressure measurement results required to be recorded by condition V.E.4.b above;
 - 2) Monthly and 12-month data required to be recorded by conditions V.E.4.c through V.E.4.e above; and
 - 3) Non-compliance information required to be recorded by V.E.4.g above.
- b. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 above, if appropriate. [§2103.12.k]

6. Work Practice Standard:

- a. The permittee is authorized to periodically replace the existing condensers and baghouses listed in

- this permit with a unit of the same efficiency. The permittee shall notify the Department in writing at least ten (10) days prior to any such replacement. [IP #0058-I022a, V.A.6.a; §2103.12.a.2.D]
- b. The permittee shall maintain on site all operating and maintenance manuals and equipment specifications for the BF₃ Scrubber for the life of the equipment if any. [IP #0058-I022a, V.A.6.b; §2103.12.a.2.D]
 - c. The permittee shall maintain on site all operating and maintenance manuals and equipment specifications for the S-301-2, S-303-1, and H-800-3 baghouses for the life of the equipment if any. [IP #0058-I022a, V.A.6.c; §2103.12.a.2.D]
 - d. The permittee shall maintain onsite, for emergency replacement, 25% of the total number of bags or filter elements use by the baghouses. [IP #0058-I022a, V.A.6.d; §2103.12.a.2.D; §2105.03]
 - e. Material removed from the fabric filter shall be disposed of in a manner preventing entrainment into the atmosphere. [IP #0058-I022a, V.A.6.e; §2103.12.a.2.D; §2101.11.c.]
 - f. The permittee shall maintain and implement the Preventive Maintenance and Operations (PMO) Plan submitted to and approved by the Department. The permittee shall maintain the original approved PMO Plan and all subsequent revisions for a period of five years and have them available for inspection. [IP #0058-I022a, V.A.6.f; §2103.12.a.2.D]
 - g. The permittee shall do the following for MP Poly Unit (filtrate system: filtrate receiver, neutralizer, solvent wash tank, heel tank, Funda filter) and associated equipment: [§2105.03; IP #0058-I026a, V.C.4.a]
 - 1) Perform regular maintenance in accordance with the manufacturer's or the operator's maintenance procedures;
 - 2) Keep records of any maintenance; and
 - 3) Keep a copy of either the manufacturer's or the operator's maintenance procedures.
 - h. The MP Poly Unit (filtrate system: filtrate receiver, neutralizer, solvent wash tank, heel tank, Funda filter) shall be properly operated and maintained at all times according to good engineering practices, with the exception of activities to mitigate emergency conditions. [§2105.03; IP #0058-I026a, V.C.4.b]
 - i. Under the requirements of 40 CFR Part 63, Subpart FFFF, the permittee is required to have a Leak Detection and Repair (LDAR) program. The permittee shall comply with each applicable conditions of Section VI.G below.

7. Additional Requirements:

None except as provided elsewhere.

~PERMIT SHIELD IN EFFECT~

F. MP Poly Unit - Storage Tanks

Process Description: Storage Tanks
Facility ID: T-301; T-302; T-303
Capacity: 75,202 gallon each
Raw Materials: Polymerizate
Control Device: None

1. Restrictions:

- a. The maximum combined throughput for tanks T-301, T-302, and T-303 shall not exceed 15.52 million gallons per year during any 12 consecutive months. [IP #0058-I022a, V.B.1.a; §2103.12.a.2.D]
- b. Emissions due to operations of tanks T-301, T-302, and T-303 shall not exceed the following at any time [IP #0058-I022a, V.B.1.b; §2103.12.a.2.D]:

Table V-F-1: MP Poly Tank Emissions

POLLUTANT	TPY ¹
Volatile Organic Compounds (VOCs)	1.37
Hazardous Air Pollutants (HAPs)	0.054

¹ A year is defined as any consecutive 12-month period.

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [§2103.12.h.1]

3. Monitoring Requirements:

- a. The permittee shall install, operate and maintain an above-ground storage tank monitoring system using material receipt records, level measurement changes, or mass flow meters to measure and record the throughput of polymerizate that is pumped into each tank T-301, T-302, and T-303. The permittee shall use the data derived from this system to enter the daily material throughput for each tank in the above-ground storage tank log required by condition V.F.4.a below. [IP #0058-I022a, V.B.3.a; §2103.12.i]
- b. The permittee shall include the operation, calibration, and maintenance of the mass flow meters in the Preventative Maintenance and Operation plan required by condition V.F.6 below if such instruments are being used to comply with condition V.F.3.a above. [IP #0058-I022a, V.B.3.b; §2103.12.i]

4. Record Keeping Requirements:

- a. The permittee shall maintain an Above-Ground Storage Tank Log (AST log) for tanks T-301; T-302; T-303, update the log at least once per week and shall make the log available for inspection

by the Department. The AST log shall include the information on the parameters listed in Table below, using the methodologies identified therein. [IP #0058-I022a, V.B.4.a; §2103.12.j]

Table V-F-2: MP Poly Above-Ground Storage Tank Log

PARAMETER	METHODOLOGY
- AST ID and date installed and/or modified - AST size	Engineering records and diagrams. Permittee shall provide the installation and modification dates where the dates are known.
- Material store by name - The date the material was first placed in the AST and all dates of additions to or removals from the AST	Use the log generated by the AST material throughput monitoring system described by condition V.F.3.a above.
- Temperature (unheated tanks)	Use 28°C (equal to the local maximum monthly (July)) average temperature as reported by the National Weather Service for the Pittsburgh area to calculate vapor pressure of the tank for the AST Log. Use the default temperature for Pittsburgh, Pennsylvania as provided by TANKS4.09d (or the most recent version) or replacement as identified by ACHD for emission calculation and compliance determinations.
- Pressure (unpressurized or Nitrogen blanketed tanks)	Use the default atmospheric pressure for Pittsburgh, Pennsylvania as provided by TANKS 4.09.d (or the most recent version) for emission calculation and compliance determinations.
- Vapor pressure of the material stored	Use the Antoine’s coefficients developed from vapor pressure testing as well as unheated tank temperature of 28°C and material data from the AST log entries to calculate vapor pressure.

- b. The permittee shall keep records of the calculated VOC and HAP emissions (monthly, rolling 12-month). [§2103.12.a.2.B]
- c. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [§2103.12.a.2.D]
- d. All records required under this section shall be maintained by the permittee for a period of five years following the date of such record. [§2103.12.j.2]

5. Reporting Requirements:

- a. The permittee shall report all non-compliance information required to be recorded by V.F.4.b above to the Department in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: [IP #0058-I022a, V.B.5.a; §2103.12.a.2.D]
- b. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 above, if appropriate. [§2103.12.k]

- c. The permittee shall submit notification of intent to store any new material in storage tanks T-301, T-302, and T-303 , other than indicated in the permit application No. 0058-OP22, to the Department a minimum of ten (10) working days prior to the intended store date. This notification shall at minimum include the Safety Data Sheet, the maximum true vapor pressure and the emissions calculations for the new materials. [IP #0058-I022a, V.B.5.c; §2103.12.a.2.D]

6. Work Practice Standard:

The permittee shall maintain and implement the Preventive Maintenance and Operations (PMO) Plan submitted to and approved by the Department. The permittee shall maintain the original approved PMO Plan and all subsequent revisions for a period of five years and have them available for inspection. [§2103.12.a.2.D]

7. Additional Requirements:

None except as provided elsewhere.

~PERMIT SHIELD IN EFFECT~

G. WW Poly (Water White Polymerization) Unit - Process

Process Description: Batch process for hydrocarbon resin manufacturer
Facility ID: WW Poly
Max. Production Rate: 80,000,000 lbs/year polyoil
Raw Materials: Pure monomers of styrene and substituted styrenes and recycled high-value distillate (HVD) or recycled hydrogenated solvent (RHS)
Control Device: Vent condensers (12), carbon adsorber (1), wet scrubber (1), baghouse (1)

1. Restrictions:

- a. The maximum production rate for WW Poly process unit shall not exceed 80 million pounds per 12-month rolling period of polyoil. [IP #0058-I023a, V.A.1.a; §2103.12.a.2.D]
- b. The permittee shall not operate or allow to be operated the following equipment unless all emissions from the equipment are routed to the subject control device(s). [IP #0058-I023a, V.A.1.b; §2103.12.a.2.D; §2105.06.b.3; 40 CFR 63.2450(a)]

Table V-G-1: WW Poly Controlled Equipment

Equipment I.D.	Equipment Description	Control Device(s)	Stack I.D.
A-100	Feed Dryers	Condenser E-200-6 followed by Condenser E-200-7	S013
T-301-1	West Pre-Blend Tank	Condenser E-301-4	S014
T-300-1	North Pre-Blend Tank	Condenser E-300-4	S015
R-600-1	North Reactor	Condenser E-600-6 followed by Condenser E-600-9 followed by BF ₃ Scrubber S-401-1	S017
R-601-1	South Reactor	Condenser E-601-6 followed by Condenser E-601-11 followed by BF ₃ Scrubber S-401-1	S017
T-700-1	Neutralizer	Condenser E-700-4 followed by Condenser E-700-6	S018
S-800-1	Funda Filters steam-out process	Condenser E-800-3	S019
T-800-6	Funda Condensate Tank	Carbon adsorber A-800-8	S019A
S-800-1 T-900-1 T-901-1	Funda Filter Filtrate Receiver Auxiliary Receiver	Condenser E-900-7	S020
T-1001-1	Reclaim Pot	Condenser E-1001-7 Reclaim Dust Collector S-1003-1	S022 S022A
H-500-4	Slurry Bag Dump Station	Baghouse H-500-4	S294

- c. The BF₃ Scrubber and Carbon Bed shall be properly operated and maintained according to good engineering practices and manufacturer's recommendations at all times while treating process emissions. [IP #0058-I023a, V.A.1.c; §2103.12.a.2.D]
- d. The H-500-4 bag dump station shall be properly maintained and operated with a minimum particulate removal efficiency of 99.0%. [IP #0058-I023a, V.A.1.d; §2103.12.a.2.D]
- e. Refrigerated vent condensers [E-200-7 (S013), E-600-9 and E-601-11 (S017), E-700-6 (S018), E-900-7 (S020)]: The condensers shall be properly maintained and operated according to good engineering practices, manufacturer's recommendations and the following conditions at all times while treating process emissions: [IP #0058-I023a, V.A.1.e; IP #0058-I026a, V.D.1.b; §2103.12.a.2.D; §2105.06.b.3]
- 1) The inlet coolant temperature to each condenser shall not exceed 10°C any one-hour block average when emissions are routed through the condenser with the exception of activities to mitigate emergency conditions;
 - 2) The exit vapor temperature of each condenser shall not exceed 35°C (95°F) over any one-hour block average when emissions are being routed through them unless the temperature exceedance is due solely to high ambient temperature. Documentation, as specified in condition V.G.1.e.3) below must be collected for each one-hour block average exit temperature over 35°C (95°F);
 - 3) If measured one-hour block average exit vapor temperatures exceed 35°C (95°F) from a condenser, the permittee shall take the following actions:
 - a) Confirm that the glycol cooler is operating properly by reviewing current operating conditions (e.g., that the chiller system is operating and circulating coolant, and that glycol coolant is being supplied at less than 10°C). Corrective actions are required to be taken to correct loss of coolant supply or to return the coolant supply/exit temperature to required temperatures.
 - b) The following documentation will be maintained:
 1. Identification of the condenser.
 2. The exit vapor and inlet coolant supply temperatures at the time of exceedance.
 3. The ambient air temperature at the time of exceedance.
 4. The estimated quantity of excess VOC and total HAP emitted, if any, generated during the exceedance.
 5. The nature and probable cause of the event causing the exceedance, including if the exceedance was due solely to high ambient temperatures.
 6. Appropriate corrective actions taken
 - c) Periods of exit vapor temperatures in excess of 35°C (95°F) not due solely to high ambient temperature shall be considered a breakdown in accordance with §2108.01.
- f. Cooling tower water chilled vent condensers [E-301-4 (S014); E-300-4 (S015); E-800-3 (S019); E-1001-7 (S022)]: The condensers shall be properly operated and maintained according to good engineering practices, manufacturer's recommendations and the following conditions at all times while treating process emissions: [IP #0058-I023a, V.A.1.f; §2103.12.a.2.D; §2105.06.b.3]
- 1) The inlet coolant temperature to each condenser shall not exceed 10°F (5.6°C) above ambient air temperature over any one-hour block average when emissions are routed through the condenser with the exception of activities to mitigate emergency conditions and except that at no time will coolant temperature be required to be less than 50°F (10°C).
 - 2) The exit vapor temperature of each condenser shall not exceed 40°C (104°F) over any one-hour block average when emissions are being routed through them unless the temperature exceedance is due solely to high ambient temperature. Documentation as specified in condition

V.G.1.f.3) below must be collected for each one-hour block average exit temperature over 40°C (104°F).

- 3) If measured one-hour block average exit vapor temperatures exceed 40°C from a condenser, the permittee shall take the following actions:
 - a) Confirm that the cooling tower is operating properly by reviewing current operating conditions (e.g., that the cooling system is operating and circulating cooling water, and that cooling water is being supplied at less than 10°F (5.6°C) above ambient (except that at no time will coolant temperature be required to less than 50°F (10 °C). Corrective actions are required to be taken to correct loss of coolant supply or to return the coolant supply temperature to less than 10°F (5.6°C) above ambient (except that at no time will coolant temperature be required to less than 50°F (10 °C)).
 - b) The following documentation will be maintained:
 1. Identification of the condenser.
 2. The exit vapor and inlet coolant supply temperatures at the time of exceedance.
 3. The ambient air temperature at the time of exceedance.
 4. The estimated quantity of excess VOC and total HAP emitted, if any, generated during the exceedance.
 5. The nature and probable cause of the event causing the exceedance, including of the exceedance was due solely to high ambient temperatures.
 6. Appropriate corrective actions taken.
 - c) Periods of exit vapor temperatures in excess of 40°C not due solely to high ambient temperature shall be considered a breakdown in accordance with §2108.01.

- g. Emissions from the WW Poly Unit process (emission points S013, S013a, S014 – S019, S019a, S020, S022, S022a, , S050, S050a, S294) shall not exceed the following at any time: [IP #0058-I023a, V.A.1.g; §2103.12.a.2.D]

TABLE V-G-2: WW Poly Process Unit Emission Limitations

POLLUTANT	SHORT TERM EMISSION LIMIT (lb/batch²)	ANNUAL EMISSION LIMIT (tons/year¹)
Volatile Organic Compounds	46.22	26.30
Hazardous Air Pollutants	3.72	2.88
Styrene	3.21	2.33
Particulate Matter	NA	0.63

¹ A year is defined as any consecutive 12-month period.

² Auxiliary operations not included.

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [IP #0058-I023a, V.A.2; §2103.12.a.2.D; §2103.12.h.1]

3. Monitoring Requirements:

- a. The permittee shall visually inspect the BF₃ Scrubber at least once per day for visible emissions. If visible emissions are detected, the permittee shall adjust the flow of water to the scrubber

accordingly. [IP #0058-I023a, V.A.3.a; §2103.12.a.2.D; §2103.12.i;

- b. The permittee shall inspect the BF₃ Scrubber system once per week to ensure that there is no evidence of chemical attack on the structural integrity. Immediate repairs shall be made to correct any failures or deficiencies observed in the system. [IP #0058-I023a, V.A.3.b; §2103.12.a.2.D; §2103.12.i;
- c. The permittee shall inspect the baghouse for proper operation at least once per week when operational. [IP #0058-I023a, V.A.3.c; §2103.12.a.2.D; §2103.12.i]
- d. The permittee shall measure the vapor pressure the HVD and RHS solvents quarterly. Determine vapor pressure in accordance with ASTM Method D 5842-04 “Standard Practice for Sampling and Handling of Fuels for Volatility Measurement” (or latest version) and ASTM Standard D 2879-97, “Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope” (or latest version). [IP #0058-I023a, V.A.3.d; §2103.12.a.2.D]
- e. The permittee shall install, operate, and maintain an inlet coolant temperature instrument on E-200-7, E-300-4, E-301-4, E-600-9, E-601-11, E-700-6, , E-800-3, E-900-7, , and E-1001-7 condensers that continuously monitor the coolant inlet temperature. The temperature probes used shall be certified by the manufacturer to be accurate to within 2% of the temperature measured in Celsius or to within 2.5°C, whichever is greater. The permittee shall record the coolant inlet temperature at least once every 15 minutes while the equipment associated with the temperature probe and transmitter is in operation. [IP #0058-I023a, V.A.3.e; IP #0058-I026a, V.D.2.a; §2103.12.a.2.D; §2103.12.i]
- f. The permittee shall install, operate, and maintain temperature probes and transmitters capable of continuously monitoring outlet gas temperature on E-200-7, E-300-4, E-301-4, E-600-9, E-601-11, E-700-6, E-800-3, E-900-7, and E-1001-7 condensers. The temperature probes used shall be certified by the manufacturer to be accurate to within 2% of the temperature measured in Celsius or to within 2.5°C, whichever is greater. The permittee shall record the outlet gas temperature at least once every 15 minutes while the equipment associated with the temperature probe and transmitter is in operation. [IP #0058-I023a, V.A.3.f; §2103.12.a.2.D; §2103.12.i]

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain sufficient records to demonstrate compliance with the requirements of this permit. Such records shall clearly demonstrate that all applicable requirements are met. [IP #0058-I023a, V.A.4.a; §2103.12.a.2.D; §2103.12.j]
- b. The permittee shall keep and maintain records of all vapor pressure measurements made pursuant to condition V.G.3.d above. [IP #0058-I023a, V.A.4.b; §2103.12.a.2.D; §2103.12.j]
- c. The permittee shall keep and maintain records of monthly and twelve months moving polymerizate production. [IP #0058-I023a, V.A.4.c; §2103.12.a.2.D; §2103.12.j]
- d. The permittee shall keep and maintain records of monthly and twelve-month moving VOC and HAP emissions to demonstrate compliance with condition V.G.1.g above. The most recent vapor pressure information determined pursuant to condition V.G.3.d above and monthly average condenser exit gas temperatures shall be used in the emission calculations. [IP #0058-I023a,

V.A.4.d; §2103.12.a.2.D; §2103.12.j]

- e. The permittee shall keep and maintain records of monthly maximum VOC and HAP pounds per batch emissions to demonstrate compliance with condition V.G.1.g above. The most recent vapor pressure information determined pursuant to condition V.G.3.d above and the monthly maximum hourly average condenser exit gas temperatures shall be used in the emission calculations. [IP #0058-I023a, V.A.4.e; §2103.12.a.2.D; §2103.12.j]
- f. The permittee shall keep and maintain the following data on-site for these operations: [IP #0058-I023a, V.A.4.f; IP #0058-I026a, V.D.3.a; §2103.12.a.2.D; §2103.12.j; 40 CFR §63.2525(b)]
 - 1) All records of monitoring required by V.G.3 above.
 - 2) Records of operation, inspection, calibration, maintenance and/or replacement of process vessels or control equipment.
 - 3) Stack test protocols and reports.
 - 4) Manufacturer's specifications when this information is available.
- g. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [IP #0058-I023a, V.A.4.g; §2103.12.a.2.D; §2103.12.h.5.B]
- h. The permittee shall maintain records of activities necessary to mitigate emergency conditions subject to Conditions V.G.1.e above and V.G.1.f above. Records shall include the beginning and ending time of the emergency, the nature of the emergency, and actions taken to mitigate the emergency. [IP #0058-I023a, V.A.4.h; §2103.12.a.2.D]
- i. All records required under this section shall be maintained by the permittee for a period of five years following the date of such record. [IP #0058-I023a, V.A.4.i; §2103.12.a.2.D; §2103.12.j.2; 40 CFR 63.10(b)]

5. Reporting Requirements:

- a. The permittee shall submit semi-annual reports to the Department in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: [IP #0058-I023a, V.A.5.a; §2103.12.a.2.D; §2103.12.k]
 - 1) Vapor pressure measurement results required to be recorded by condition V.G.4.b above;
 - 2) Monthly and 12-month data required to be recorded by conditions V.G.4.c through V.G.4.e above; and
 - 3) Non-compliance information required to be recorded by V.G.4.g above.
- b. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 above, if appropriate. [§2103.12.k; §2108.01.c]

6. Work Practice Standard:

- a. The permittee is authorized to periodically replace the existing condensers and baghouses listed in this permit with a unit of the same or better efficiency. The permittee shall notify the Department

- in writing at least ten (10) days prior to any such replacement. [IP #0058-I023a, V.A.6.a; §2103.12.a.2.D]
- b. The permittee shall maintain on site all operating and maintenance manuals and equipment specifications for the BF₃ Scrubber for the life of the equipment if any. [IP #0058-I023a, V.A.6.b; §2103.12.a.2.D; §2105.03]
 - c. The permittee shall maintain on site all operating and maintenance manuals and equipment specifications for the H-500-4 bag dump station for the life of the equipment if any [IP #0058-I023a, V.A.6.c; §2103.12.a.2.D; §2105.03]
 - d. The permittee shall maintain onsite, for emergency replacement, 25% of the total number of bags or filter elements use by the baghouse. [IP #0058-I023a, V.A.6.d; §2103.12.a.2.D; §2105.03]
 - e. Material removed from the fabric filter shall be disposed of in a manner preventing entrainment into the atmosphere. [IP #0058-I023a, V.A.6.e; §2103.12.a.2.D; §2101.11.c.]
 - f. The permittee shall maintain and implement the Preventive Maintenance and Operations (PMO) Plan submitted to and approved by the Department. The permittee shall maintain the original approved PMO Plan and all subsequent revisions for a period of five years and have them available for inspection. [IP #0058-I023a, V.A.6.f; §2103.12.a.2.D]
 - g. The permittee shall do the following for WW Poly Unit (feed dryers and regeneration, west filtrate receiver, solvent wash receiver, and east filtrate receiver) and associated equipment: [§2105.03; IP #0058-I026a, V.D.4.a]
 - 1) Perform regular maintenance in accordance with the manufacturer's or the operator's maintenance procedures;
 - 2) Keep records of any maintenance; and
 - 3) Keep a copy of either the manufacturer's or the operator's maintenance procedures.
 - h. The WW Poly Unit (feed dryers and regeneration, west filtrate receiver, solvent wash receiver, and east filtrate receiver) shall be properly operated and maintained at all times according to good engineering practices, with the exception of activities to mitigate emergency conditions. [§2105.03; IP #0058-I026a, V.D.4.b]
 - i. Under the requirements of 40 CFR Part 63, Subpart FFFF, the permittee is required to have a Leak Detection and Repair (LDAR) program. The permittee shall comply with each applicable conditions of Section VI.G below.

