

Fact Sheet



For Final Renewal Permitting Action Under 45CSR30 and Title V of the Clean Air Act

Permit Number: **R30-05300007-2015**
Application Received: **September 5, 2014**
Plant Identification Number: **05300007**
Permittee: **ICL-IP America Inc.**
Facility Name: **Gallipolis Ferry Plant**
Mailing Address: **State Route 2, P.O. Box 1721**
Gallipolis Ferry, WV 25515

Physical Location: Gallipolis Ferry, Mason County, West Virginia
UTM Coordinates: 396.5 km Easting • 4,292.30 km Northing • Zone 17
Directions: From Point Pleasant, drive 6 miles south on Rt. 2. The facility is on the right.

Facility Description

Facility manufactures Aryl and Alkyl Phosphate Esters and other Specialty Chemicals.

SIC Codes: 2869; 2819; 2899

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions	2013 Actual Emissions
Carbon Monoxide (CO)	87.12	18.71
Nitrogen Oxides (NO _x)	173.86	14.632
Particulate Matter (PM _{2.5})	9.13	0.61514
Particulate Matter (PM ₁₀)	9.13	0.61514

Plantwide Emissions Summary [Tons per Year]

Regulated Pollutants	Potential Emissions	2013 Actual Emissions
Total Particulate Matter (TSP)	9.13	0.61514
Sulfur Dioxide (SO ₂)	1.61	0.2268
Volatile Organic Compounds (VOC)	64.72	27.00

PM₁₀ is a component of TSP.

Hazardous Air Pollutants	Potential Emissions	2013 Actual Emissions
Acetaldehyde	0.01	Not reported
Biphenyl	0	0.00164*
Cresylic Acid (Cresol(-m) and Cresol(-p))	0.00	0.003957*
Cresol (Mixed Isomers)	0.013	0.001787
Diethanolamine	< 0.001	8.7E-06
Epichlorohydrin	2.88	0.29655
Ethylene Dichloride	0.72	0.07062
Ethylene Ethers	< 0.001	0.04717*
Ethylene Oxide	0.31	0.1051
Formaldehyde	0.23	0.0196
Hydrochloric Acid	0.29	0.13813
Phenol	4.99	0.5642
Phosphorus	0.00	0.00015*
Propylene Dichloride	5.94	3.412
Propylene Oxide	3.01	1.497
Total HAPs	20.04	6.1582

Some of the above HAPs may be counted as PM or VOCs.

* Actual emissions reported above PTE resulted from accidental releases/maintenance activity

Title V Program Applicability Basis

This facility has the potential to emit 173.86 TPY of NO_x. Due to this facility's potential to emit over 100 tons per year of NO_x, ICL-IP America Inc. is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

This facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR2 45CSR6 45CSR7 45CSR10 45CSR11 45CSR13 45CSR16 WV Code § 22-5-4 (a) (14) 45CSR30 45CSR34 40 C.F.R. Part 60 Db 40 C.F.R. Part 61 40 CFR 63 Subpart H 40 CFR 63 Subpart ZZZZ 40 C.F.R. Part 82, Subpart F	Indirect Heat Exchangers Open burning prohibited. Particulate Matter Emissions Emission of Sulfur Oxides Standby plans for emergency episodes. Preconstruction permits for sources Standards of Performance for New Stationary Sources Pursuant to 40CFR60 The Secretary can request any pertinent information such as annual emission inventory reporting. Operating permit requirement. MACT Steam Generating Units Asbestos inspection and removal Equipment Leaks National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines Ozone depleting substances
State Only:	45CSR4 45CSR27	No objectionable odors. Toxic Air Pollutants

Each State and Federally-enforceable condition of the Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit <i>(if any)</i>
R13-2438Q	8/10/2015	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table," which may be downloaded from DAQ's website.