7. Additional Requirements:

None except as provided elsewhere.

~PERMIT SHIELD IN EFFECT~

H. WW Poly - Storage Tanks

Process Description: Storage Tanks
Facility ID: See Table in V.I.1.a
Capacity: See Table in II-1
Raw Materials: Polymerizate, Solvents, Monomer, Waste
Control Device: Condensers (7), Carbon adsorbers (2)

1. Restrictions:

- a. The permittee shall not operate or allow to be operated the following equipment unless all emissions from the equipment are ducted to the subject control device(s). [IP #0058-I023a, V.B.1.a; §2103.12.a.2.D; §2105.06(b)3]

Table V-E-1: MP Poly Unit Controlled Storage Tanks

Equipment I.D.	Equipment Description	Control Device(s)		Emission Point
T-68, T-69, T-74	Storage Tanks	Condenser E-201-1		S024
T-73, T-75, T-76, T-77	Storage Tanks	Condenser E-202-1		S025
T-67	Storage Tank	Condenser E-67-3		S026
T-204	Storage Tank	Condenser E-204-4	Carbon Adsorber A-204-5A or 5B	S300
T-205	Storage Tank	Condenser E-205-4		
T-206	Storage Tank	Condenser E-206-4		
T-207	Storage Tank	Condenser E-207-4		

- b. Emissions of volatile organic compounds (VOCs) and hazardous air pollutants (HAPs) from the tanks ## 10, 22-26, 28, 29, 34, 66-69, 71-77, 200-202, and 204-207 shall not exceed the following at any time: [IP #0058-I023a, V.B.1.b; §2103.12.a.2.D]

TABLE V-H-2: WW Poly Storage Tanks Emissions Limits

POLLUTANT	TPY ¹
Volatile Organic Compounds (VOCs)	10.02
Hazardous Air Pollutants (HAPs)	0.49

¹ A year is defined as any consecutive 12-month period.

- c. The inlet coolant temperature to the condensers E-201-1, E-202-1, and E-67-3 shall not exceed 10°C (50°F) over any one-hour block average when emissions are routed through the condensers

with the exception of activities to mitigate emergency conditions. [IP #0058-I023a, V.B.1.c; IP #0058-I026a, V.E.1.b; §2103.12.a.2.D; §2105.06.b.3]

- d. The exit vapor temperature from the condensers E-201-1, E-202-1, and E-67-3 shall not exceed 35°C (95°F) over any one-hour block average when emissions are being routed through them unless the temperature exceedance is due solely to high ambient temperature. Documentation, as specified in condition V.H.1.e below must be collected for each one-hour block average exit temperature over 35°C (95°F). [IP #0058-I023a, V.B.1.d; §2103.12.a.2.D]
- e. If the measured one-hour block average exit vapor temperatures exceed 35°C (95°F) from an applicable condenser, the permittee shall take the following actions:[§2103.12.a.2.B]
- 1) Confirm that the glycol cooler is operating properly by reviewing current operating conditions (e.g., that the chiller system is operating and circulating coolant, and that glycol coolant is being supplied or exiting the condensers at required temperatures). Corrective actions are required to be taken to correct loss of coolant supply or to return the coolant supply/exit temperature to required temperatures.
 - 2) The following documentation will be maintained:
 - a) Identification of the condenser.
 - b) The exit vapor and inlet coolant supply temperatures at the time of exceedance.
 - c) The ambient air temperature at the time of exceedance.
 - d) The estimated quantity of excess VOC and total HAP emitted, if any, generated during the exceedance.
 - e) The nature and probable cause of the event causing the exceedance, including if the exceedance was due solely to high ambient temperatures.
 - f) Appropriate corrective actions taken.
 - 3) Periods of exit vapor temperatures in excess of 35°C (95°F) not due solely to high ambient temperature shall be considered a breakdown in accordance with §2108.01.

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [§2103.12.h.1]

3. Monitoring Requirements:

- a. The permittee shall operate and maintain an above-ground storage tank monitoring system using material receipt records, level measurement changes, or mass flow meters to measure and record throughput of solvent, polymerizate, and raw materials that are pumped for storage tanks 200, 201, 202, 204, 205, 206, 207, 26, 27, 28, 29, 66, 67, 68, 69, 73, 74, 75, 76, and 77. The permittee shall use the data derived from this system to enter the daily material throughput for each tank in the above-ground storage tank log required by condition V.H.4.a below. [IP #0058-I023a, V.B.3.a; §2103.12.a.2.D]
- b. The permittee shall measure and record the throughput of material that is pumped into storage tanks 10, 22, 23, 24, 25, 34, 71, and 72 using material receipt records, level measurement changes, or mass flow meters. [IP #0058-I023a, V.B.3.b; §2103.12.a.2.D]

- c. The permittee shall include the operation, calibration, and maintenance of the level instrumentation and mass flow meters in the Preventative Maintenance and Operation Plan required by V.H.6.b below if such instruments are being used to comply with condition V.H.3.a above. [IP #0058-I023a, V.B.3.c; §2103.12.a.2.D; §2103.12.i]
- d. The permittee shall install, operate, and maintain an inlet coolant temperature instrument on E-201-1, E-202-2, and E-67-3 condensers that continuously monitors the coolant inlet temperature. The temperature probes used shall be certified by the manufacturer to be accurate to within 2% of the temperature measured in Celsius or to within 2.5°C, whichever is greater. The permittee shall record the coolant inlet temperature at least once every 15 minutes while the equipment associated with the temperature probe and transmitter is in operation. [IP #0058-I023a, V.B.3.d; §2103.12.a.2.D; §2103.12.i]
- e. The permittee shall install, operate, and maintain temperature probes and transmitters capable of continuously monitoring outlet gas temperature on E-201-1, E-202-2, and E-67-3 condensers. The temperature probes used shall be certified by the manufacturer to be accurate to within 2% of the temperature measured in Celsius or to within 2.5°C, whichever is greater. The permittee shall record the outlet gas temperature at least once every 15 minutes while the equipment associated with the temperature probe and transmitter is in operation. [IP #0058-I023a, V.B.3.e; §2103.12.a.2.D; §2103.12.i]
- f. Monitoring data recorded during periods of monitoring system breakdowns, repairs, preventive maintenance, calibration checks, zero (low-level) and high-level adjustments, periods of non-operation of the process unit (or portion thereof) resulting in cessation of the emissions to which the monitoring applies, shall not be included in any average to determine compliance, except monitoring data is to be collected during periods of startup, shutdown and malfunction. [IP #0058-I023a, V.B.3.f; §2103.12.a.2.D; §2103.12.i]
- g. The permittee shall install, operate and maintain a colorimetric indicator to monitor the performance of the carbon bed adsorber A-204-5A or 5B. The indicator shall be monitored daily through visual inspection to detect a change in color. When a color change is detected, the canister shall be replaced within 24 hours. [IP #0058-I023a, V.B.3.g; §2103.12.a.2.D]

4. Record Keeping Requirements:

- a. The permittee shall maintain an Above-Ground Storage Tank Log (AST log) for tanks 200, 201, 202, 204, 205, 206, 207, 26, 27, 28, 29, 66, 67, 68, 69, 73, 74, 75, 76, and 77, update the log at least once per week and shall make the log available for inspection by the Department. The AST log shall include the information on the parameters listed in Table below, using the methodologies identified therein. [IP #0058-I023a, V.B.4.a; §2103.12.a.2.D; §2103.12.j]

Table V-H-3: WW Poly Above-Ground Storage Tank Log

PARAMETER	METHODOLOGY
- AST ID and date installed and/or modified - AST size	Engineering records and diagrams. Permittee shall provide the installation and modification dates where the dates are known.
- Material store by name - The date the material was first placed in the AST and all	Use the log generated by the AST material throughput monitoring system described by condition V.H.3.a above for tanks listed in V.H.3.a above.

PARAMETER	METHODOLOGY
<p>dates or additions to or removals from the tanks listed in V.H.3.a above</p> <ul style="list-style-type: none"> - A daily measurement of the level of the material for the tanks listed in V.H.3.b above 	<p>The level of the material in each tank listed in V.H.3.b above shall be measured daily. All information listed in this section shall be entered into the AST log at a minimum weekly.</p>
<ul style="list-style-type: none"> - Temperature (unheated tanks) 	<p><u>Unheated:</u> Use 28°C (equal to the local maximum monthly (July)) average temperature as reported by the National Weather Service for the Pittsburgh area to calculate vapor pressure of the tank for the AST Log. Use the default temperature for Pittsburgh, Pennsylvania as provided by TANKS4.09d (or the most recent version) or replacement as identified by ACHD for emission calculation and compliance determinations.</p> <p><u>Heated:</u> Use the heater setting as the temperature for each heated tank.</p>
<ul style="list-style-type: none"> - Pressure (unpressurized or Nitrogen blanketed tanks) 	<p>Use the default atmospheric pressure for Pittsburgh, Pennsylvania as provided by TANKS 4.09.d (or the most recent version) or replacement as identified by ACHD for emission calculation and compliance determinations.</p>
<ul style="list-style-type: none"> - Vapor pressure of the material stored 	<p>Use the Antoine’s coefficients developed from vapor pressure testing as well as unheated tank temperature of 28°C and material data from the AST log entries to calculate vapor pressure.</p>

- b. The permittee shall keep records of the calculated VOC and HAP emissions (monthly, rolling 12-month). [§2103.12.a.2.B]
- c. The permittee shall keep and maintain records of condenser coolant temperature. [§2103.12.j, IP #0058-I026a, V.E.2.a; §2103.12.a.2.D]
- d. The permittee shall keep records of operation, inspection, calibration, maintenance and/or replacement of process or control equipment. [§2103.12.j & k; IP #0058-I026a, V.E.2.b; §2103.12.a.2.D]
- e. All records required under this section and condition V.H.2 shall be maintained by the permittee for a period of five years following the date of such record. [IP #0058-I023a, V.B.4.b; §2103.12.a.2.D; §2103.12.j.2]

5. Reporting Requirements:

- a. The permittee shall report all non-compliance information required to be recorded by 0 above in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: [IP #0058-I023a, V.B.5.a; §2103.12.a.2.D; §2103.12.k]

- b. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 above if appropriate. [IP #0058-I023a, V.B.5.b; §2103.12.a.2.D; §2103.12.k; §2108.01.c]
- c. The permittee shall submit notification of intent to store any new material in storage tanks listed in V.H.1.a above, other than polymerizate, solvents, monomer, or waste, to the Department a minimum of ten (10) working days prior to the intended store date. This notification shall at minimum include the Safety Data Sheet, the maximum true vapor pressure and the emissions calculations for the new materials. [IP #0058-I023a, V.B.5.c; §2103.12.a.2.D]

6. Work Practice Standard:

- a. The permittee is authorized to periodically replace the existing condensers listed in this permit with a unit of the same or better efficiency. The permittee shall notify the Department in writing at least ten (10) days prior to any such replacement. [IP #0058-I023a, V.B.6.a; §2103.12.a.2.D; §2102.04.e]
- b. The permittee shall maintain and implement the Preventative Maintenance and Operations (PMO) Plan submitted to and approved by the Department. The permittee shall maintain the original approved PMO Plan and all subsequent revisions for a period of five years and have them available for inspection. [IP #0058-I023a, V.B.6.b; §2103.12.a.2.D]
- c. The permittee shall do the following for WW Poly storage tanks (73, 75, 76, 77) and associated equipment: [§2105.03; IP #0058-I026a, V.E.3.a; §2103.12.a.2.D]]
 - 1) Perform regular maintenance in accordance with the manufacturer's or the operator's maintenance procedures;
 - 2) Keep records of any maintenance; and
 - 3) Keep a copy of either the manufacturer's or the operator's maintenance procedures.
- d. The WW Poly storage tanks (73, 75, 76, 77) shall be properly operated and maintained at all times according to good engineering practices, with the exception of activities to mitigate emergency conditions. [§2105.03; IP #0058-I026a, V.E.3.b; §2103.12.a.2.D]
- e. Under the requirements of 40 CFR Part 63, Subpart FFFF, the permittee is required to have a Leak Detection and Repair (LDAR) program. The permittee shall comply with each applicable conditions of Section VI.G below.

7. Additional Requirements:

None except as provided elsewhere.

~PERMIT SHIELD IN EFFECT~

I. Hydrogenation (Hydro) Unit - Process

Process Description: Batch process for hydrogenation of polymerizate from another processes.
Facility ID: Hydro Unit
Max. Production Rate: 22.5 MM lb/yr of Hydrogenated polymerizate
Raw Materials: Poly oil, catalyst, hydrogen
Control Device: Baghouse (1), condensers (5)

1. Restrictions:

- a. The maximum production rate for Hydrogenation unit shall not exceed 22.5 million pounds per 12-month rolling period of Hydrogenated polymerizate and the maximum liquid flow rate from Autoclaves #1 and #2 to the Vent tank shall not exceed 67 gallons per minute at any time. [IP #0058-I027a, V.A.1.a; IP #0058-I026a, V.H.1.a; §2103.12.a.2.D]
- b. The permittee shall not operate or allow to be operated the following equipment unless all emissions from the equipment are routed to the subject control device(s). [IP #0058-I027a, V.A.1.b; §2103.12.a.2.D; §2105.06(b)3; 40 CFR 63.2450 (a)]

Table V-0-1: Hydro Unit Controlled Equipment

Equipment Description	Control Device(s)	Stack I.D.
Metering tank, Catalyst unloading system, Catalyst catch tank, Tanks T-103 & T-104, Mott filter, Heel tank	Condenser E-200-6 followed by Condenser E-201-2	S004
Autoclaves #1 & #2, Vent tank	Condenser E-401-2 & E-402-2 followed by Condenser E-403-2	S007
Catalyst unloading system	Baghouse S-203-5	S005

- c. Refrigerated vent condensers [E-200-6 and E-201-2 (S004), E-401-2, E-402-2, and E-403-2 (S007)]: The condensers shall be properly maintained and operated according to good engineering practices, manufacturer’s recommendations and the following conditions at all times while treating process emissions: [IP #0058-I027a, V.A.1.c; IP #0058-I026a, V.H.1.b; §2103.12.a.2.D; §2105.06.b.3]
 - 1) The outlet coolant temperature of condensers E-201-2 and E-403-2 shall not exceed 4.4°C (40°F) for any one-hour block average when emissions are routed through the condenser with the exception of activities to mitigate emergency conditions;
 - 2) The exit vapor temperature of condensers E-201-2 and E-403-2 shall not exceed 35°C (95°F) over any one-hour block average when emissions are being routed through them unless the temperature exceedance is due solely to high ambient temperature. Documentation, as specified in condition V.I.1.c.3) below must be collected for each one-hour block average exit temperature over 35°C (95°F).
 - 3) If measured one-hour block average exit vapor temperatures exceed 35°C (95°F) from a condenser, the permittee shall take the following actions:
 - a) Confirm that the glycol cooler is operating properly by reviewing current operating conditions (e.g., that the chiller system is operating and circulating coolant, and that glycol coolant is being supplied or exiting the condensers at required temperatures). Corrective

- actions are required to be taken to correct loss of coolant supply or to return the coolant supply/exit temperature to required temperatures.
- b) The following documentation will be maintained:
 - 1. Identification of the condenser.
 - 2. The exit vapor and inlet coolant supply temperatures at the time of exceedance.
 - 3. The ambient air temperature at the time of exceedance.
 - 4. The estimated quantity of excess VOC and total HAP emitted, if any, generated during the exceedance.
 - 5. The nature and probable cause of the event causing the exceedance, including if the exceedance was due solely to high ambient temperatures.
 - 6. Appropriate corrective actions taken.
 - c) Periods of exit vapor temperatures in excess of 35°C (95°F) not due solely to high ambient temperature shall be considered a breakdown in accordance with §2108.01.
 - d. The permittee shall not operate or allow to be operated the Catalyst Unloading System unless all emissions from this system are directed through a Baghouse S-203-5 with 99% efficiency before being exhausted into the atmosphere. [IP #0058-I027a, V.A.1.d; §2103.12.a.2.D;]
 - e. The Baghouse shall be properly operated and maintained according to good engineering practices and manufacturer’s recommendations at all times while treating process emissions. [IP #0058-I027a, V.A.1.e; §2103.12.a.2.D]
 - f. Emissions from the Hydrogenation Unit (emission points S004, S005, S006, and S007) shall not exceed the following at any time: [IP #0058-I027a, V.A.1.f; §2103.12.a.2.D]

Table V-0-2: Hydro Unit Emissions Limits

Stack ID	Equipment Description	VOC		HAPs		PM	
		tpy ¹	lb/batch	tpy ¹	lb/batch	tpy ¹	lb/hr
S004	Tanks T-103 and T-104, Metering tank, Catalyst Catch tank, Mott Filter, Heel tank, Vent collection pot, Fresh catalyst addition, Mott flush and N ₂ purge	12.97	21.54	0.071	0.71	-	-
S005	Catalyst unloading system	-	-	-	-	0.0002	0.021
S006	Spent catalyst drumming	0.05	-	-	-	-	-
S007	Vent tank, Autoclaves #1 charging, Autoclaves #2 charging	15.13	26.73	0.015	0.15	-	-
	Total	28.15	48.27	0.086	0.86	0.0002	0.021

¹A year is defined as any consecutive 12-month period.

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition Article XXI §2108.02. [§2103.12.h.1]

3. Monitoring Requirements:

- a. The permittee shall inspect the baghouse for proper operation at least once per week when operational. [IP #0058-I027a, V.A.3.a; §2103.12.a.2.D; §2103.12.i]
- b. The permittee shall measure the vapor pressure of the HVD and RHS solvents quarterly. The vapor pressure shall be determined in accordance with ASTM Method D 5842-04 “Standard Practice for Sampling and Handling of Fuels for Volatility Measurement” (or latest version) and ASTM Standard D 2879-97, “Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope” (or latest version). [IP #0058-I027a, V.A.3.b; §2103.12.a.2.D]
- c. The permittee shall install, operate, and maintain an outlet coolant temperature instrument on E-201-2 and E-403-2 condensers that continuously monitor the coolant outlet temperature. The temperature probes used shall be certified by the manufacturer to be accurate to within 2% of the temperature measured in Celsius or to within 2.5°C, whichever is greater. The permittee shall record the coolant outlet temperature at least once every 15 minutes while the equipment associated with the temperature probe and transmitter is in operation. [IP #0058-I027a, V.A.3.c; IP #0058-I026a, V.H.3.a; §2103.12.a.2.D; §2103.12.i]
- d. The permittee shall install, operate, and maintain temperature probes and transmitters capable of continuously monitoring outlet gas temperature on E-201-2 and E-403-2 condensers. The temperature probes used shall be certified by the manufacturer to be accurate to within 2% of the temperature measured in Celsius or to within 2.5°C, whichever is greater. The permittee shall record the outlet gas temperature at least once every 15 minutes while the equipment associated with the temperature probe and transmitter is in operation. [IP #0058-I027a, V.A.3.d; §2103.12.a.2.D; §2103.12.i; 40 CFR 63.990(c)(2)]

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain sufficient records to demonstrate compliance with the requirements of this permit. Such records shall clearly demonstrate that all applicable requirements are met. [§2103.12.j]
- b. The permittee shall keep and maintain records of all vapor pressure measurements made pursuant to condition V.I.3.b above. [IP #0058-I027a, V.A.4.b; §2103.12.a.2.D; §2103.12.j]
- c. The permittee shall keep and maintain records of the daily amount of polymerizate charged into the process and monthly and twelve months Hydrogenated polymerizate production. The daily amount shall be calculated every day beginning at 12:00 am for 24 consecutive hours. [IP #0058-I027a, V.A.4.c; IP #0058-I026a, V.H.2.a; §2103.12.a.2.D; §2103.12.j]
- d. The permittee shall keep and maintain records of monthly maximum VOC and HAP pounds per batch emissions to demonstrate compliance with condition V.I.1.f above. The most recent vapor pressure information determined pursuant to condition V.I.3.b above and the monthly maximum hourly average condenser exit gas temperatures shall be used in the emission calculations. [IP #0058-I027a, V.A.4.d; §2103.12.a.2.D; §2103.12.j]
- e. The permittee shall keep and maintain records of monthly and twelve-month rolling VOC and HAP

emissions to demonstrate compliance with condition V.I.1.f above. The most recent vapor pressure information determined pursuant to condition V.I.3.b above and monthly average condenser exit gas temperatures shall be used in the emission calculations. [IP #0058-I027a, V.A.4.e; §2103.12.a.2.D; §2103.12.j]

- f. The permittee shall keep and maintain the following data on-site for these operations: [IP #0058-I027a, V.A.4.f; IP #0058-I026a, V.H.2.a; §2103.12.a.2.D; §2103.12.j]
- 1) All records of monitoring required by V.I.3 above.
 - 2) Records of operation, inspection, calibration, maintenance and/or replacement of process vessels or control equipment.
 - 3) Stack test protocols and reports.
 - 4) Manufacturer's specifications when this information is available.
- g. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [IP #0058-I027a, V.A.4.g; §2103.12.a.2.D; §2103.12.h.5.B]
- h. The permittee shall maintain records of activities necessary to mitigate emergency conditions subject to Conditions V.I.1.c above. Records shall include the beginning and ending time of the emergency, the nature of the emergency, and actions taken to mitigate the emergency. [IP #0058-I027a, V.A.4.h; §2103.12.a.2.D]
- a) The permittee shall maintain relevant records for all documentation supporting initial notifications and notification of compliance status. [40 CFR 63.10(b)(2)(xiv), §2103.12.a.2.B]
- i. All records required under this section shall be maintained by the permittee for a period of five years following the date of such record. [§2103.12.j.2]

5. Reporting Requirements:

- a. The permittee shall submit semi-annual reports to the Department in accordance with General Condition III.15. The reports shall contain all required information for the time period of the report: [IP #0058-I027a, V.A.5.a; §2103.12.a.2.D; §2103.12.k]
- 1) Vapor pressure measurement results required to be recorded by condition V.I.4.b above;
 - 2) Monthly and 12-month data required to be recorded by conditions V.I.4.c through V.I.4.e above; and
 - 3) Non-compliance information required to be recorded by V.I.4.g above.
- b. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 above, if appropriate. [§2103.12.k]

6. Work Practice Standard:

- a. The permittee is authorized to periodically replace the existing condensers and baghouse using for this process with a unit of the same or better efficiency. The permittee shall notify the Department

- in writing at least ten (10) days prior to any such replacement. [IP #0058-I027a, V.A.6.a; §2103.12.a.2.D]
- b. The permittee shall maintain on site all operating and maintenance manuals and equipment specifications for the baghouse for the life of the equipment if any [IP #0058-I027a, V.A.6.b; §2103.12.a.2.D; §2105.03]
 - c. The permittee shall maintain onsite, for emergency replacement, 25% of the total number of bags or filter elements installed in the baghouse, except during periods following bag replacement to allow for replenishment of the stock of spare bags.” [IP #0058-I027a, V.A.6.c; §2103.12.a.2.D; 2105.03]
 - d. Material removed from the fabric filter shall be disposed of in a manner preventing re-entrainment into the atmosphere. [IP #0058-I027a, V.A.6.d; §2103.12.a.2.D; 2101.11.c.]
 - e. The permittee shall do the following for Hydrogenation Unit (tanks 103 and 104, metering tank, catalyst catch tank, Mott filter, Heel tank, Vent tanks, Autoclaves #1 and #2) and associated equipment: [IP #0058-I027a, V.A.6.e; IP #0058-I026a, V.H.4.a; §2103.12.a.2.D; §2105.03]
 - 1) Perform regular maintenance in accordance with the manufacturer’s or the operator’s maintenance procedures;
 - 2) Keep records of any maintenance; and
 - 3) Keep a copy of either the manufacturer’s or the operator’s maintenance procedures.
 - f. The Hydrogenation Unit (tanks 103 and 104, metering tank, catalyst catch tank, Mott filter, Heel tank, Vent tanks, Autoclaves #1 and #2) shall be properly operated and maintained at all times according to good engineering practices, with the exception of activities to mitigate emergency conditions. [IP #0058-I027a, V.A.6.f; IP #0058-I026a, V.H.4.b; §2103.12.a.2.D; §2105.03]
 - g. Under the requirements of 40 CFR Part 63, Subpart FFFF, the permittee is required to have a Leak Detection and Repair (LDAR) program. The permittee shall comply with each applicable conditions of Section VI.G below.

7. Additional Requirements:

None except as provided elsewhere.

~PERMIT SHIELD IN EFFECT~

J. Hydrogenation (Hydro) Unit - Storage Tanks

Process Description: Fixed roof storage tanks
Facility ID: See Table in V.K.1.a
Capacity: See Table in II-1
Raw Materials: Various solvents and Polymerizates
Control Device: Condensers

1. Restrictions:

- a. The permittee shall not operate or allow to be operated the following equipment unless all emissions from the equipment are ducted to the subject control device(s). [IP #0058-I027a, V.B.1.a; §2103.12.a.2.D; §2105.06(b)]

Table V-0-1: Hydro Unit Controlled Storage Tanks

Equipment I.D.	Equipment Description	Control Device(s)	Emission Point
T-100, T-101	Storage Tanks	Condenser E-101-4	S001
T-102, T-105, T-106	Storage Tanks	Condenser E-104-1 followed by Condenser E-104-2	S012

- b. Emissions from the Storage Tanks shall not exceed the following at any time: [IP #0058-I027a, V.B.1.b; §2103.12.a.2.D]

TABLE V-0-2: Hydro Unit Storage Tanks Emissions Limits

POLLUTANT	Stack S001 TPY ¹	Stack S012 TPY ¹	Total TPY ¹
Volatile Organic Compounds (VOC)	1.27	7.35	8.62
Hazardous Air Pollutants (HAP)	0.007	-	0.007

¹ A year is defined as any consecutive 12-month period.

- c. The outlet coolant temperature for the condensers E-101-4 (S001) and E-104-2 (S012) shall not exceed 4.4°C (40°F) over any one-hour block average when emissions are routed through the condenser with the exception of activities to mitigate emergency conditions. [IP #0058-I027a, V.B.1.d; IP #0058-I026a, V.H.1.b; §2103.12.a.2.D §2103.12.a.2.D; §2105.06.b.3]
- d. The exit vapor temperature from the condensers E-101-4 and E-104-2 shall not exceed 35°C (95°F) over any one-hour block average when emissions are being routed through them unless the temperature exceedance is due solely to high ambient temperature. Documentation, as specified in condition V.J.1.e below must be collected for each one-hour block average exit temperature over 35°C (95°F). [IP #0058-I027a, V.B.1.c; §2103.12.a.2.D]

- e. If the measured one-hour block average exit vapor temperatures exceed 35° C (95° F) from an applicable condenser, the permittee shall take the following actions:
- 1) Confirm that the glycol cooler is operating properly by reviewing current operating conditions (e.g., that the chiller system is operating and circulating coolant, and that glycol coolant is being supplied or exiting the condensers at required temperatures). Corrective actions are required to be taken to correct loss of coolant supply or to return the coolant supply/exit temperature to required temperatures.
 - 2) The following documentation will be maintained:
 - a) Identification of the condenser.
 - b) The exit vapor and inlet coolant supply temperatures at the time of exceedance.
 - c) The ambient air temperature at the time of exceedance.
 - d) The estimated quantity of excess VOC and total HAP emitted, if any, generated during the exceedance.
 - e) The nature and probable cause of the event causing the exceedance, including if the exceedance was due solely to high ambient temperatures.
 - f) Appropriate corrective actions taken.
 - 3) Periods of exit vapor temperatures in excess of 35°C (95°F) not due solely to high ambient temperature shall be considered a breakdown in accordance with §2108.01.

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [§2103.12.h.1]

3. Monitoring Requirements:

- a. The permittee shall operate and maintain an above-ground storage tank monitoring system using material receipt records, level measurement changes, or mass flow meters to measure and record throughput of solvents and polymerizates that are pumped for storage tanks 100, 101, 102, 105, and 106. The permittee shall use the data derived from this system to enter the daily material throughput for each tank in the above-ground storage tank log required by condition V.J.4.a below. [IP #0058-I027a, V.B.3.a; §2103.12.a.2.D; §2103.12.i]
- b. The permittee shall install, operate, and maintain an outlet coolant temperature instrument on E-101-4 and E-104-2 condensers that continuously monitors the coolant outlet temperature. The temperature probes used shall be certified by the manufacturer to be accurate to within 2% of the temperature measured in Celsius or to within 2.5°C, whichever is greater. The permittee shall record the coolant outlet temperature at least once every 15 minutes while the equipment associated with the temperature probe and transmitter is in operation. [IP #0058-I027a, V.B.3.b; IP #0058-I026a, V.H.3.a; §2103.12.a.2.D; §2103.12.i]
- c. The permittee shall install, operate, and maintain temperature probes and transmitters capable of continuously monitoring outlet gas temperature on E-101-4 and E-104-2 condensers. The temperature probes used shall be certified by the manufacturer to be accurate to within 2% of the temperature measured in Celsius or to within 2.5°C, whichever is greater. The permittee shall record the outlet gas temperature at least once every 15 minutes while the equipment associated with the temperature probe and transmitter is in operation. [IP #0058-I027a, V.B.3.c;

§2103.12.a.2.D; §2103.12.i]

- d. Monitoring data recorded during periods of monitoring system breakdowns, repairs, preventive maintenance, calibration checks, zero (low-level) and high-level adjustments, periods of non-operation of the process unit (or portion thereof) resulting in cessation of the emissions to which the monitoring applies, shall not be included in any average to determine compliance, except monitoring data is to be collected during periods of startup, shutdown and malfunction. [IP #0058-I027a, V.B.3.d; §2103.12.a.2.D; §2103.12.i]
- e. The permittee shall include the operation, calibration, and maintenance of the level instrumentation and mass flow meters in the Preventative Maintenance and Operation Plan required by V.J.6 below if such instruments are being used to comply with condition V.J.3.a above. [IP #0058-I027a, V.B.3.e; §2103.12.a.2.D; §2103.12.i]

4. Record Keeping Requirements:

- a. The permittee shall maintain an Above-Ground Storage Tank Log (AST log) for storage tanks 100, 101, 102, 105, and 106, update the log at least once per week and shall make the log available for inspection by the Department. The AST log shall include the information on the parameters listed in Table below, using the methodologies identified therein. [IP #0058-I027a, V.B.4.a; §2103.12.a.2.D; §2103.12.j]

Table V-0-3: Hydro Unit Above-Ground Storage Tank Log

	PARAMETER	METHODOLOGY
1)	<ul style="list-style-type: none"> - AST ID and date installed and/or modified - AST size 	Engineering records and diagrams. Permittee shall provide the installation and modification dates where the dates are known.
2)	<ul style="list-style-type: none"> - Material store by name - A daily measurement of the level of material in each AST 	Use the log generated by the AST material throughput monitoring system described by condition V.J.4.a above.
3)	<ul style="list-style-type: none"> - Temperature 	<p><u>Unheated tanks:</u> Use 28°C (equal to the local maximum monthly (July)) average temperature as reported by the National Weather Service for the Pittsburgh area to calculate vapor pressure of the tank for the AST Log.</p> <p>Use the default temperature for Pittsburgh, Pennsylvania as provided by TANKS4.09d (or the most recent version) or replacement as identified by ACHD for emission calculation and compliance determinations.</p> <p><u>Heated tanks:</u> Use the heater setting as the temperature for each heated tank.</p>
4)	<ul style="list-style-type: none"> - Pressure (unpressurized or Nitrogen blanketed tanks) 	Use the default atmospheric pressure for Pittsburgh, Pennsylvania as provided by TANKS 4.09.d (or the most recent version) or replacement as identified by ACHD for

	PARAMETER	METHODOLOGY
		emission calculation and compliance determinations.
5)	- Vapor pressure of the material stored	Use the Antoine's coefficients developed from vapor pressure testing as well as unheated tank temperature of 28°C and material data from the AST log entries to calculate vapor pressure.

- a. The permittee shall keep records of the calculated VOC and HAP emissions (monthly, rolling 12-month). [§2103.12.a.2.B]
- b. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [IP #0058-I027a, V.B.4.b; §2103.12.a.2.D; §2103.12.h.5.B]
- c. The permittee shall keep and maintain production records and records of condenser coolant temperature. [§2103.12.j, IP #0058-I026a, V.H.2.a; §2103.12.a.2.D]
- d. The permittee shall keep records of operation, inspection, calibration, maintenance and/or replacement of process or control equipment. [§2103.12.j & k; IP #0058-I026a, V.H.2.b; §2103.12.a.2.D]
- e. All records required under this section and condition V.J.4 above shall be maintained by the permittee for a period of five years following the date of such record. [IP #0058-I027a, V.B.4.c; §2103.12.a.2.D; §2103.12.j.2]

5. Reporting Requirements:

- a. The permittee shall submit notification of intent to store any new material in storage tanks listed in V.J.1.a above, other than solvents or polymerizate, to the Department a minimum of ten (10) working days prior to the intended store date. This notification shall at minimum include the Safety Data Sheet, the maximum true vapor pressure and the emissions calculations for the new materials. [IP #0058-I027a, V.B.5.a; §2103.12.a.2.D; §2102.04.b.6]
- b. The permittee shall submit semi-annual reports to the Department in accordance with General Condition III.15. The reports shall contain all non-compliance information required to be recorded by V.J.4.a above for the time period of the report. [IP #0058-I027a, V.B.5.b; §2103.12.a.2.D; §2103.12.k]
- c. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 above if appropriate. [IP #0058-I027a, V.B.5.c; §2103.12.a.2.D; §2103.12.k; §2108.01.c]

6. Work Practice Standard:

- a. The permittee is authorized to periodically replace the existing condensers listed in this permit with a unit of the same or better efficiency. The permittee shall notify the Department in writing at least

ten (10) days prior to any such replacement. [IP #0058-I027a, V.B.6.a; §2103.12.a.2.D]

- b. The permittee shall maintain and implement the Preventative Maintenance and Operations (PMO) Plan submitted to and approved by the Department. The permittee shall maintain the original approved PMO Plan and all subsequent revisions for a period of five years and have them available for inspection. [IP #0058-I027a, V.B.6.b; §2103.12.a.2.D]
- c. The permittee shall do the following for Storage tanks 102, 105, 106 and associated equipment: [IP #0058-I027a, V.B.6.c; IP #0058-I026a, V.H.4.a; §2103.12.a.2.D; §2105.03]
 - 1) Perform regular maintenance in accordance with the manufacturer's or the operator's maintenance procedures;
 - 2) Keep records of any maintenance; and
 - 3) Keep a copy of either the manufacturer's or the operator's maintenance procedures.
- d. The Storage tanks 102, 105, 106 shall be properly operated and maintained at all times according to good engineering practices, with the exception of activities to mitigate emergency conditions. [IP #0058-I027a, V.B.6.d; IP #0058-I026a, V.H.4.b; §2103.12.a.2.D; §2105.03]

7. Additional Requirements:

None except as provided elsewhere.