Determinations and Justifications

The following changes were included in the Title V renewal permit:

1. Emission Units Table 1.1 – deleted Air Compressor C-120 because it was removed from the facility.

2. 40 C.F.R. 63, Subpart ZZZZ "National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines" is applicable to the following engines:

Engine	Design Capacity	Ignition	Type/Use	Year installed	Source of HAP emissions
C-209	78 HP	Compression (CI)	Non-Emergency	1996 (existing)	Area source
OM-183	375 hp	Compression (CI)	Emergency	1978 (existing)	Area source
OM-184	375 hp	Compression (CI)	Emergency	1978 (existing)	Area source
OM-231	368.8 hp	Compression (CI)	Emergency	1988 (existing)	Area source
OM-296	368.8 hp	Compression (CI)	Emergency	1988 (existing)	Area source
P-434	190 hp	Compression (CI)	Emergency	1976 (existing)	Area source

Section 5.0 was added to the permit to include applicable requirements of 40 CFR 63 Subpart ZZZZ. Per §63.6603(a) both emergency CI engines and non-emergency CI engines of ≤ 300 hp at area sources are subject only to work and management practices (periodic changing of oil and filter, inspection of air cleaner and all hoses and belts) detailed in Table 2d (requirement 5.1.1). Per § 63.6640(a) and Table 6, continuous compliance should be demonstrated by operating and maintaining engines in accordance with "the manufacturer's emission-related operation and maintenance instructions" or developing and following company's "own maintenance plan...". Recordkeeping is per requirement 5.4.1, reporting is per requirements 5.5.1 and 5.5.2.

3. Requirement 4.1.12.2 was revised in order to delete confidential information (chemical name of E06-16) per company's CBI claim.
4. 40 C.F.R. 60 Subpart Kb, *Standards of Performance for Volatile Organic Liquid (VOL) Storage Vessels (Including Petroleum liquid Storage Vessels) for which Construction, Reconstruction or Modification Commenced after July 23, 1984*, is applicable to storage vessels with a capacity greater than or equal to 75 m³ storing VOL (§60.110b(a)). This Subpart doesn't apply to tanks with a capacity greater than or equal to 75 m³, but less than 151 m³, storing liquid with a maximum true vapor pressure less than 15 kPa, and to tanks with a capacity greater than or equal to 151 m³, storing liquid with maximum true vapor pressure of less than 3.5 kPa (§60.110b(b)). Based on these criteria, the Subpart is applicable to the following existing tanks at the facility:

Emission Unit ID	Emission Point ID	Max True Vapor Pressure	Year Installed	Design Capacity (gal)	Design Capacity (cu m)	VOL	Subpart Kb applicability basis
V-1	B-1	3.98 kPa	1994	50,000 gal	189.3	VOC Phenol	Volume > 151 m ³ ; Vapor Pressure > 3.5 kPa
V-2	B-2	3.98 kPa	1994	50,000 gal	189.3	VOC Phenol	Volume > 151 m ³ ; Vapor Pressure > 3.5 kPa

Emission Unit ID	Emission Point ID	Max True Vapor Pressure	Year Installed	Design Capacity (gal)	Design Capacity (cu m)	VOL	Subpart Kb applicability basis
V-3	B-3	3.98 kPa	1994	50,000 gal	189.3	VOC Phenol	Volume > 151 m ³ ; Vapor Pressure > 3.5 kPa
V-4	n/a	4.05 kPa	1985	50,000 gal	189.3	VOC Tert-Butylphenol	Volume > 151 m ³ ; Vapor Pressure > 3.5 kPa
V-5	n/a	4.05 kPa	1985	50,000 gal	189.3	VOC Tert-Butylphenol	Volume > 151 m ³ ; Vapor Pressure > 3.5 kPa
V-9	B-9	3.98 kPa	1994	50,000 gal	189.3	VOC Phenol	Volume > 151 m ³ ; Vapor Pressure > 3.5 kPa

Tanks are only subject to the standards of the Rule if they meet the criteria outlined in 40 CFR §60.112b Standard for Volatile Organic Compounds (VOC):

“a) The owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa but less than 76.6 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa but less than 76.6 kPa, shall equip each storage vessel with one of the following:...

“b) The owner or operator of each storage vessel with a design capacity greater than or equal to 75 m³ which contains a VOL that, as stored, has a maximum true vapor pressure greater than or equal to 76.6 kPa shall equip each storage vessel with one of the following:...”

Since tanks V-1, V-2, V-3, V-4, V-5 and V-9 have maximum true vapor pressures below these ranges, they are not subject to any of the Standards outlined in the Rule (including control devices, testing, recordkeeping and reporting requirements). They are only subject to Monitoring of Operations requirements per §60.116b. These requirements were not included in the permit before, and are included now under condition 4.2.9.