~PERMIT SHIELD IN EFFECT~

K. LTC Operations - Process

Process Description: LTC Process operations
Facility ID: #1, #2 and #4 LTC Units
Max. Design Rate: 67.24 MM lbs of finished resin per year; combined
Raw Materials: Intermediate Polymerizate, Blending Solvents
Control Device: Fume scrubbers (2), baghouses (3), carbon beds (2), and condensers (7)

1. Restrictions:

- a. The maximum production rate for all three LTC units (#1,#2, and #4) shall not exceed 67.24 MM pounds per year of finished resin combined. [IP #0058-I016b, V.A.1.a; §2103.12.a.2.D]
- b. The permittee shall not operate or allow to be operated the following equipment unless all emissions from the equipment are routed to the subject control device(s). [IP #0058-I016b, V.A.1.b; §2103.12.a.2.D; §2105.06(b)3; 40 CFR 63.2450 (a)]

Table V-K -1: LTC Controlled Equipment

Equipment Description	Control Device(s)	Stack I.D.
LTC Unit #1	Condenser E-301B-E3	S109
LTC Unit #2	Condenser E-607-2	S110
LTC Unit #4	Condenser E-106-3	S124
Reclaim Tank	Condenser E-301-4	S108
Resin Kettle 5	Condenser E-RK5-4	S111
Resin Kettle 6	Condenser E-RK6-5	S112
Resin Kettle 7	Condenser E-RK7-4	S113
#1 Pastillator Belt	Baghouse S-108	S115
	Scrubber S-127-3	S114
#2 Pastillator Belt	Baghouse S-640-1	S116
	Scrubber S-127-3	S114
Berndorf Pastillator Belt	Baghouse S-104-1	S084
	Scrubber S-105-1	S165
LTC #1/#2 Oil Water Separator	Carbon Bed	S110A
LTC #4 Oil Water Separator	Carbon Bed	S125

- c. Cooling tower water chilled vent condensers [E-301B-E3 (S109); E-301-4 (S108); E-607-2 (S110); E-RK5-4 (S111); E-RK6-5 (S112); E-RK7-4 (S113)]: The condensers shall be properly operated and maintained according to good engineering practices, manufacturer’s recommendations and the following conditions at all times while treating process emissions: [IP #0058-I016b, V.A.1.d; IP #0058-I026a, V.F.1.b; §2103.12.a.2.D; §2105.06(b)3]

- 1) The inlet coolant temperature to each condenser shall not exceed 10°F (5.6°C) above ambient air temperature over any one-hour block average when emissions are routed through the condenser with the exception of activities to mitigate emergency conditions and except that at no time will coolant temperature be required to be less than 50°F (10°C).
- 2) The exit vapor temperature of each condenser shall not exceed 40°C (104°F) over any one-hour block average when emissions are being routed through them unless the temperature exceedance is due solely to high ambient temperature. Documentation as specified in condition V.K.1.c.3) below must be collected for each one-hour block average exit temperature over 40°C (104°F).
- 3) If measured one-hour block average exit vapor temperatures exceed 40°C (104°F) from a condenser, the permittee shall take the following actions:
 - a) Confirm that the cooling tower is operating properly by reviewing current operating conditions (e.g., that the cooling system is operating and circulating cooling water, and that cooling water is being supplied at less than 10°F (5.6°C) above ambient (except that at no time will coolant temperature be required to less than 50°F (10 °C). Corrective actions are required to be taken to correct loss of coolant supply or to return the coolant supply temperature to less than 10°F (5.6°C) above ambient (except that at no time will coolant temperature be required to less than 50°F (10°C)).
 - b) The following documentation will be maintained:
 - i) Identification of the condenser.
 - ii) The exit vapor and inlet coolant supply temperatures at the time of exceedance.
 - iii) The ambient air temperature at the time of exceedance.
 - iv) The estimated quantity of VOC and total HAP emitted, if any, generated during the exceedance.
 - v) The nature and probable cause of the event causing the exceedance, including if the exceedance was due solely to high ambient temperatures.
 - vi) Appropriate corrective actions taken.
 - c) Periods of exit vapor temperatures in excess of 40°C (104°F) not due solely to high ambient temperature shall be considered a breakdown in accordance with §2108.01.
- d. Refrigerated vent condenser E-106-3 (S124): The condenser shall be properly maintained and operated according to good engineering practices, manufacturer's recommendation following conditions at all times while treating process emissions: [IP #0058-I016b, V.A.1.e; §2103.12.a.2.D; §2105.06.b.3]
 - 1) The inlet coolant temperature to the condenser shall not exceed 10°C (50°F) over any one-hour block average when emissions are routed through the condenser with the exception of activities to mitigate emergency conditions;
 - 2) The exit vapor temperature of the condenser shall not exceed 35°C (95°) over any one-hour block average when emissions are being routed through it, them, unless the temperature exceedance is due solely to high ambient temperature. Documentation, as specified in condition V.K.1.d.3) below must be collected for each one-hour block average exit temperature over 35°C (95°F).
 - 3) If measured one-hour block average exit vapor temperatures exceed 35°C (95°) from a condenser, the permittee shall take the following actions:

- a) Confirm that the glycol cooler is operating properly by reviewing current operating conditions (e.g., that the chiller system is operating and circulating coolant, and that glycol coolant is being supplied or exiting the condensers at required temperatures). Corrective actions are required to be taken to correct loss of coolant supply or to return the coolant supply/exit temperature to required temperatures.
- b) The following documentation will be maintained:
 - i) Identification of the condenser.
 - ii) The exit vapor and inlet coolant supply temperatures at the time of exceedance.
 - iii) The ambient air temperature at the time of exceedance.
 - iv) The estimated quantity of VOC and total HAP emitted, if any, generated during the exceedance.
 - v) The nature and probable cause of the event causing the exceedance, including if the exceedance was due solely to high ambient temperatures.
 - vi) Appropriate corrective actions taken.
- c) Periods of exit vapor temperatures in excess of 35°C (95°F) not due solely to high ambient temperature shall be considered a breakdown in accordance with §2108.01.
- e. The vacuum leak rate from the #1 and #4 LTC Vacuum Systems shall not exceed 10 lb/hr. The vacuum leak rate from #2 LTC Vacuum System shall not exceed 15 lb/hr. Compliance with this condition shall be demonstrated during the regular compliance test required under condition V.K.2.c below. [IP #0058-I016b, V.A.1.f; IP #0058-I026a, V.F.1.c; §2103.12.a.2.D; §2103.12.a.2.D]
- f. Combined production of the #1 and #2 Pastillating Belts shall be limited to 60,000,000 pounds of pastillated resin per consecutive 12-month period. [IP #0058-I016b, V.A.1.h; §2103.12.a.2.D]
- g. Production of the #3 Pastillator Belt (or Berndorf Belt) shall be limited to 30,000,000 pounds of pastillated resin per consecutive 12-month period. [IP #0058-I016b, V.A.1.i; §2103.12.a.2.D]
- h. The #1 LTC Pastillator Belt baghouse shall be properly maintained and operated with a minimum particulate removal efficiency of 99%. The #2 Pastillator Belt and the #3 Pastillator Belt (or Berndorf Belt) baghouses shall be properly maintained and operated with a minimum particulate removal efficiency of 99.9%. [IP #0058-I016b, V.A.1.j; §2103.12.a.2.D]
- i. The Scrubbers and Carbon Beds shall be properly operated and maintained according to good engineering practices and manufacturer's recommendations at all times while treating process emissions. [IP #0058-I016b, V.A.1.k; §2103.12.a.2.D]
- j. The #1/#2 Pastillator Belt scrubber (S-127-3) and #3 Pastillator Belt scrubber (S-105-1) shall each have a minimum water recirculation flowrate of 30 gpm based on an hourly block average and a minimum pressure drop of 20" W.C. based on an hourly block average. [IP #0058-I016b, V.A.1.l; §2103.12.a.2.D]
- k. Emissions from the LTC operations (emission points S084, S108-S116, S110A, S124, S125, S165, and Truck Loading & Drumming) shall not exceed the following at any time: [IP #0058-I016b, V.A.1.m; §2103.12.a.2.D]

TABLE V-K-2: LTC Process Emission Limitations

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Volatile Organic Compounds	15.32	17.89
PM/PM ₁₀ /PM _{2.5}	0.11	0.48
Total HAPs	0.46	0.79
Styrene	0.27	0.78

* A year is defined as any consecutive 12-month period.

2. Testing Requirements:

- a. All emissions testing shall be performed in accordance with the Site Level Condition IV.13 above (“Emissions Testing Requirements”) and Article XXI §2108.02. [IP #0058-I016b, V.A.2.a; §2103.12.a.2.D; §2108.02.]
- b. Emissions testing shall be performed at the outlet of each fume scrubber for VOC and total HAPs in accordance with EPA Reference Methods 25 and/or 18 and in accordance with the Allegheny County Health Dept. Source Testing Manual. During the testing, the following operating parameters shall be recorded and reported as part of the emission test report [IP #0058-I016b, V.A.2.b; §2103.12.a.2.D; §2108.02.]:
 - 1) Resin feed rate (gal/min);
 - 2) Finished resin produced (lbs/hour);
 - 3) Type of resin produced (MSDS); and
 - 4) Scrubber liquid flow rate.
- c. Emissions testing shall be performed at the outlet of each Vacuum System condenser (S109, S110, and S124) for VOC and total HAPs in accordance with EPA Reference Methods 25 and/or 18 and in accordance with the Allegheny County Health Dept. Source Testing Manual. Testing shall be performed during the period of maximum emissions from the process. At a minimum, the information necessary to accurately assess emissions in accordance with the EIIP methodology shall be recorded including the following operating parameters. The information shall be reported as part of the emission test report [IP #0058-I016b, V.A.2.c; §2103.12.a.2.D; §2108.02]:
 - 1) Condenser coolant inlet or outlet temperature (continuous);
 - 2) Outlet vapor temperature (continuous);
 - 3) Vacuum pump status (continuous);
 - 4) Polymerizate feed rate (gal/min); and
 - 5) Type of resin produced (MSDS)
- d. Emissions testing in accordance with Conditions V.K.2.b above and V.K.2.c above shall be performed at least once every five years after the most recent stack test. [IP #0058-I016b, V.A.2.d; §2103.12.a.2.D; §2108.02]
- e. The Department reserves the right to require additional emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [§2103.12.h.1]

3. Monitoring Requirements:

- a. The permittee shall visually inspect scrubbers at least once per day for visible emissions. If visible emissions are detected, the permittee shall adjust the flow of water to the scrubbers accordingly. [IP #0058-I016b, V.A.3.b; §2103.12.a.2.D; §2103.12.i]
- b. The permittee shall monitor and record the pressure drop across each LTC Pastillator baghouse once per calendar day. [IP #0058-I016b, V.A.3.c; §2103.12.a.2.D; §2103.12.i]
- c. The permittee shall install, operate, and maintain either an inlet or outlet coolant temperature instrument on the applicable condensers that continuously monitor the coolant inlet or outlet temperature. The temperature probes used shall be certified by the manufacturer to be accurate to within 2% of the temperature measured in Celsius or to within 2.5°C, whichever is greater. The permittee shall record the coolant inlet or outlet temperature at least once every 15 minutes while the equipment associated with the temperature probe and transmitter is in operation. [§2103.12.a.2.B]
- d. The permittee shall install, operate, and maintain temperature probes and transmitters capable of continuously monitoring outlet gas temperature on the condensers. The temperature probes used shall be certified by the manufacturer to be accurate to within 2% of the temperature measured in Celsius or to within 2.5°C, whichever is greater. The permittee shall record the outlet gas temperature at least once every 15 minutes while the equipment associated with the temperature probe and transmitter is in operation. [§2103.12.a.2.B]
- e. The permittee shall monitor and record the liquid flowrate and pressure drop of scrubbers S-127-3 and S-105-1 at least once every 15 minutes when the process is in operation. [IP #0058-I016b, V.A.3.e; §2103.12.a.2.D; §2103.12.i]
- f. The permittee shall continuously monitor when the vacuum pump for each system is in operation. [IP #0058-I016b, V.A.3.f; IP #0058-I026a, V.F.2.b; §2103.12.a.2.D; §2103.12.i]
- g. The permittee shall monitor and record the exit vapor temperature of each of the following condensers at least once every 15 minutes when the process is in operation: S108, S109, S110, S111, S112, S113, and S124. [IP #0058-I026a, V.F.2.a; §2103.12.a.2.D]
- h. The permittee shall monitor and record the VOC concentration from the outlet of the Oil/Water Separator carbon beds weekly. [§2103.12.i]

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain sufficient records to demonstrate compliance with the requirements of this permit. Such records shall clearly demonstrate that all applicable requirements are met. [IP #0058-I016b, V.A.4.a; §2103.12.a.2.D; §2103.12.j]
- b. The permittee shall keep and maintain the following data on-site for these operations: [IP #0058-I016b, V.A.4.b; IP #0058-I026a, V.F.3.a; §2103.12.a.2.D; §2103.12.j & k]
 - 1) All records of monitoring required by V.K.3 above.
 - 2) Records of operation, inspection, calibration, maintenance and/or replacement of process or control equipment.

- 3) Maximum resin (lb/min) and polymerizate (gal/min) feed rates (daily).
 - 4) Amount (lbs.) of resin and polymerizate (monthly, 12-month rolling total)
 - 5) Changes in #4 LTC Vacuum System vacuum pump status (upon occurrence).
 - 6) Any additional data/records not provided by items V.K.4.b.1) and V.K.4.b.2) above that are necessary to accurately assess emissions in accordance with the EIIP methodology.
- c. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [IP #0058-I016b, V.A.4.c; §2103.12.a.2.D; §2103.12.h.5.B]
- d. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [IP #0058-I016b, V.A.4.d; §2103.12.a.2.D; §2103.12.j.2; 40 CFR 63.10(b)]

5. Reporting Requirements:

- a. The permittee shall report the following information to the Department in accordance with General Condition III.15 above on a semiannual basis. The reports shall contain all required information for the time period of the report: [IP #0058-I016b, V.A.5.a; §2103.12.a.2.D; §2103.12.k.1]
- 1) Overall total quantity monthly and 12-month rolling of the resin and polymerizate data required to be recorded by V.K.4.b.4) above condition; and
 - 2) Non-compliance information required to be recorded by V.K.4.c above.
- b. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 above, if appropriate. [IP #0058-I016b, V.A.5.b; §2103.12.a.2.D; §2103.12.k; §2108.01.c]

6. Work Practice Standard:

- a. The permittee is authorized to periodically replace the existing condensers and baghouses listed in this permit with a unit of the same or better efficiency. The permittee shall notify the Department in writing at least ten (10) days prior to any such replacement. [IP #0058-I016b, V.A.6.a; §2103.12.a.2.D]
- b. The permittee shall maintain and implement the Preventative Maintenance and Operations (PMO) Plan submitted to and approved by the Department. The permittee shall maintain the original approved PMO Plan and all subsequent revisions for a period of five years and have them available for inspection. [IP #0058-I016b, V.A.6.b; §2103.12.a.2.D]
- c. The permittee shall maintain on site all operating and maintenance manuals and equipment specifications for the scrubbers for the life of the equipment if any. [IP #0058-I016b, V.A.6.c; §2103.12.a.2.D; §2105.03]
- d. The permittee shall maintain on site all operating and maintenance manuals and equipment specifications for the baghouses for the life of the equipment if any [IP #0058-I016b, V.A.6.d; §2103.12.a.2.D; §2105.03]
- e. The permittee shall maintain onsite, for emergency replacement, 25% of the total number of bags or filter elements use by the baghouses. [IP #0058-I016b, V.A.6.e; §2103.12.a.2.D; §2105.03]

- f. Material removed from the baghouses shall be disposed of in a manner preventing entrainment into the atmosphere. [IP #0058-I016b, V.A.6.f; §2103.12.a.2.D; §2101.11.c.]
- g. The permittee shall do the following for LTC Process (#1 and #2 Vacuum systems and #1/#2 Pastillator Belt) and associated equipment:[§2105.03; IP #0058-I026a, V.F.4.a; §2103.12.a.2.D]
 - 1) Perform regular maintenance in accordance with the manufacturer's or the operator's maintenance procedures;
 - 2) Keep records of any maintenance; and
 - 3) Keep a copy of either the manufacturer's or the operator's maintenance procedures.
- h. The LTC Process (#1 and #2 Vacuum systems and #1/#2 Pastillator Belt) shall be properly operated and maintained at all times according to good engineering practices, with the exception of activities to mitigate emergency conditions. [§2105.03; IP #0058-I026a, V.F.3.b; §2103.12.a.2.D]
- i. Under the requirements of 40 CFR Part 63, Subpart FFFF, the permittee is required to have a Leak Detection and Repair (LDAR) program. The permittee shall comply with each applicable conditions of Section VI.G below.

7. Additional Requirements:

None except as provided elsewhere.

~PERMIT SHIELD IN EFFECT~

L. Dresinate Unit

Process Description:	Dresinate Production Line
Max. Design:	500 lbs/hr wet product
Raw Materials:	Crude Tall Oil, Tall oil rosin
Control Device(s):	Baghouse

1. Restrictions

- a. The permittee shall not operate the Dresinate TX auger conveyor, grinder and bagging process unless emissions of particulate matter are exhausted to a baghouse which is properly maintained and operated according to the following conditions at all times. [IP #0058-I012a, V.A.1.a; §2103.12.a.2.D]
 - 1) The differential pressure drop across the baghouse shall not exceed 15" w.c. nor go below 0.5" w.c.; and
 - 2) The baghouse shall have a particulate and PM₁₀ minimum control efficiency of 99.5% at all times during process operations.
- b. The auger conveyor from the dryer to the grinder shall be completely enclosed at all times while in production with the exception of access for repair, inspection, and maintenance. [IP #0058-I012a, V.A.1.b; §2103.12.a.2.D]
- c. There shall be no emissions of hazardous air pollutants from the Dresinate TX process. [IP #0058-I012a, V.A.1.c; §2103.12.a.2.D]
- d. Particulate Matter (PM) emissions from the Dresinate TX Production Line baghouse shall not exceed 0.06 lbs/hr or 0.25 tons per any twelve consecutive months. [IP #0058-I012a, V.A.1.d; §2103.12.a.2.D]
- e. Volatile organic compound emissions from the Dresinate dryer shall not exceed 1.25 lb/hr or 5.5 tons per any twelve consecutive months. [IP #0058-I012a, V.A.1.e; §2103.12.a.2.D]
- f. Production of Dresinate TX shall be limited to 2,500 tons of dry product per consecutive 12- month period. [IP #0058-I012a, V.A.1.f; §2103.12.a.2.D]

2. Testing Requirements

- a. Emissions testing shall be performed in accordance with the Site Level Condition IV.13 ("Emissions Testing Requirements") to determine compliance with the emission limitations of condition V.L.1.d above. [IP #0058-I012a, V.A.2.a; §2103.12.a.2.D]
- b. The Department reserves the right to require additional emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [IP #0058-I012a, V.A.2.b; §2103.12.a.2.D; §2103.12.h.1]

3. Monitoring Requirements

- a. The permittee shall have instrumentation to measure the pressure drop across the baghouse to within 1" w.c. . [IP #0058-I012a, V.A.3.a; §2103.12.a.2.D]

- b. The permittee shall inspect the process line and control equipment weekly during Dresinate TX production for compliance with conditions V.L.1.a, V.L.1.b and V.L.1.c above. The differential pressure drop across the baghouse shall be recorded weekly. [IP #0058-I012a, V.A.3.b; §2103.12.a.2.D]
- c. Inlet and outlet testing ports shall be provided on the baghouse. [IP #0058-I012a, V.A.3.c; §2103.12.a.2.D]

4. Record Keeping Requirements

- a. The permittee shall keep and maintain the following data: [IP #0058-I012a, V.A.4.a; §2103.12.a.2.D]
 - 1) Dresinate TX production and raw material usage (monthly, 12-month rolling);
 - 2) Hours of operation of the production line (monthly, 12-month rolling);
 - 3) The results of all inspections conducted according to condition V.L.3.b above (weekly);
 - 4) Data recorded as per condition V.L.3.b above (weekly, monthly high and low values);
 - 5) Records of testing, maintenance, inspection, calibration and/or replacement of process or control equipment.
- b. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [IP #0058-I012a, V.A.4.b; §2103.12.a.2.D]
- c. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [IP #0058-I012a, V.A.4.c; §2103.12.a.2.D]

5. Reporting Requirements

- a. The permittee shall report the following information to the Department semiannually in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: [IP #0058-I012a, V.A.5.a; §2103.12.a.2.D]
 - 1) Monthly and 12-month data required to be recorded by condition V.L.4.a above; and
 - 2) Non-compliance information required to be recorded by V.L.4.b above.
- b. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 above, if appropriate. [IP #0058-I012a, V.A.5.b; §2103.12.a.2.D]

6. Work Practice Standard

- a. The permittee shall do the following for Dresinate Production Line (Double Drum Dryer) and associated equipment: [§2105.03; IP #0058-I026a, V.G.2.a; §2103.12.a.2.D]
 - 1) Perform regular maintenance in accordance with the manufacturer's or the operator's maintenance procedures;
 - 2) Keep records of any maintenance; and
 - 3) Keep a copy of either the manufacturer's or the operator's maintenance procedures.

- b. The Dresinate Production Line (Double Drum Dryer) shall be properly operated and maintained at all times according to good engineering practices, with the exception of activities to mitigate emergency conditions. [§2105.03; IP #0058-I026a, V.G.2.ab §2103.12.a.2.D]
- c. The permittee may periodically replace the existing baghouse with a unit of the same or better air volume and efficiency. The permittee shall notify the Department at least 10 days prior to any such replacement. [§2103.12.a.2.D]

~PERMIT SHIELD IN EFFECT~

M. Pilot Plant

Process Description: Pilot Plant operations (controlled sources) – reactor, neutralizer, Funda filter
Facility ID: S155
Max. Design Rate: Various
Capacity: Reactor – 50 gal
Raw Materials: Hydrocarbon resin
Control Device: Carbon bed

1. Restrictions:

- a. The permittee shall not operate or allow to be operated the following equipment unless all emissions from the equipment are routed to the Carbon Bed: reactor, neutralizer, and Funda filter. [IP #0058-I024, V.A.1.a; §2103.12.a.2.D]
- b. The Carbon Bed shall be properly operated and maintained according to good engineering practices and manufacturer’s recommendations at all times while treating process emissions. [IP #0058-I024, V.A.1.b; §2103.12.a.2.D]
- c. Emissions from the Carbon Bed shall not exceed the following at any time: [IP #0058-I024, V.A.1.c; §2103.12.a.2.D]

Table V-M-1: Pilot Plant Emissions Limits

Pollutant	Hourly Emission Limit lb/hr	Annual Emission Limit ton/yr*
VOC	0.49	2.2
HAP	0.49	2.2

* A year is defined as any consecutive 12-month period.

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition Article XXI §2108.02. [§2103.12.h.1]

3. Monitoring Requirements:

- a. The permittee shall install, operate, and maintain a colorimetric indicator to monitor the performance of the Carbon Bed. When the pilot plant is operating, the indicator shall be monitored daily through visual inspection to detect a change in color. When a color change is detected, the canister shall be replaced within 24 hours. [IP #0058-I024, V.A.3.a; §2103.12.a.2.D; §2103.12.i]
- b. The permittee shall monitor inlet coolant temperature for reactor’s condenser and Funda filter/neutralizer’s condenser continuously at least once every 15 minutes during operation. [IP #0058-I024, V.A.3.b; §2103.12.a.2.D; §2103.12.i]

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain sufficient records to demonstrate compliance with the requirements of this permit. Such records shall clearly demonstrate that all applicable requirements are met. [IP #0058-I024, V.A.4.a; §2103.12.a.2.D; §2103.12.j]
- b. The permittee shall keep and maintain records of monthly and twelve-month moving VOC and HAP emissions to demonstrate compliance with condition V.M.1.c above. [IP #0058-I024, V.A.4.b; §2103.12.a.2.D; §2103.12.j]
- c. The permittee shall keep and maintain the following data on-site for these operations: [IP #0058-I024, V.A.4.c; §2103.12.a.2.D; §2103.12.j]
 - 1) All records of monitoring required by V.M.3 above.
 - 2) Records of operation, inspection, calibration, maintenance and/or replacement of process vessels or control equipment.
 - 3) Stack test protocols and reports.
 - 4) Manufacturer's specifications when this information is available.
- d. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [IP #0058-I024, V.A.4.d; §2103.12.a.2.D; §2103.12.h.5.B]
- e. All records required under this section shall be maintained by the permittee for a period of five years following the date of such record. [IP #0058-I024, V.A.4.e; §2103.12.a.2.D; §2103.12.j.2]

5. Reporting Requirements:

- a. The permittee shall submit semi-annual reports to the Department in accordance with General Condition III.15 above. The reports shall contain all non-compliance information required to be recorded by V.M.4.d above for the time period of the report [IP #0058-I024, V.A.5.a; §2103.12.a.2.D; §2103.12.k]
- b. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 above, if appropriate. [IP #0058-I024, V.A.5.b; §2103.12.a.2.D; §2103.12.k]

6. Work Practice Standard:

None except as provided elsewhere.

~PERMIT SHIELD IN EFFECT~

N. Wastewater Treatment Plant

Process Description: Wastewater Treatment Plant
Design Rate: 47,304,000 gal/yr
Raw Materials: Facility wastewater
Control Device: Carbon bed

1. Restrictions:

- a. The maximum rate for Wastewater Treatment Plant shall not exceed 47,304,000 gallons per year. [IP #0058-I025, V.A.1.a; §2103.12.a.2.D]
- b. The permittee shall not operate or allow to be operated the following equipment unless all emissions from the equipment are routed to the Carbon Bed: tanks T-701A & T-701B, oil sump, acid sump, dissolved air flotation tank, raw sump, and final sump. [IP #0058-I025, V.A.1.b; §2103.12.a.2.D]
- c. The Carbon Bed shall be properly operated and maintained according to good engineering practices and manufacturer’s recommendations at all times while treating process emissions. [IP #0058-I025, V.A.1.b; §2103.12.a.2.D]
- d. Emissions from Wastewater Treatment Plant shall not exceed the following at any time: [IP #0058-I025, V.A.1.c; §2103.12.a.2.D]

Table V-N-1: Wastewater Treatment Plant Emissions Limits

Pollutant	Hourly Emission Limit lb/hr	Annual Emission Limit ton/yr*
VOC	10.02	24.68
HAP	9.3	22.91
Styrene	1.3	3.17
Toluene	7.9	19.36

* A year is defined as any consecutive 12-month period.

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [§2103.12.h.1]

3. Monitoring Requirements:

- a. The permittee shall install, operate, and maintain a colorimetric indicator to monitor the performance of the Carbon Bed. The indicator shall be monitored daily through visual inspection to detect a change in color. When a color change is detected, the canister shall be replaced within 24 hours. [IP #0058-I025, V.A.3.a; §2103.12.a.2.D; §2103.12.i]
- b. The permittee shall monitor temperature for condensers E-701-3 and E-713-2 continuously at least once every 15 minutes [IP #0058-I025, V.A.3.b; §2103.12.a.2.D; §2103.12.i]

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain sufficient records to demonstrate compliance with the requirements of this permit. Such records shall clearly demonstrate that all applicable requirements are met. [IP #0058-I025, V.A.4.a; §2103.12.a.2.D; §2103.12.j]
- b. The permittee shall keep and maintain records of throughput for Wastewater Treatment Plant monthly and twelve months period. [IP #0058-I025, V.A.4.b; §2103.12.a.2.D; §2103.12.j]
- c. The permittee shall keep and maintain records of monthly and twelve-month moving VOC and HAP emissions to demonstrate compliance with condition V.N.1.d above. [IP #0058-I025, V.A.4.c; §2103.12.a.2.D; §2103.12.j]
- d. The permittee shall keep and maintain the following data on-site for these operations: [IP #0058-I025, V.A.4.d; §2103.12.a.2.D; §2103.12.j]
 - 1) All records of monitoring required by V.N.3 above.
 - 2) Records of operation, inspection, calibration, maintenance and/or replacement of process vessels or control equipment.
 - 3) Stack test protocols and reports.
 - 4) Manufacturer's specifications when this information is available.
- e. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [IP #0058-I025, V.A.4.e; §2103.12.a.2.D; §2103.12.h.5.B]
- f. All records required under this section shall be maintained by the permittee for a period of five years following the date of such record. [IP #0058-I025, V.A.4.f; §2103.12.a.2.D; §2103.12.j.2]

5. Reporting Requirements:

- a. The permittee shall submit semi-annual reports to the Department in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: [IP #0058-I025, V.A.5.a; §2103.12.a.2.D; §2103.12.k]
 - 1) Monthly and 12-month data required to be recorded by condition V.N.4.b above; and
 - 2) Non-compliance information required to be recorded by V.N.4.e above.
- b. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 above, if appropriate. [IP #0058-I025, V.A.5.b; §2103.12.a.2.D; §2103.12.k]

6. Work Practice Standard:

- a. The permittee shall do the following for Wastewater Treatment Plant (Bioaeration tank, tanks 702A, 702B, and 702C) and associated equipment: [IP #0058-I025, V.A.6.a; IP #0058-I026a, V.I.1.a; §2103.12.a.2.D; §2105.03]
 - 1) Perform regular maintenance in accordance with the manufacturer's or the operator's maintenance procedures;
 - 2) Keep records of any maintenance; and
 - 3) Keep a copy of either the manufacturer's or the operator's maintenance procedures.

- b. The Wastewater Treatment Plant (Bioaeration tank, tanks 702A, 702B, and 702C) shall be properly operated and maintained at all times according to good engineering practices, with the exception of activities to mitigate emergency conditions. [IP #0058-I025, V.A.6.b; IP #0058-I026a, V.I.1.b; §2103.12.a.2.D; §2105.03]

- c. The permittee shall maintain and implement the Preventive Maintenance and Operations (PMO) Plan submitted to and approved by the Department. The permittee shall maintain the original approved PMO Plan and all subsequent revisions for a period of five years and have them available for inspection. [IP #0058-I025, V.A.6.c; §2103.12.a.2.D]

~PERMIT SHIELD IN EFFECT~

VI. MISCELLANEOUS

A. Cooling Towers (C5 Unit, MP Poly, WW Poly, Hydro Unit, LTC Unit, Pilot Plant)

Process Description: Cooling Towers
Capacity: 1,700 gpm (J-1000-5); 1,870 gpm (J-1200-1); 4,300 gpm (J-1000-1); 686 gpm (J-4020-1); 2500 gpm (J-1001-1); 1,000 gpm (J-4060-1); 400 gpm (J-4005-1); 375 gpm (J-101-1); 1,200 gpm (J-645); 2,800 gpm (J-4030-1); 400 gpm (J-125-1/J-400-1)
Raw Materials: Municipal make-up water
Control Device: Uncontrolled

1. Restrictions:

- a. The cooling towers shall use municipal water at all times. [IP #0058-I011f, VI.A.1.a; IP #0058-I016b, VI.A.1.a; IP #0058-I018a, VI.A.1.a; IP #0058-I023a, VI.A.1.a; IP #0058-I027a, VI.A.1.a; §2103.12.a.2.D]
- b. The permittee shall operate and maintain the cooling towers in accordance with the manufacturers’ specification and good engineering practices. [IP #0058-I011f, VI.A.1.b; IP #0058-I016b, VI.A.1.b; IP #0058-I018a, VI.A.1.b; IP #0058-I023a, VI.A.1.b; IP #0058-I027a, VI.A.1.a; §2103.12.a.2.D]
- c. Emissions due to operation of Cooling Towers shall not exceed the following at any time [IP #0058-I011f, VI.A.1.c; IP #0058-I016b, VI.A.1.c; IP #0058-I018a, VI.A.1.c; IP #0058-I023a, VI.A.1.c; IP #0058-I027a, VI.A.1.c; §2103.12.a.2.D]

Table VI-A-1: Cooling Tower Emissions Limits

Process	Cooling Tower ID	PM Emissions (lbs/hr)	PM Annual Emissions (tons/year) ¹
C5 Unit	J-1000-5 & J-1200-1	0.51	2.23
C5 Unit	J-1000-1 & J-4020-1	0.71	3.11
MP Poly	J-1001-1	0.38	1.67
WW Poly	J-4060-1	0.14	0.62
Hydro Unit	J-4005-1	0.06	0.25
LTC Unit	J-101-1, J-645, & J-4030-1	0.66	2.88
Pilot Plant	J-125-1/J-400-1	0.06	0.26
Total		2.01	11.02

¹ A year is defined as any 12 consecutive months.

- d. The permittee shall keep records of the recirculation rate all times for the cooling towers. [IP #0058-I011f, VI.A.1.d; IP #0058-I016b, VI.A.1.d; IP #0058-I018a, VI.A.1.d; IP #0058-I023a, VI.A.1.d; IP #0058-I027a, VI.A.1.d; §2103.12.a.2.D]

~PERMIT SHIELD IN EFFECT~

B. Boilers BU-1, BU-2, BU-3, and BU-4

Process Description: Four Unilux water-tube boilers BU-1, BU-2, BU-3, and BU-4; each model ZF 1800HS
Max. Design: 18.6 MMBTU/hr each
Raw Materials: Natural gas
Control Device(s): Ultra Low NO_x burners

1. Restrictions:

- a. Only natural gas shall be combusted in the boilers. [IP #0058-I020, V.A.1.a; §2103.12.a.2.D]
- b. Heat input shall be limited to 18.6 MMBtu/hr for each boiler based on the higher heating value of the fuel being combusted. [IP #0058-I020, V.A.1.b; §2103.12.a.2.D]
- c. Emissions of particulate matter shall not exceed 0.008 lb/MMBtu. [IP #0058-I020, V.A.1.c; §2103.12.a.2.D]
- d. Emissions of nitrogen oxides from each boiler shall not exceed 20 ppmvd at 3% O₂. [IP #0058-I020, V.A.1.d; §2103.12.a.2.D]
- e. Combined natural gas usage in the four boilers shall not exceed 33 mmscf per month or 640 mmscf per 12-month period. [§2103.12.a.2.B]
- f. Each boiler shall be properly operated and maintained according to manufacturer's specifications. The manufacturer's specification and operation and maintenance manuals shall be kept on site at all times. [IP #0058-I020, V.A.1.e; §2103.12.a.2.D; §2105.03]
- g. Emissions from B-U1, B-U2, B-U3 and B-U4 shall not exceed the following at any time [IP #0058-I020, V.A.1.f; §2103.12.a.2.D]:

Table VI-B-1: Boiler Emissions Limits

Pollutant	One boiler		Four boilers	
	lbs/hr	tons/yr ¹	lbs/hr	tons/yr ¹
PM	0.14	0.61	0.56	2.44
PM ₁₀	0.14	0.61	0.56	2.44
PM _{2.5}	0.14	0.61	0.56	2.44
SO _x	0.01	0.05	0.04	0.20
NO _x	0.44	1.92	1.76	7.68
VOC	0.10	0.44	0.40	1.76
CO	0.67	2.96	2.68	11.84
CO ₂	2,188	9,584	8,752	38,336

¹ A year is defined as any 12 consecutive months.

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [IP #0058-I020, V.A.2; §2103.12.a.2.D; §2103.12.h.1.]

3. Monitoring Requirements:

The permittee shall install and maintain the necessary meter(s) to determine and to record the monthly amount of natural gas combusted in each boiler. [IP #0058-I020, V.A.3; §2103.12.a.2.D; §2103.12(i)]

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain the following records: [IP #0058-I020, V.A.4.a; §2103.12.a.2.D; §60.48c(g); §2103.12.j]
 - 1) Monthly amount of natural gas combusted in each boiler;
 - 2) Cold starts (date, time, and duration of each occurrence);
 - 3) Records of operation, maintenance, inspection, calibration, and/or replacement of equipment.
- b. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [IP #0058-I020, V.A.4.b; §2103.12.a.2.D; §2103.12.j.2]

5. Reporting Requirements:

- a. The permittee shall report the following information to the Department semiannually in accordance with General Condition III.15 above. [IP #0058-I020, V.A.5.a; §2103.12.a.2.D; §60.48c(e); §2103.12.k]
- b. The semiannual report shall include the following information: [IP #0058-I020, V.A.5.b; §2103.12.a.2.D; §60.48c(e); §2103.12.k]
 - 1) Calendar dates covered in the reporting period;
 - 2) Monthly amount of fuel combusted;
 - 3) Cold start information;
 - 4) Reasons for any noncompliance with the emission standards.
- c. Until terminated by written notice from the Department, the requirement for the permittee to report cold starts 24 hours in advance in accordance with §2108.01.d is waived and the permittee may report all cold starts in the semiannual compliance report required under condition VI.B.5.a above. [IP #0058-I020, V.A.5.c; §2103.12.a.2.D; §2103.12(k); §2108.01(d)]
- d. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 above, if appropriate.

6. Work Practice Standard:

- a. Boilers BU-1, BU-2, BU-3 and BU-4 shall be: [IP #0058-I020, V.A.6; §2103.12.a.2.D]
- 1) Operated in such a manner as not to cause air pollution;
 - 2) Operated and maintained in a manner consistent with good operating and maintenance practices.
 - 3) Operated and maintained in accordance with the manufacturer's specifications and the applicable terms and conditions of this permit.

~PERMIT SHIELD IN EFFECT~

C. Boiler #5 (Trane Boiler)

Facility ID: No. 5 Boiler (Trane Boiler)
Max. Design Rate: 38.0 MMBtu/hr
Primary Fuel: Natural Gas
Secondary Fuel: none
Control Device(s): none

1. Restrictions:

- a. Only natural gas shall be combusted in the boiler. [§2103.12.a.2.B]
- b. Heat input shall be limited to 38.0 MMBtu/hr based on the higher heating value of the fuel being combusted. [§2103.12.a.2.B]
- c. Emissions of particulate matter shall not exceed 0.008 lb/MMBtu. [§2103.12.a.2.B]
- d. Natural gas usage in Boiler No. 5 shall not exceed 17 mmscf per month or 326 mmscf per 12-month period. [§2103.12.a.2.B]
- e. The boiler shall be properly operated and maintained according to manufacturer's specifications. The manufacturer's specification and operation and maintenance manuals shall be kept on site at all times. [§2103.12.a.2.B; §2105.03]
- f. Emissions from Boiler No. 5 shall not exceed the following at any time: [§2103.12.a.2.B; §2104.02.a.1.A]

Table VI-C-1: Boiler No. 5 Emission Limits

Pollutant	Boiler #5	
	lbs/hr	tons/yr ¹
PM (PM ₁₀ , PM _{2.5})	0.07	0.31
SO _x	0.02	0.10
NO _x	3.73	16.32
VOC	0.21	0.897
CO	3.13	13.71

¹ A year is defined as any consecutive 12-month period.

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [§2103.12.a.2.B; §2103.12.h.1.]

3. Monitoring Requirements:

The permittee shall install and maintain the necessary meter(s) to determine and to record the monthly amount of natural gas combusted in each boiler. [§2103.12.a.2.B; §2103.12(i)]

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain the following records: [§2103.12.a.2.B; §2103.12.j]
 - 1) Monthly amount of natural gas combusted in the boiler;
 - 2) Cold starts (date, time, and duration of each occurrence);
 - 3) Records of operation, maintenance, inspection, calibration, and/or replacement of equipment.
- b. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [§2103.12.a.2.B; §2103.12.j.2]

5. Reporting Requirements:

- a. The permittee shall report the following information to the Department semiannually in accordance with General Condition III.15 above. [§2103.12.a.2.B; §2103.12.k]
 - 1) Calendar dates covered in the reporting period;
 - 2) Monthly amount of fuel combusted;
 - 3) Cold start information;
 - 4) Reasons for any noncompliance with the emission standards.
- b. Until terminated by written notice from the Department, the requirement for the permittee to report cold starts 24 hours in advance in accordance with §2108.01.d is waived and the permittee may report all cold starts in the semiannual compliance report required under condition VI.C.5.a above. [§2103.12.a.2.B; §2103.12(k); §2108.01(d)]
- c. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 above, if appropriate. [§2103.12.a.2.B; §2103.12.k.1]

6. Work Practice Standards:

- a. The permittee shall do the following for the No. 5 Boiler: [§2105.03]
 - 1) Perform regular maintenance considering the manufacturer's or the operator's maintenance procedures;
 - 2) Keep records of any maintenance; and
 - 3) Keep a copy of either the manufacturer's or the operator's maintenance procedures.
- b. Boiler No. 5 shall be properly operated and maintained at all times according to good engineering practices, with the exception of activities to mitigate emergency conditions. [§2105.03]

~PERMIT SHIELD IN EFFECT~

D. Emergency Generator

Process Description: Back-up power Cummins model QSL9-G5 emergency diesel generator
Facility ID: Boiler house emergency generator
Max. Design Rate: 250 kW (335 HP)
Fuel: Diesel

1. Restrictions:

- a. The generator shall combust only diesel fuel meeting 40 CFR §80.510(c) with a maximum allowable sulfur content of 15 ppm, by weight, and a minimum cetane index of 40 or maximum aromatic content of 35 volume percent. [IP #0058-I020, V.B.1.a; §2103.12.a.2.D; §2105.03; 40 CFR §60.4207]
- b. The generator shall not be operated for more than 500 hours in any 12-month period. [IP #0058-I020, V.B.1.b; §2103.12.a.2.D; §2105.03]
- c. Diesel fuel consumption shall be limited to 19.2 gallons/hour and 9,600 gallons/year.[IP #0058-I020, V.B.1.c; §2103.12.a.2.D; §2105.03]
- d. The generator shall be properly operated and maintained according to manufacturer's specifications. The manufacturer's specification and operation and maintenance manuals shall be kept on site at all times. [IP #0058-I020, V.B.1.d; §2103.12.a.2.D; §2105.03]
- e. The generator shall be fired only during emergency conditions after loss of power or when loss of power is reasonably anticipated and as defined in Article XXI and for a maximum of 100 hours per year for maintenance checks and readiness testing. The Department may grant additional maintenance time upon written request. [IP #0058-I020, V.B.1.c; §2103.12.a.2.D; §2105.03; §60.4243(d)]
- f. Emissions from the diesel generator shall not exceed the following at any time. [IP #0058-I020, V.B.1.f; §2103.12.a.2.D]

Table VI-D-1: Emergency Generator Emissions Limits

Pollutant	Generator	
	lbs/hr	tons/yr ¹
PM	0.02	0.01
PM ₁₀	0.02	0.01
PM _{2.5}	0.02	0.01
SO _x	0.11	0.03
NO _x	2.92	0.73
VOC	0.04	0.01
CO	0.18	0.05
CO _{2e}	432	108

¹ A year is defined as any consecutive 12-month period.

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [IP #0058-I020, V.B.2; §2103.12.a.2.D]

3. Monitoring Requirements:

The emergency generator shall be equipped with a non-resettable totaling meter to monitor and record the hours of operation. [IP #0058-I020, V.B.3; §2103.12.a.2.D]

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain the following data for the generator: [IP #0058-I020, V.B.4.a; §2103.12.a.2.D; §2103.12(j); 40 CFR §60.4209, §60.4211, §60.4214]
 - 1) Cold starts (date, time and duration of each occurrence);
 - 2) Total operating hours (monthly and 12-month) as recorded by non-resettable hour meter on the generator with reason for operation; and
 - 3) Records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment.
- b. Records of diesel fuel certifications from fuel suppliers shall be maintained per shipment. Certifications shall include the name of the supplier and a statement from the supplier that the fuel complies with ASTM D975 “Standard Specifications for Diesel Fuel Oils”. [IP #0058-I020, V.B.4.b; §2103.12.a.2.D; §2103.12(j)]
- c. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance.[IP #0058-I020, V.B.4.c; §2103.12.a.2.D; §2103.12(j)]
- d. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [IP #0058-I020, V.B.4.d; §2103.12.a.2.D]

5. Reporting Requirements:

- a. The permittee shall report the following information to the Department in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: [IP #0058-I020, V.B.5.a; §2103.12.a.2.D; §2103.12(k)]
 - 1) Monthly and 12-month data required to be recorded by condition VI.D.4.a above;
 - 2) Cold start information;
 - 3) Non-compliance information required to be recorded by condition VI.D.4.c above; and
 - 4) Fuel oil certifications and a statement from the permittee that the record of fuel supplier certifications represents all the fuel oil used during the reporting period.
- b. Until terminated by written notice from the Department, the requirement for the permittee to report cold starts 24 hours in advance in accordance with §2108.01.d is waived and the permittee may report all cold starts in accordance with condition VI.D.5.a above. [IP #0058-I020, V.B.5.b; §2103.12.a.2.D; §2103.12(k)]

- c. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 above if appropriate. [IP #0058-I020, V.B.5.c; §2103.12.a.2.D; §2103.12(k)]
- d. The permittee shall submit copies of all requests, reports, applications, submittals, and other communications to both EPA and the Department. [IP #0058-I020, V.B.5.d; §2103.12.a.2.D]

6. Work Practice Standard

None except as provided elsewhere.

~PERMIT SHIELD IN EFFECT~

E. #2 LTC and #4 LTC Heaters and C-5 Hot Oil Furnace

Process Description: LTC Heaters and C-5 Hot Oil Furnace
Facility ID: #2 LTC and #4 LTC Heaters and B-3000 (C-5 Hot Oil Furnace)
Max. Design: 8.8 MM BTU/hr, 10 MM BTU/hr and 10.33 MM BTU/hr respectively
Raw Materials: Natural gas
Control Device(s): None

1. Restrictions:

- a. Only natural gas shall be combusted in the heaters and furnace. [IP #0058-I011f, V.C.1.a; IP #0058-I016b, V.B.1.a §2103.12.a.2.D]
- b. Heat input shall be limited to 8.8 MMBtu/hr for the #2 LTC heater, 10 MMBtu/hr for the #4 LTC heater, and 10.33 MMBtu/hr for the C-5 Hot Oil furnace based on the higher heating value of the fuel being combusted. [IP #0058-I011f, V.C.1.b; IP #0058-I016b, V.B.1.b; §2103.12.a.2.D]
- c. Emissions of particulate matter shall not exceed 0.008 lb/MMBtu. [IP #0058-I011f, V.C.1.c; IP #0058-I016b, V.B.1.c; §2103.12.a.2.D; §2104.02.a.1]
- d. Combined natural gas usage in the three heaters shall not exceed 13 mmscf per month or 250 mmscf per 12-month period. [§2103.12.a.2.B]
- e. Heaters and furnace shall be properly operated and maintained according to manufacturer's specifications. The manufacturer's specification and operation and maintenance manuals shall be kept on site at all times. [IP #0058-I011f, V.C.1.d; IP #0058-I016b, V.B.1.d; §2103.12.a.2.D]
- f. Emissions from the heaters and furnace shall not exceed the following at any time: [IP #0058-I011f, V.C.1.e; IP #0058-I016b, V.B.1.e; §2103.12.a.2.D]

Table VI-E-1: #2 & #4 LTC Heater and C-5 Hot Oil Heater Emissions Limits

Pollutant	#2 LTC Heater		#4 LTC Heater		C-5 Hot Oil Heater	
	lbs/hr	tons/yr ¹	lbs/hr	tons/yr ¹	lbs/hr	tons/yr ¹
PM	0.079	0.34	0.087	0.38	0.09	0.40
SO _x	0.006	0.03	0.007	0.03	0.09	0.03
NO _x	1.035	4.53	1.150	5.04	0.09	5.20
CO	0.869	3.81	0.966	4.23	0.007	4.37
VOC	0.057	0.25	0.063	0.28	1.19	0.29
HAPs	0.019	0.08	0.022	0.09	0.07	0.29

¹ A year is defined as any consecutive 12-month period.

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [IP #0058-I011f, V.C.2; IP #0058-I016b, V.B.2; §2103.12.a.2.D]

3. Monitoring Requirements:

The permittee shall install and maintain the natural gas meter to measure and to record the monthly amount of natural gas combusted in furnace . [IP #0058-I011f, V.C.3; IP #0058-I016b, V.B.3; §2103.12.a.2.D]

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain the following records: [IP #0058-I011f, V.C.4.a; IP #0058-I016b, V.B.4.a; §2103.12.a.2.D]
 - 1) Monthly amount of natural gas combusted in the furnace;
 - 2) Records of operation, maintenance, inspection, calibration, and/or replacement of equipment.
- b. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [IP #0058-I011f, V.C.4.b; IP #0058-I016b, V.B.4.b; §2103.12.a.2.D]

5. Reporting Requirements:

- a. The permittee shall report the following information to the Department semiannually in accordance with General Condition III.15 above. [IP #0058-I011f, V.C.5.a; IP #0058-I016b, V.B.5.a; §2103.12.a.2.D]
- b. The semiannual report shall include the following information: [IP #0058-I011f, V.C.5.b; IP #0058-I016b, V.B.5.b; §2103.12.a.2.D]
 - 1) Calendar dates covered in the reporting period;
 - 2) Monthly amount of fuel combusted;
 - 3) Reasons for any noncompliance with the emission standards.
- c. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 above, if appropriate. [IP #0058-I011f, V.C.5.c; IP #0058-I016b, V.B.5.c; §2103.12.a.2.D]

6. Work Practice Standard:

- a. The C-5 Hot Oil furnace shall be: [IP #0058-I011f, V.C.6.a; §2103.12.a.2.D]
 - 1) Operated in such a manner as not to cause air pollution;
 - 2) Operated and maintained in a manner consistent with good operating and maintenance practices.
 - 3) Operated and maintained in accordance with the manufacturer's specifications and the applicable terms and conditions of this permit.

~PERMIT SHIELD IN EFFECT~

F. Sources of Minor Significance

The facility maintains the following sources of minor significance:

Table VI-F-1: Sources of Minor Significance

I.D.	SOURCE DESCRIPTION	CONTROL DEVICE(S)	MAXIMUM CAPACITY	FUEL/RAW MATERIAL	STACK I.D.
Emulsion Unit					
T-301-1	Emulsion Kettle #1	None	1,000 gal	Resin Blends	S291
T-302-1	Emulsion Kettle #2	None	1,000 gal	Resin Blends	S292
T-403-1	Storage vessel	None	2,200 gal	Water	None
T-403-3	Storage vessel	None	2,200 gal	Water	None
M-500-1, M-500-2	Mixing unit	None	NA	Emulsion product	None
T-783	Tall Oil Rosin Storage Tank	None	11,400 gal	Tall oil rosin	S160
T-200-1	Storage tank	None	1,000 gal	Water condensate	S284
T-201-1	Storage tank	None	1,000 gal	Water condensate	S284
T-766	Storage tank	None	800 gal	Surfactant	S288
T-782	Storage tank	None	7,000 gal	Resin/Rosin	S290
T-761	Storage tank	None	10,000 gal	Heavy distillate	S283
T-773	Storage tank	None	2,500 gal	Crude tall oil	S289
T-402-3	Storage tank	None	17 gal	29% ammonium hydroxide	S161
T-411-1	Storage tank	None	500 gal	Surfactant	NA
T-408-1	Storage tank	None	500 gal	Surfactant	NA
T-407-1	Storage tank	None	500 gal	Surfactant	NA
T-405-1	Storage tank	None	500 gal	Surfactant	NA
T-406-1	Storage tank	None	500 gal	Surfactant	NA
T-412-1	Storage tank	None	500 gal	Surfactant	NA
T-401-1	Storage tank	None	80 gal	45% potassium hydroxide	None
T-R-1-A	Storage tank	None	17,600 gal	Crude tall oil	S187
T-775	Storage tank	None	8,768 gal	Emulsion waste	S287
T-605-1	Blend tank #5	None	20,000 gal	Bulk dispersion	S401
T-606-1	Blend tank #6	None	20,000 gal	Bulk dispersion	S400

I.D.	SOURCE DESCRIPTION	CONTROL DEVICE(S)	MAXIMUM CAPACITY	FUEL/RAW MATERIAL	STACK I.D.
T-504-1	Blend tank #4	None	5,000 gal	Bulk dispersion	S162
T-503-1	Blend tank #3	None	5,000 gal	Bulk dispersion	
T-502-1	Blend tank #2	None	6,000 gal	Bulk dispersion	
T-501-1	Blend tank #1	None	6,000 gal	Bulk dispersion	
Storage Tanks (Minor significance)					
T-35	Storage tank	None	169,000 gal	Various solvent or stormwater	S075
T-78	Storage tank	None	169,000 gal	Recovered oil	S232
T-4	Storage tank	None	88,128 gal	Byproduct fuel (JSOL)	S190
T-151	Storage tank	None	1,504,044 gal	Byproduct fuel (JSOL)	S236
T-2	Storage tank	None	169,205 gal	Stormwater	S189
T-9	Storage tank	None	110,159 gal	C5 Ammonia water	S194
T-12	Storage tank	None	110,159 gal	Stormwater	S197
T-13	Storage tank	None	110,159 gal	Stormwater	S198
T-14	Storage tank	None	110,159 gal	C5 Ammonia water	S199
T-15	Storage tank	None	110,159 gal	C5 Ammonia water	S200
T-16	Storage tank	None	110,159 gal	C5 Ammonia water	S201
T-150	Storage tank	None	1,504,044 gal	C5 Ammonia water/PMR water	S235
T-160	Storage tank	None	158,630 gal	Stormwater	-
T-208	Storage tank	None	25,381 gal	Hazardous waste	S244
T-252	Storage tank	None	30,457 gal	Styrene or AMS	S248
T-80	Storage Tank	None	24,881 gal	Dresinate TX Rosin Soap Percussor	S091
T-250	Storage tank	None	30,457 gal	Deluge water	S246
T-251	Storage tank	None	30,457 gal	Deluge water	S247
T-254	Storage tank	None	15,275 gal	C5 API Discharge water (reserved for storm weather conditions)	S249
T-257	Storage tank	None	15,275 gal	C5 API Discharge water (reserved for storm weather conditions)	S252
T-261	Storage tank	None	20,728 gal	C5 Ammonia water	S256
T-262	Storage tank	None	20,080 gal	C5 Ammonia water	S038

I.D.	SOURCE DESCRIPTION	CONTROL DEVICE(S)	MAXIMUM CAPACITY	FUEL/RAW MATERIAL	STACK I.D.
T-263	Storage tank	None	20,080 gal	C5 API Discharge water	S257
T-264	Storage tank	None	20,080 gal	C5 API Discharge water	S258
T-265	Storage tank	None	20,080 gal	Hazardous Waste	S259
T-408	Storage tank	None	9,776 gal	Anhydrous ammonia	NA
T-510	Storage tank	None	100,000 gal	Isobutylene	NA
T-513	Storage tank	None	3,714 gal	40/60 Ethylene Glycol/Water	S275
T-514	Storage tank	None	3,714 gal	40/60 Ethylene Glycol/Water	S276
T-762	Storage tank	None		Steam condensate	S284
T-763	Storage tank	None		Steam condensate	S285
T-2004-1 (T-278)	Storage tank	None		40/60 Ethylene Glycol/Water	S260
T-7065-1	Storage tank	None		40/60 Ethylene Glycol/Water	
T-703-3	Storage tank	None		40/60 Ethylene Glycol/Water	
T-105-2	Storage tank	None		40/60 Ethylene Glycol/Water	
T-801-4	Storage tank	None		8% Soda ash in water	
T-401-1	Storage tank	None		8% Soda ash in water	
Miscellaneous Sources					
NA	Roadways	None	NA	NA	NA
NA	Barges	None	NA	NA	NA
NA	Degreasers	None	NA	NA	NA

1. Restrictions:

- a. The permittee shall properly maintain and operate the Emulsion Unit Operation, Barges, Degreasers, and Storage Tanks according to good engineering and air pollution control practices at all times while these processes are emitting VOCs. [§2103.12.a.2.D]

2. Record Keeping Requirements:

- a. The permittee shall record the following information for Tanks listed in above Table for Storage tanks (minor significant). Such records shall provide sufficient data and calculations to clearly demonstrate that the applicable requirements are being met, and shall include but not be limited to the following: [§2103.12.a.2.D]
 - 1) Type, amount, and period of storage of each liquid stored (each addition, monthly and 12-month);

- 2) Total yearly throughput in each tank;
 - 3) Maximum true vapor pressure of each liquid as stored (monthly);
 - 4) Date and reason for each tank cleaning (monthly, 12-month summary);
 - 5) Results of all inspections performed on the tank.
- b. All records required under this section shall be maintained by the permittee for a period of five years following the date of such record. [§2103.12.a.2.D; §2103.12.j.2]

~PERMIT SHIELD IN EFFECT~

G. Leak Detection and Repair (LDAR)**1. Restrictions**

- a. The permittee shall comply with the requirements of 40 CFR Part 63, Subpart UU – National Emission Standards for Equipment Leaks – Control Level 2 for equipment leaks in all equipment in organic HAP service as defined in 40 CFR 63.2550, except as specified in §63.2480(b). The processes with equipment applicable to these regulations include the following: C5 Unit, LTC Unit, MP Poly Unit, WW Poly Unit. If the permittee elects to use a different compliance option in Table 6.1 of Subpart FFFF, the permittee shall notify the Department no later than 30 days prior to the change. [§2103.12.a; §2104.08; §63.2450(a); §63.2480(a); 63 Subpart FFFF Table 6.1.a; §129.99]
- b. The permittee shall identify all equipment subject to Leak Detection and Repair (LDAR) in accordance with §63.1022 of Subpart UU. [§2103.12.a; §2104.08; §63.2480(a); §63.1022(a); §129.99]

2. Monitoring Requirements:

- a. The permittee shall monitor regulated equipment as specified in condition VI.G.1.a above. [§2103.12.i; §2104.08; §63.2480(a)]
- b. *Leaking equipment identification and records.* [§2103.12.i; §2104.08; §63.2480(a); §63.1023(e); §129.99]
 - 1) When each leak is detected pursuant to the monitoring specified in §63.1023(a) in accordance with condition VI.G.2.a above, a weatherproof and readily visible identification, shall be attached to the leaking equipment.
 - 2) When each leak is detected, the permittee shall record the information specified in VI.G.3.b below.
- c. The permittee shall repair each leak detected as soon as practical, but not later than 15 calendar days after it is detected, except as provided in §§63.1024(d) and (e). A first attempt at repair as defined in this subpart shall be made no later than 5 calendar days after the leak is detected. [§2103.12.i; §2104.08; §63.2480(a); §63.1024(a); §129.99]

3. Record Keeping Requirements:

- a. The permittee shall keep each applicable record required by 40 CFR Part 63, Subpart A and in referenced Subparts F, G, SS, and UU. [§2103.12.j; §2104.08; §63.2525(a); §129.100]
- b. For each leak detected, the following information shall be recorded: [§63.2480(a); §63.1024(f); §129.100]
 - 1) The date of first attempt to repair the leak.
 - 2) The date of successful repair of the leak.
 - 3) Maximum instrument reading measured by Method 21 of 40 CFR part 60, appendix A at the time the leak is successfully repaired or determined to be nonrepairable.
 - 4) “Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak as specified in conditions VI.G.3.b.4)a) and b) below:

- a) The permittee may develop a written procedure that identifies the conditions that justify a delay of repair. The written procedures may be included as part of the startup, shutdown, and malfunction plan or may be part of a separate document that is maintained at the plant site. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.
 - b) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion.
- 5) Dates of shutdowns that occur while the equipment is unrepaired.
- c. The permittee shall keep records of the number and types of components subject to LDAR, as required under condition VI.G.1.b above. [§2103.12.j; §2104.08; §63.2480(a); §63.1022; §129.100]
 - d. The permittee shall keep specific equipment leak records according to §63.1038 of Subpart UU. [§2103.12.j; §2104.08; §63.2480(a); §63.1038(c); §129.100]
 - e. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [§2103.12.j]
 - f. All records required under this section shall be maintained by the permittee for a period of five years following the date of such record. [§2103.12.a.2.D; §2103.12.j.2]

4. Reporting Requirements:

- a. The permittee shall report the following LDAR information in the semiannual report required under General Condition III.15 above: [§2103.12.k; §2104.08; §63.2480(a); §63.1039(b); §129.100]
 - 1) For the following equipment, report in a summary format by equipment type, the number of components for which leaks were detected and for valves, pumps and connectors show the percent leakers, and the total number of components monitored. Also include the number of leaking components that were not repaired as required by condition VI.G.2.c above, and for valves and connectors, identify the number of components that are determined to be nonrepairable.
 - a) Valves in gas and vapor service and in light liquid service pursuant to §63.1025(b) and (c) of Subpart UU.
 - b) Pumps in light liquid service pursuant to §63.1026(b) and (c) of Subpart UU.
 - c) Connectors in gas and vapor service and in light liquid service pursuant to §63.1027(b) and (c) of Subpart UU.
 - d) Agitators in gas and vapor service and in light liquid service pursuant to §63.1028(c) of Subpart UU.
 - e) Compressors pursuant to §63.1031(d) of Subpart UU.
 - 2) Where any delay of repair is utilized pursuant to condition VI.G.2.c above, report that delay of repair has occurred and report the number of instances of delay of repair.
 - 3) If applicable, report the valve subgrouping information specified in §63.1025(b)(4)(iv).

- 4) For pressure relief devices in gas and vapor service pursuant to §63.1030(b) and for compressors pursuant to §63.1031(f) that are to be operated at a leak detection instrument reading of less than 500 parts per million, report the results of all monitoring to show compliance conducted within the semiannual reporting period.
- 5) Report, if applicable, the initiation of a monthly monitoring program for valves pursuant to §63.1025(b)(3)(i).
- 6) Report, if applicable, the initiation of a quality improvement program for pumps pursuant to §63.1035.
- 7) Where the alternative means of emissions limitation for batch processes is utilized, report the information listed in §63.1036(f).

~PERMIT SHIELD IN EFFECT~

VII. 40 CFR 63 Subpart FFFF - National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing (MON)

A. Requirements Applicable to Specific Equipment

1. C5 Thermal Oxidizer and all associated vents (Group 1 continuous process vent)

- a. Reduce emissions of total organic HAP by ≥ 98 percent by weight or to an outlet process concentration ≤ 20 ppmv as organic HAP or TOC by venting emissions through a closed-vent system to any combination of control devices. [40 CFR 63.2455 Table 1]

2. Tanks 501, 502, and 503 at C5 (Group 1 Storage Tanks)

- a. Reduce total HAP emissions by ≥ 95 percent by weight or to ≤ 20 ppmv of TOC or organic HAP and by venting emissions through a closed vent system to any combination of control devices. [40 CFR 63.2470; 40 CFR 63 Subpart FFFF, Table 4]
- b. Requirements for emission limits by VII.A.1.a above do not apply during periods of planned routine maintenance. Periods of planned routine maintenance of each control device, must not exceed 240 hours per year (hr/yr). Permittee may submit an application to the Department requesting an extension of this time limit to a total of 360 hr/yr. The application must explain why the extension is needed, it must indicate that no material will be added to the storage tank between the time the 240-hr limit is exceeded and the control device is again operational, and it must be submitted at least 60 days before the 240-hr limit will be exceeded. [40 CFR 63.2470(d)]
- c. For each storage tank (501, 502, and 503), permittee must comply with conditions below during storage tank shutdown operations (i.e., emptying and degassing of a storage tank) until the vapor space concentration in the storage tank is less than 10 percent of the LEL. Permittee must determine the LEL using process instrumentation or portable measurement devices and follow procedures for calibration and maintenance according to manufacturer's specifications. [40 CFR 63.2470(f)]
 - 1) Remove liquids from the storage tank as much as practicable.
 - 2) Comply with one of the following:
 - a) Reduce emissions of total organic HAP by venting emissions through a closed vent system to a flare.
 - b) Reduce emissions of total organic HAP by 95 weight-percent by venting emissions through a closed vent system to any combination of non-flare control devices.
 - c) Reduce emissions of total organic HAP by routing emissions to a fuel gas system or process and meet the requirements specified in § 63.982(d) and the applicable requirements in § 63.2450(e)(4).
 - 3) Maintain records necessary to demonstrate compliance with the requirements in § 63.2450(u) including, if appropriate, records of existing standard site procedures used to empty and degas (deinventory) equipment for safety purposes.

3. Oil-water separators managing liquid streams in open systems

C5 Main API Separator,
C5 Condensate Decanter API Separator,
LTC 1/2 Barometric Tank,

LTC 4 Oil/Water Separator,
Water White Poly Funda Condensate Tank,
Wastewater Treatment Plant Tanks 701 A and B, Dissolved Air Floatation Tank, and Raw, Oil, and Acid Sumps

- a. The permittee shall equip with a fixed roof and route vapors to a process or to a fuel gas system, or equip with a closed vent system that routes vapors to a control device which reduces the total organic compound emissions, less methane and ethane, or total organic hazardous air pollutants emissions vented to the control device by 95% by weight or greater or achieve an outlet total organic compound concentration, less methane and ethane, or total organic hazardous air pollutants concentration of 20 parts per million by volume, whichever is less stringent. [40 CFR 63.2485; 40 CFR 63 Subpart G, Table 35; 40 CFR 63.139(a)]

4. **Condensers used as Control Devices**

Condensers E-701-3 and E-713-2 at Wastewater Treatment Plant (these condensers are used in conjunction with carbon adsorbers to control Tanks 701 A and B and the Raw sump, Oil Sump, Acid Sump, and Dissolved Air Floatation Tank)

- a. A condenser exit (product side) temperature monitoring device capable of providing a continuous record shall be used. [40 CFR 63.990(c)(2)]
- b. The permittee shall operate and maintain the nonflare control device so that the monitored parameters remain within the ranges specified in the Notification of Compliance Status whenever emissions of regulated material are routed to the control device [40 CFR 63.985(a)]

5. **Non-regenerative Carbon Adsorbers**

Wastewater Treatment Plant carbon adsorbers,
LTC 1/2 Barometric Tank carbon adsorbers,
LTC 4 Oil/Water Separator carbon adsorbers,
Water White Funda Condensate Tank carbon adsorbers

- a. The permittee must install a system of two or more carbon adsorption units in series and comply with the following requirements: [40 CFR §63.2450(e)(7)]
 - 1) Conduct an initial performance test or design evaluation of the adsorber and establish the breakthrough limit and adsorber bed life.
 - 2) Monitor the HAP or total organic compound (TOC) concentration through a sample port at the outlet of the first adsorber bed in series according to the schedule in paragraph VII.A.5.a.3)b). The permittee must measure the concentration of HAP or TOC using either a portable analyzer, in accordance with Method 21 of 40 CFR part 60, appendix A-7, using methane, propane, isobutylene, or the primary HAP being controlled as the calibration gas or Method 25A of 40 CFR part 60, appendix A-7, using methane, propane, or the primary HAP being controlled as the calibration gas.
 - 3) Comply with paragraph VII.A.5.a.3)a), and comply with the monitoring frequency according to paragraph VII.A.5.a.3)b).
 - a) The first adsorber in series must be replaced immediately when breakthrough, as defined in § 63.2550(i), is detected between the first and second adsorber. The original second adsorber (or a fresh canister) will become the new first adsorber and a fresh adsorber will become the second adsorber. For purposes of VII.A.5.a.3)a), “immediately” means within

8 hours of the detection of a breakthrough for adsorbers of 55 gallons or less, and within 24 hours of the detection of a breakthrough for adsorbers greater than 55 gallons. You must monitor at the outlet of the first adsorber within 3 days of replacement to confirm it is performing properly.

- b) Based on the adsorber bed life established according to paragraph VII.A.5.a.1) and the date the adsorbent was last replaced, conduct monitoring to detect breakthrough at least monthly if the adsorbent has more than 2 months of life remaining, at least weekly if the adsorbent has between 2 months and 2 weeks of life remaining, and at least daily if the adsorbent has 2 weeks or less of life remaining.

6. Closed vent systems

For vent headers:

C5 Unit, Main API Separator, and 500 Battery tanks to the thermal oxidizer;

LTC 1/2 barometric tank to the LTC 1/2 carbon adsorbers;

LTC 4 oil/water separator to the LTC 4 carbon adsorbers;

Funda condensate tank to the Funda condensate tank carbon adsorbers;

Tanks 701 A and B and the Raw sump, Oil Sump, Acid Sump;

Dissolved Air Flootation Tank to the Wastewater Treatment Plant carbon adsorbers

- a. The permittee shall meet the following requirements for closed vent systems: [40 CFR §63.982(c)]
 - 1) Each closed vent system shall be designed and operated to collect the material vapors from the emission point, and to route the vapors to a control device.
 - 2) Closed vent systems must be operated at all times when emissions are vented to, or collected by, them.
- b. The permittee shall perform inspection and monitoring of the closed vent system. Except for closed vent systems that are designated as unsafe or difficult to inspect, each closed vent system must be inspected as follows: [40 CFR 63.983(b)]
 - 1) If constructed of hard piping, must conduct an initial inspection in accordance with §63.983(c) (Method 21 of 40 CFR Part 60), and an annual inspection for visible, audible, or olfactory indications of leaks.
 - 2) If there are visible, audible, or olfactory indications of leaks at the time of the annual visual inspection, the permittee shall eliminate the leak.

7. Bypass lines

For closed vent system from the C5 Unit, Main API Separator, and 500 Battery tanks to the thermal oxidizer

The permittee shall properly install, maintain, and operate a flow indicator that is capable of taking periodic readings in each closed vent system that contains bypass lines that could divert a vent stream to the atmosphere. The flow indicator shall be installed at the entrance to any bypass line. [40 CFR 63.2450(e)(4); 40 CFR 63.983(a)(3)]

8. Pressure Relief Devices

For pressure relief devices in organic HAP gas or vapor service

The permittee must comply with the requirements below for pressure relief devices, such as relief valves or rupture disks, in organic HAP gas or vapor service instead of the pressure relief device requirements of § 63.1030 of subpart UU, § 63.165 of subpart H, or § 65.111 of subpart F. Except as specified in VII.A.8.d and VII.A.8.e, the permittee must also comply with the requirements specified in VII.A.8.c, VII.A.8.f,

VII.A.8.g, and VII.A.8.h for all pressure relief devices in organic HAP service. [40 CFR 63.2480(e)]

- a. **Operating requirements.** Except during a pressure release, operate each pressure relief device in organic HAP gas or vapor service with an instrument reading of less than 500 ppm above background as measured by the method in § 63.1023(b) of subpart UU, § 63.180(c) of subpart H, or § 65.104(b) of subpart F.
- b. **Pressure release requirements.** For pressure relief devices in organic HAP gas or vapor service, you must comply with the applicable requirements VII.A.8.b.1) through VII.A.8.b.3) following a pressure release.
 - 1) If the pressure relief device does not consist of or include a rupture disk, conduct instrument monitoring, as specified in § 63.1023(b) of subpart UU, § 63.180(c) of subpart H, or § 65.104(b) of subpart F, no later than 5 calendar days after the pressure relief device returns to organic HAP gas or vapor service following a pressure release to verify that the pressure relief device is operating with an instrument reading of less than 500 ppm.
 - 2) If the pressure relief device includes a rupture disk, either comply with the requirements in VII.A.8.b.1) (and do not replace the rupture disk) or install a replacement disk as soon as practicable after a pressure release, but no later than 5 calendar days after the pressure release. You must conduct instrument monitoring, as specified in § 63.1023(b) of subpart UU, § 63.180(c) of subpart H, or § 65.104(b) of subpart F, no later than 5 calendar days after the pressure relief device returns to organic HAP gas or vapor service following a pressure release to verify that the pressure relief device is operating with an instrument reading of less than 500 ppm.
 - 3) If the pressure relief device consists only of a rupture disk, install a replacement disk as soon as practicable after a pressure release, but no later than 5 calendar days after the pressure release. You must not initiate startup of the equipment served by the rupture disk until the rupture disc is replaced. You must conduct instrument monitoring, as specified in § 63.1023(b) of subpart UU, § 63.180(c) of subpart H, or § 65.104(b) of subpart F, no later than 5 calendar days after the pressure relief device returns to organic HAP gas or vapor service following a pressure release to verify that the pressure relief device is operating with an instrument reading of less than 500 ppm.
- c. **Pressure release management.** Except as specified in VII.A.8.d and VII.A.8.e, the permittee must comply with the requirements specified in VII.A.8.c.1) through VII.A.8.c.5) for all pressure relief devices in organic HAP service.
 - 1) The permittee must equip each affected pressure relief device with a device(s) or use a monitoring system that is capable of:
 - a) Identifying the pressure release;
 - b) Recording the time and duration of each pressure release; and
 - c) Notifying operators immediately that a pressure release is occurring. The device or monitoring system must be either specific to the pressure relief device itself or must be associated with the process system or piping, sufficient to indicate a pressure release to the atmosphere. Examples of these types of devices and systems include, but are not limited to, a rupture disk indicator, magnetic sensor, motion detector on the pressure relief valve stem, flow monitor, or pressure monitor.
 - 2) The permittee must apply at least three redundant prevention measures to each affected pressure relief device and document these measures. Examples of prevention measures include:
 - a) Flow, temperature, liquid level, and pressure indicators with deadman switches, monitors, or automatic actuators. Independent, non-duplicative systems within this category count as separate redundant prevention measures.
 - b) Documented routine inspection and maintenance programs and/or operator training (maintenance programs and operator training may count as only one redundant prevention

- measure).
- c) Inherently safer designs or safety instrumentation systems.
 - d) Deluge systems.
 - e) Staged relief system where the initial pressure relief device (with lower set release pressure) discharges to a flare or other closed vent system and control device.
- 3) If any affected pressure relief device releases to atmosphere as a result of a pressure release event, the permittee must perform root cause analysis and corrective action analysis according to the requirement in VII.A.8.f and implement corrective actions according to the requirements in VII.A.8.g. The permittee must also calculate the quantity of organic HAP released during each pressure release event and report this quantity as required in § 63.2520(e)(15). Calculations may be based on data from the pressure relief device monitoring alone or in combination with process parameter monitoring data and process knowledge.
 - 4) You must determine the total number of release events that occurred during the calendar year for each affected pressure relief device separately. You must also determine the total number of release events for each pressure relief device for which the root cause analysis concluded that the root cause was a force majeure event, as defined in § 63.2550.
 - 5) Except for pressure relief devices described in VII.A.8.d and VII.A.8.e, the following release events from an affected pressure relief device are a deviation of the pressure release management work practice standards.
 - a) Any release event for which the root cause of the event was determined to be operator error or poor maintenance.
 - b) A second release event not including force majeure events from a single pressure relief device in a 3 calendar year period for the same root cause for the same equipment.
 - c) A third release event not including force majeure events from a single pressure relief device in a 3 calendar year period for any reason.
- d. ***Pressure relief devices routed to a control device, process, fuel gas system, or drain system.***
- 1) If all releases and potential leaks from a pressure relief device are routed through a closed vent system to a control device, back into the process, to the fuel gas system, or to a drain system, then the permittee are not required to comply with VII.A.8.a, VII.A.8.b, or VII.A.8.c.
 - 2) Before the compliance dates specified in § 63.2445(g), both the closed vent system and control device (if applicable) referenced in VII.A.8.d.1) must meet the applicable requirements specified in § 63.982(b) and (c)(2) of subpart SS. Beginning no later than the compliance dates specified in § 63.2445(g), both the closed vent system and control device (if applicable) referenced in VII.A.8.d.1) must meet the applicable requirements specified in §§ 63.982(c)(2), 63.983, and 63.2450(e)(4) through (6).
 - 3) The drain system (if applicable) referenced in VII.A.8.d.1) must meet the applicable requirements specified in § 63.2485(e).
- e. ***Pressure relief devices exempted from pressure release management requirements.*** The following types of pressure relief devices are not subject to the pressure release management requirements in VII.A.8.c.
- 1) Pressure relief devices in heavy liquid service, as defined in § 63.1020 of subpart UU or § 65.103(f) of subpart F.
 - 2) Thermal expansion relief valves.
 - 3) Pressure relief devices on mobile equipment.
 - 4) Pilot-operated pressure relief devices where the primary release valve is routed through a

- closed vent system to a control device or back into the process, to the fuel gas system, or to a drain system.
- 5) Balanced bellows pressure relief devices where the primary release valve is routed through a closed vent system to a control device or back into the process, to the fuel gas system, or to a drain system.
- f. **Root cause analysis and corrective action analysis.** A root cause analysis and corrective action analysis must be completed as soon as possible, but no later than 45 days after a release event. Special circumstances affecting the number of root cause analyses and/or corrective action analyses are provided in VII.A.8.f.1) through VII.A.8.f.3).
- 1) The permittee may conduct a single root cause analysis and corrective action analysis for a single emergency event that causes two or more pressure relief devices installed on the same equipment to release.
 - 2) The permittee may conduct a single root cause analysis and corrective action analysis for a single emergency event that causes two or more pressure relief devices to release, regardless of the equipment served, if the root cause is reasonably expected to be a force majeure event, as defined in § 63.2550.
 - 3) Except as provided in VII.A.8.f.1) and VII.A.8.f.2), if more than one pressure relief device has a release during the same time period, an initial root cause analysis must be conducted separately for each pressure relief device that had a release. If the initial root cause analysis indicates that the release events have the same root cause(s), the initially separate root cause analyses may be recorded as a single root cause analysis and a single corrective action analysis may be conducted.
- g. **Corrective action implementation.** The permittee must conduct a root cause analysis and corrective action analysis as specified in VII.A.8.c.3) and VII.A.8.f , and permittee must implement the corrective action(s) identified in the corrective action analysis in accordance with the applicable requirements in VII.A.8.g.1) through VII.A.8.g.3).
- 1) All corrective action(s) must be implemented within 45 days of the event for which the root cause and corrective action analyses were required or as soon thereafter as practicable. If you conclude that no corrective action should be implemented, you must record and explain the basis for that conclusion no later than 45 days following the event.
 - 2) For corrective actions that cannot be fully implemented within 45 days following the event for which the root cause and corrective action analyses were required, you must develop an implementation schedule to complete the corrective action(s) as soon as practicable.
 - 3) No later than 45 days following the event for which a root cause and corrective action analyses were required, you must record the corrective action(s) completed to date, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.
- h. **Flowing pilot-operated pressure relief devices.** For affected sources that commenced construction or reconstruction on or before December 17, 2019, you are prohibited from installing a flowing pilot-operated pressure relief device or replacing any pressure relief device with a flowing pilot-operated pressure relief device after August 12, 2023. For affected sources that commenced construction or reconstruction after December 17, 2019, you are prohibited from installing and operating flowing pilot-operated pressure relief devices. For purpose of compliance with this VII.A.8.h, a flowing pilot-operated pressure relief device means the type of pilot-operated pressure relief device where the pilot discharge vent continuously releases emissions to the atmosphere when the pressure relief device is actuated

9. Heat exchange systems

For C5 Cooling Tower J-1000-5

The permittee must perform monitoring to identify leaks of total strippable hydrocarbons from each heat exchange system subject to the requirements of this subpart according to the procedures in VII.A.9.a through VII.A.9.d. [40 CFR 23.2490(d)]

- a. **Monitoring locations for closed-loop recirculation heat exchange systems.** For each closed loop recirculating heat exchange system, you must collect and analyze a sample from the location(s) described in either VII.A.9.a.1) or VII.A.9.a.2).
 - 1) Each cooling tower return line or any representative riser within the cooling tower prior to exposure to air for each heat exchange system.
 - 2) Selected heat exchanger exit line(s), so that each heat exchanger or group of heat exchangers within a heat exchange system is covered by the selected monitoring location(s).
- b. **Monitoring method.** If the permittee comply with the total strippable hydrocarbon concentration leak action level as specified in VII.A.9.c, the permittee must comply with the requirements in VII.A.9.b.1). If the permittee comply with the total hydrocarbon mass emissions rate leak action level as specified in VII.A.9.c, the permittee must comply with the requirements in paragraphs VII.A.9.b.1) and VII.A.9.b.2).
 - 1) The permittee must determine the total strippable hydrocarbon concentration (in parts per million by volume (ppmv) as methane) at each monitoring location using the “Air Stripping Method (Modified El Paso Method) for Determination of Volatile Organic Compound Emissions from Water Sources” (incorporated by reference—see § 63.14) using a flame ionization detector (FID) analyzer for on-site determination as described in Section 6.1 of the Modified El Paso Method.
 - 2) The permittee must convert the total strippable hydrocarbon concentration (in ppmv as methane) to a total hydrocarbon mass emissions rate (as methane) using the calculations in Section 7.0 of “Air Stripping Method (Modified El Paso Method) for Determination of Volatile Organic Compound Emissions from Water Sources” (incorporated by reference—see § 63.14).
- c. **Monitoring frequency and leak action level.** For each heat exchange system, you must initially monitor monthly for 6-months beginning upon startup and monitor quarterly thereafter using a leak action level defined as a total strippable hydrocarbon concentration (as methane) in the stripping gas of 6.2 ppmv or, for heat exchange systems with a recirculation rate of 10,000 gallons per minute or less, you may monitor quarterly using a leak action level defined as a total hydrocarbon mass emissions rate from the heat exchange system (as methane) of 0.18 kg/hr. If a leak is detected as specified in VII.A.9.d, then you must monitor monthly until the leak has been repaired according to the requirements in VII.A.9.d.2) or VII.A.9.d.3). Once the leak has been repaired, quarterly monitoring for the heat exchange system may resume. The monitoring frequencies specified in this VII.A.9.c also apply to the inlet water feed line for a once through heat exchange system.
- d. **Leak definition.** A leak is defined as described below as applicable.
 - 1) A leak is detected if a measurement value of the sample taken from a location specified in VII.A.9.a.1) or VII.A.9.a.2) equals or exceeds the leak action level.
 - 2) If a leak is detected using the methods described in VII.A.9, the permittee must repair the leak to reduce the concentration or mass emissions rate to below the applicable leak action level as soon as practicable, but no later than 45 days after identifying the leak, except as specified in VII.A.9.d.4). Repair must include re-monitoring at the monitoring location where the leak was identified according to the method specified in VII.A.9.b to verify that the total strippable

hydrocarbon concentration or total hydrocarbon mass emissions rate is below the applicable leak action level. Repair may also include performing the additional monitoring in VII.A.9.d.3) to verify that the total strippable hydrocarbon concentration or total hydrocarbon mass emissions rate is below the applicable leak action level. Actions that can be taken to achieve repair include but are not limited to:

- a) Physical modifications to the leaking heat exchanger, such as welding the leak or replacing a tube;
 - b) Blocking the leaking tube within the heat exchanger;
 - c) Changing the pressure so that water flows into the process fluid;
 - d) Replacing the heat exchanger or heat exchanger bundle; or
 - e) Isolating, bypassing, or otherwise removing the leaking heat exchanger from service until it is otherwise repaired.
- 3) If permittee detect a leak when monitoring a cooling tower return line under VII.A.9.a.1), permittee may conduct additional monitoring of each heat exchanger or group of heat exchangers associated with the heat exchange system for which the leak was detected, as provided in VII.A.9.a.2). If no leaks are detected when monitoring according to the requirements of VII.A.9.a.2), the heat exchange system is considered to have met the repair requirements through re-monitoring of the heat exchange system, as provided in VII.A.9.d.2).
- 4) The permittee may delay repair when one of the conditions in VII.A.9.d.4)a) or VII.A.9.d.4)b) is met and the leak is less than the delay of repair action level specified in VII.A.9.d.4)c). The permittee must determine if a delay of repair is necessary as soon as practicable, but no later than 45 days after first identifying the leak.
- a) If the repair is technically infeasible without a shutdown and the total strippable hydrocarbon concentration or total hydrocarbon mass emissions rate is initially and remains less than the delay of repair action level for all monitoring periods during the delay of repair, then you may delay repair until the next scheduled shutdown of the heat exchange system. If, during subsequent monitoring, the delay of repair action level is exceeded, then you must repair the leak within 30 days of the monitoring event in which the leak was equal to or exceeded the delay of repair action level.
 - b) If the necessary equipment, parts, or personnel are not available and the total strippable hydrocarbon concentration or total hydrocarbon mass emissions rate is initially and remains less than the delay of repair action level for all monitoring periods during the delay of repair, then you may delay the repair for a maximum of 120 calendar days. You must demonstrate that the necessary equipment, parts, or personnel were not available. If, during subsequent monitoring, the delay of repair action level is exceeded, then you must repair the leak within 30 days of the monitoring event in which the leak was equal to or exceeded the delay of repair action level.
 - c) The delay of repair action level is a total strippable hydrocarbon concentration (as methane) in the stripping gas of 62 ppmv or, for heat exchange systems with a recirculation rate of 10,000 gallons per minute or less, the delay of repair action level is a total hydrocarbon mass emissions rate (as methane) or 1.8 kg/hr.
 - d) The delay of repair action level is exceeded if a measurement value of the sample taken from a location specified in VII.A.9.a.1) or VII.A.9.a.2) equals or exceeds the delay of repair action level.

B. Recordkeeping Requirements**1. Continuous records and monitoring system data handling**

Applies to temperature records from C5 Thermal Oxidizer and exit vapor temperatures records for WWTP condensers E-701-3 and E-713-2 [40 CFR 63.998(b)]

- a. **Continuous records.** Where this subpart requires a continuous record, the owner or operator shall maintain a record as specified VII.B.1.a.1) through VII.B.1.a.4), as applicable:
 - 1) A record of values measured at least once every 15 minutes or each measured value for systems which measure more frequently than once every 15 minutes; or
 - 2) A record of block average values for 15-minute or shorter periods calculated from all measured data values during each period or from at least one measured data value per minute if measured more frequently than once per minute.
 - 3) Where data is collected from an automated continuous parameter monitoring system, the owner or operator may calculate and retain block hourly average values from each 15- minute block average period or from at least one measured value per minute if measured more frequently than once per minute, and discard all but the most recent three valid hours of continuous (15-minute or shorter) records, if the hourly averages do not exclude periods of CPMS breakdown or malfunction. An automated CPMS records the measured data and calculates the hourly averages through the use of a computerized data acquisition system.
 - 4) A record as required by an alternative approved under a referencing subpart.
- b. **Excluded data.** Monitoring data recorded during periods identified in VII.B.1.b.1) through VII.B.1.b.3) shall not be included in any average computed to determine compliance with an emission limit in a referencing subpart. 63.998 b)2).
 - 1) Monitoring system breakdowns, repairs, preventive maintenance, calibration checks, and zero (low-level) and high-level adjustments;
 - 2) Periods of non-operation of the process unit (or portion thereof), resulting in cessation of the emissions to which the monitoring applies; and
 - 3) Startups, shutdowns, and malfunctions, if the owner or operator operates the source during such periods in accordance with § 63.1111(a) and maintains the records specified in this section.
- c. **Records of daily averages.** The permittee shall keep records as specified in VII.B.1.c.1) and VII.B.1.c.2) and submit reports as specified in § 63.999(c), unless an alternative recordkeeping system has been requested and approved under a referencing subpart. 63.998 b)3)
 - 1) Except as specified in VII.B.1.c.2), daily average values of each continuously monitored parameter shall be calculated from data meeting the specifications of VII.B.1.b for each operating day and retained for 5 years.
 - a) The daily average shall be calculated as the average of all values for a monitored parameter recorded during the operating day. The average shall cover a 24-hour period if operation is continuous, or the period of operation per operating day if operation is not continuous (e.g., for transfer racks the average shall cover periods of loading). If values are measured more frequently than once per minute, a single value for each minute may be used to calculate the daily average instead of all measured values.
 - b) The operating day shall be the period defined in the operating permit or in the Notification of Compliance Status. It may be from midnight to midnight or another daily period.
 - 2) If all recorded values for a monitored parameter during an operating day are within the range established in the Notification of Compliance Status or in the operating permit, the owner or operator may record that all values were within the range and retain this record for 5 years

rather than calculating and recording a daily average for that operating day. In such cases, the owner or operator may not discard the recorded values as allowed in VII.B.1.a.3).

2. Continuous Parametric Monitoring System Records

Applies to the C5 Thermal Oxidizer [40 CFR 63.998(c)]

- a. **Monitoring system records.** For process vents and high throughput transfer racks, the owner or operator subject to this subpart shall keep the records specified in this paragraph, as well as records specified elsewhere in this subpart.
- 1) For a CPMS used to comply with this part, a record of the procedure used for calibrating the CPMS.
 - 2) For a CPMS used to comply with this subpart, records of the information specified in VII.B.2.a.2)a) through VII.B.2.a.2)h), as indicated in a referencing subpart.
 - a) The date and time of completion of calibration and preventive maintenance of the CPMS.
 - b) The “as found” and “as left” CPMS readings, whenever an adjustment is made that affects the CPMS reading and a “no adjustment” statement otherwise.
 - c) The start time and duration or start and stop times of any periods when the CPMS is inoperative.
 - d) Records of the occurrence and duration of each start-up, shutdown, and malfunction of CPMS used to comply with this subpart during which excess emissions (as defined in a referencing subpart) occur.
 - e) For each start-up, shutdown, and malfunction during which excess emissions as defined in a referencing subpart occur, records whether the procedures specified in the source's start-up, shutdown, and malfunction plan were followed, and documentation of actions taken that are not consistent with the plan. These records may take the form of a “checklist,” or other form of recordkeeping that confirms conformance with the start-up, shutdown, and malfunction plan for the event.
 - f) Records documenting each start-up, shutdown, and malfunction event.
 - g) Records of CPMS start-up, shutdown, and malfunction event that specify that there were no excess emissions during the event, as applicable.
 - h) Records of the total duration of operating time.
- b. **Records of monitored parameters outside of range.** The owner or operator shall record the occurrences and the cause of periods when the monitored parameters are outside of the parameter ranges documented in the Notification of Compliance Status report. This information shall also be reported in the Periodic Report. [40 CFR 63.998(d)(5)]

3. Recordkeeping requirements for Wastewater Treatment Plant

For condensers [40 CFR 63.998(d)(2)]

- a. **Storage vessel and transfer rack records.** An owner or operator shall keep readily accessible records of the information specified in VII.B.3.a.1) and VII.B.3.a.2), as applicable.
- 1) A record of the measured values of the parameters monitored in accordance with § 63.985(c) or § 63.987(c).
 - 2) A record of the planned routine maintenance performed on the control system during which the control system does not meet the applicable specifications of § 63.983(a), § 63.985(a), or § 63.987(a), as applicable, due to the planned routine maintenance. Such a record shall include the information specified in VII.B.3.a.2)a) through VII.B.3.a.2)c). This information shall be submitted in the Periodic Reports as specified in § 63.999(c)(4).
 - a) The first time of day and date the requirements of § 63.983(a), § 63.985(a), or § 63.987(a),

- as applicable, were not met at the beginning of the planned routine maintenance, and
- b) The first time of day and date the requirements of § 63.983(a), § 63.985(a), or § 63.987(a), as applicable, were met at the conclusion of the planned routine maintenance.
 - c) A description of the type of maintenance performed.

4. Closed Vent System Records

For vent headers:

C5 Unit to the thermal oxidizer;

LTC 1/2 barometric tank to the LTC 1/2 carbon adsorbers;

LTC 4 oil/water separator to the LTC 4 carbon adsorbers;

Funda condensate tank to the Funda condensate tank carbon adsorbers;

Tanks 701 A and B and the Raw sump, Oil Sump, Acid Sump, and Dissolved Air Flootation Tank to the Wastewater Treatment Plant carbon adsorbers [40 CFR 63.998(d)]

- a. ***Closed vent system records.*** For closed vent systems the owner or operator shall record the information specified in VII.B.4.a.1) through VII.B.4.a.4) VII.B.4.a.2)a)VII.B.4.a.2)a), as applicable.
 - 1) For closed vent systems collecting regulated material from a regulated source, the owner or operator shall record the identification of all parts of the closed vent system, that are designated as unsafe or difficult to inspect, an explanation of why the equipment is unsafe or difficult to inspect, and the plan for inspecting the equipment required by § 63.983(b)(2)(ii) or (iii) of this section. 63.998 d) 1)
 - 2) For each closed vent system that contains bypass lines that could divert a vent stream away from the control device and to the atmosphere, the owner or operator shall keep a record of the information specified in VII.B.4.a.2)a), as applicable.
 - a) Hourly records of whether the flow indicator specified under § 63.983(a)(3)(i) was operating and whether a diversion was detected at any time during the hour, as well as records of the times of all periods when the vent stream is diverted from the control device or the flow indicator is not operating.
 - 3) For a closed vent system collecting regulated material from a regulated source, when a leak is detected as specified in § 63.983(d)(2), the information specified in VII.B.4.a.3)a) through VII.B.4.a.3)f) shall be recorded and kept for 5 years.
 - a) The instrument and the equipment identification number and the operator name, initials, or identification number.
 - b) The date the leak was detected and the date of the first attempt to repair the leak.
 - c) The date of successful repair of the leak.
 - d) The maximum instrument reading measured by the procedures in § 63.983(c) after the leak is successfully repaired or determined to be nonrepairable.
 - e) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 days after discovery of the leak. The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.
 - f) Copies of the Periodic Reports as specified in § 63.999(c), if records are not maintained on a computerized database capable of generating summary reports from the records.
 - 4) For each instrumental or visual inspection conducted in accordance with § 63.983(b)(1) for closed vent systems collecting regulated material from a regulated source during which no leaks are detected, the owner or operator shall record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

5. Pressure relief device records

[40 CFR 63.2525(q)]

- a. For each pressure relief device subject to the pressure release management work practice standards in § 63.2480(e), you must keep the records specified VII.B.5.a.1) through VII.B.5.a.3).
 - 1) Records of the prevention measures implemented as required in § 63.2480(e)(3)(ii).
 - 2) Records of the number of releases during each calendar year and the number of those releases for which the root cause was determined to be a force majeure event. Keep these records for the current calendar year and the past 5 calendar years.
 - 3) For each release to the atmosphere, you must keep the records specified in VII.B.5.a.3)a) through VII.B.5.a.3)d).
 - a) The start and end time and date of each pressure release to the atmosphere.
 - b) Records of any data, assumptions, and calculations used to estimate of the mass quantity of each organic HAP released during the event.
 - c) Records of the root cause analysis and corrective action analysis conducted as required in § 63.2480(e)(3)(iii), including an identification of the affected facility, a statement noting whether the event resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 63.2480(e)(7)(i).
 - d) For any corrective action analysis for which implementation of corrective actions are required in § 63.2480(e)(7), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

6. Heat Exchange System Records

[40 CFR 63.2525(r)]

The permittee must keep records in VII.B.6.a through VII.B.6.d.

- a. Monitoring data required by § 63.2490(d) and (e) that indicate a leak, the date the leak was detected, or, if applicable, the basis for determining there is no leak.
- b. The dates of efforts to repair leaks.
- c. The method or procedures used to confirm repair of a leak and the date the repair was confirmed.
- d. Documentation of delay of repair as specified in VII.B.6.d.1) through VII.B.6.d.4).
 - 1) The reason(s) for delaying repair.
 - 2) A schedule for completing the repair as soon as practical.
 - 3) The date and concentration or mass emissions rate of the leak as first identified and the results of all subsequent monitoring events during the delay of repair.
 - 4) An estimate of the potential total hydrocarbon emissions (if you monitor the cooling water for leaks according to § 63.2490(d)(1)) or monitored substance(s) emissions (if you monitor the cooling water for leaks according to § 63.2490(e)) from the leaking heat exchange system or heat exchanger for each required delay of repair monitoring interval following the procedures in VII.B.6.d.4)a) through VII.B.6.d.4)d).
 - a) If permittee comply with the total strippable hydrocarbon concentration leak action level, as specified in § 63.2490(d)(1)(iv), the permittee must calculate the mass emissions rate by complying with the requirements of § 63.2490(d)(1)(iii)(B) or by determining the mass flow rate of the cooling water at the monitoring location where the leak was detected. If the monitoring location is an individual cooling tower riser, determine the total cooling water mass flow rate to the cooling tower. Cooling water mass flow rates may be determined using direct measurement, pump curves, heat balance calculations, or other engineering methods. If permittee determine the mass flow rate of the cooling water,

calculate the mass emissions rate by converting the stripping gas leak concentration (in ppmv as methane) to an equivalent liquid concentration, in parts per million by weight (ppmw), using equation 7-1 from “Air Stripping Method (Modified El Paso Method) for Determination of Volatile Organic Compound Emissions from Water Sources” (incorporated by reference—see § 63.14) and multiply the equivalent liquid concentration by the mass flow rate of the cooling water.

- b) For delay of repair monitoring intervals prior to repair of the leak, calculate the potential total hydrocarbon emissions or monitored substance(s) emissions for the leaking heat exchange system or heat exchanger for the monitoring interval by multiplying the mass emissions rate, determined in § 63.2490(d)(1)(iii)(B) or VII.B.6.d.4)a) or VII.B.6.d.4)d), by the duration of the delay of repair monitoring interval. The duration of the delay of repair monitoring interval is the time period starting at midnight on the day of the previous monitoring event or at midnight on the day the repair would have had to be completed if the repair had not been delayed, whichever is later, and ending at midnight of the day the of the current monitoring event.
- c) For delay of repair monitoring intervals ending with a repaired leak, calculate the potential total hydrocarbon emissions or monitored substance(s) emissions for the leaking heat exchange system or heat exchanger for the final delay of repair monitoring interval by multiplying the duration of the final delay of repair monitoring interval by the mass emissions rate determined for the last monitoring event prior to the re-monitoring event used to verify the leak was repaired. The duration of the final delay of repair monitoring interval is the time period starting at midnight of the day of the last monitoring event prior to re-monitoring to verify the leak was repaired and ending at the time of the re-monitoring event that verified that the leak was repaired.
- d) If permittee monitor the cooling water for leaks according to § 63.2490(e), you must calculate the mass emissions rate by determining the mass flow rate of the cooling water at the monitoring location where the leak was detected. Cooling water mass flow rates may be determined using direct measurement, pump curves, heat balance calculations, or other engineering methods. Once determined, multiply the mass flow rate of the cooling water by the concentration of the measured substance(s).

7. Bypass records

- a. For each closed vent system that contains bypass lines that could divert a vent stream away from the control device and to the atmosphere, the owner or operator shall keep a record of the information specified in either VII.B.7.a.1) or VII.B.7.a.2), as applicable. [40 CFR 63.998(d)]
 - 1) Hourly records of whether the flow indicator specified under § 63.983(a)(3)(i) was operating and whether a diversion was detected at any time during the hour, as well as records of the times of all periods when the vent stream is diverted from the control device or the flow indicator is not operating.
 - 2) Where a seal mechanism is used to comply with § 63.983(a)(3)(ii), hourly records of flow are not required. In such cases, the owner or operator shall record that the monthly visual inspection of the seals or closure mechanisms has been done, and shall record the occurrence 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 been broken.
- b. For each flow event from a bypass line subject to the requirements in § 63.2450(e)(6), you must maintain records sufficient to determine whether or not the detected flow included flow requiring control. For each flow event from a bypass line requiring control that is released either directly to the atmosphere or to a control device not meeting the requirements specified in Tables 1 through 7

to this subpart, you must include an estimate of the volume of gas, the concentration of organic HAP in the gas and the resulting emissions of organic HAP that bypassed the control device using process knowledge and engineering estimates. [40 CFR 63.2525(n)]

8. Carbon Bed Records

[40 CFR 63.2525(o)]

- a. For each nonregenerative adsorber and regenerative adsorber that is regenerated offsite subject to the requirements in § 63.2450(e)(7), you must keep the applicable records specified in VII.B.8.a.1) through VII.B.8.a.3).
 - 1) Breakthrough limit and bed life established according to § 63.2450(e)(7)(i).
 - 2) Each outlet HAP or TOC concentration measured according to §§ 63.2450(e)(7)(ii) and (e)(7)(iii).
 - 3) Date and time you last replaced the adsorbent.

9. Group 2 batch vent recordkeeping requirements

C5, Water White, MP Poly, Hydro, Emulsion [40 CFR 63.2525(e)]

- a. The information specified in VII.B.9.a.2), VII.B.9.a.3), or VII.B.9.a.4) VII.B.9.a.1), as applicable, for each process with Group 2 batch process vents or uncontrolled hydrogen halide and halogen HAP emissions from the sum of all batch and continuous process vents less than 1,000 lb/yr. No records are required for situations described in VII.B.9.a.1).
 - 1) No records are required if you documented in your notification of compliance status report that the MCPU meets any of the situations described in VII.B.9.a.1)a), VII.B.9.a.1)b), or VII.B.9.a.1)c).
 - a) The MCPU does not process, use, or generate HAP.
 - b) The permittee control the Group 2 batch process vents using a flare that meets the requirements of § 63.987 or § 63.2450(e)(5), as applicable.
 - c) The permittee control the Group 2 batch process vents using a control device for which your determination of worst case for initial compliance includes the contribution of all Group 2 batch process vents.
 - 2) If the permittee documented in permittee's notification of compliance status report that an MCPU has Group 2 batch process vents because the non-reactive organic HAP is the only HAP and usage is less than 10,000 lb/yr, as specified in § 63.2460(b)(7), the permittee must keep records of the amount of HAP material used, and calculate the daily rolling annual sum of the amount used no less frequently than monthly. If a record indicates usage exceeds 10,000 lb/yr, the permittee must estimate emissions for the preceding 12 months based on the number of batches operated and the estimated emissions for a standard batch, and the permittee must begin recordkeeping as specified in VII.B.9.a.4). After 1 year, the permittee may revert to recording only usage if the usage during the year is less than 10,000 lb.
 - 3) If the permittee documented in permittee's notification of compliance status report that total uncontrolled organic HAP emissions from the batch process vents in an MCPU will be less than 1,000 lb/yr for the anticipated number of standard batches, then the permittee must keep records of the number of batches operated and calculate a daily rolling annual sum of batches operated no less frequently than monthly. If the number of batches operated results in organic HAP emissions that exceed 1,000 lb/yr, the permittee must estimate emissions for the preceding 12 months based on the number of batches operated and the estimated emissions for a standard batch, and the permittee must begin recordkeeping as specified in VII.B.9.a.4). After 1 year,

you may revert to recording only the number of batches if the number of batches operated during the year results in less than 1,000 lb of organic HAP emissions.

- 4) If the permittee meet none of the conditions specified VII.B.9.a.1) through VII.B.9.a.3), the permittee must keep records of the information specified in VII.B.9.a.4)a) through VII.B.9.a.4)d).
 - a) A record of the day each batch was completed and/or the operating hours per day for continuous operations with hydrogen halide and halogen emissions.
 - b) A record of whether each batch operated was considered a standard batch.
 - c) The estimated uncontrolled and controlled emissions for each batch that is considered to be a nonstandard batch.
 - d) Records of the daily 365-day rolling summations of emissions, or alternative records that correlate to the emissions (e.g., number of batches), calculated no less frequently than monthly

VIII. ALTERNATIVE OPERATING SCENARIOS

No alternative operating scenarios exist for this facility.

IX. EMISSIONS LIMITATIONS SUMMARY

The annual emission limitations for the Synthomer Jefferson Hills LLC facility are summarized in the following table:

TABLE IX-1: Emission Limitations Summary

POLLUTANT	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter	32.49
Particulate Matter <10 µm (PM₁₀)	23.31
Particulate Matter <2.5 µm (PM_{2.5})	20.29
Nitrogen Oxides (NO_x)	65.74
Sulfur Oxides (SO_x)	0.79
Carbon Monoxide (CO)	38.42
Volatile Organic Compounds (VOC)	246.75
Hazardous Air Pollutants (HAP)	47.96
Toluene	31.71

* A year is defined as any consecutive 12-month period.