- Requirement 4.2.2 (a) (Scrubbers monitoring) was revised as follows to add work practices as an additional method to assure compliance demonstration with the requirement 4.1.6:

“a. The permittee shall install, operate, and maintain instrumentation to continuously monitor the input liquor flow rate of each scrubber that take into account manufacturer’s recommendations. The accuracy of the monitor shall be verified not to exceed ± 0.10 gal/min. All manufacturer’s recommendations regarding periodic testing/checks for proper installation and operation of the instrumentation shall be followed. Calibration (with an accuracy of 0.5%) and maintenance of the instrumentation shall be conducted annually in accordance with manufacturer’s specification.”

Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

- 1) **45CSR2 - To prevent and control particulate air pollution from combustion of fuel in indirect heat exchangers** for Boilers B-5A and B-6:

45CSR§2-5 Control of Fugitive Particulate Matter - Section 5 of 45CSR2 requires a fugitive particulate matter control system for any source of fugitive particulate matter associated with the fuel burning units. Using natural gas as fuel of the Boilers B-5A and B-6 will result in no potential for fugitive emissions from the boilers.

45CSR§2-8.1.a Testing and 45CSR§2-8.2 Monitoring - Boilers are not subject to these requirements per 45CSR§2-8.4.b because they burn only natural gas.

45CSR§§2A-5, 6 Testing and monitoring Requirements - Pursuant to Section 3.1.a of the 45CSR2A Interpretive Rule, a fuel burning unit that “combusts only natural gas” is exempt from the Testing and Visible Emission Monitoring Plan Requirements (Sections 5 and 6) therein.

- 2) **45CSR7: To Prevent and Control Particulate matter Air Pollution from Manufacturing Processes and Associated Operations**

This Rule is not applicable for Diesel Engines at the facility because they are not defined as related to manufacturing processes and associated operations, and rather serve secondary processes at the facility: engine C-209 is an air compressor used for jackhammering, engines OM-183, OM-184, OM-231, and OM-296 are emergency generators to be used during power failures or safety back-up during critical maintenance procedures, engine P-434 is a back-up emergency fire water pump to be used during an emergency if an electrical fire pump is not available.

- 3) **45CSR§10-8 Testing, Monitoring, Record-keeping, & Reporting (TMR&R)** for Boilers B-5A and B-6: Section 8 of Rule 10 requires testing for compliance with the limits therein, monitoring for continued compliance, and recordkeeping. But pursuant to 45CSR§10-10.3, as the boilers “combust natural gas, wood or distillate oil, alone or in combination,” they are not subject to the Requirements under 45CSR§ 10-8.

- 4) **45CSR14: Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration**

Gallipolis Ferry Plant is an existing major source (emissions of NO_x in excess of 100 TPY of a source listed in Table 2.43. a) in an area of attainment and, therefore, subject to the review procedures under 45CSR14 if a “major modification” is proposed. As this permitting action is only a Title V permit renewal and does not involve any increase in emissions, 45CSR14 is not applicable.

- 5) **40 CFR 60, Subpart Dc: Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units** for Boiler B-6:

40 CFR 60, Subpart Dc is applicable to “each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)) or less, but greater than or equal to 2.9 MW (10 MMBtu/hr).” Although Boiler B-6 has a maximum design heat input of 93.7 MMBtu/hr, it was constructed in 1977 and, therefore, Subpart Dc is not applicable.

- 6) **40 CFR 63, Subpart PPP: National Emission Standards for Hazardous Air Pollutant Emissions for Polyether Polyols Production**

Permittee, in a letter the DAQ received on April 20, 2009, stated that it “...has terminated the production of all polyether polyols and does not anticipate to produce polyether polyols in the future, and as allowed by the Subpart PPP provisions in 40CFR §63.1420(e)(9), ... is not subject to the Polyether Polyols MACT requirements any longer because it does [not] operate a unit defined as a polyether polyol manufacturing process unit (PMPU).”

To enforce the non-applicability of Subpart PPP, Requirement 4.1.10 is placed in the permit that prohibits permittee from operating a PMPU at their Gallipolis Ferry facility.

7) **40 CFR 60, Subpart IIII: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines:**

This subpart is not applicable to engines at the facility because they were ordered before 07/11/2005.

8) **40 CFR 64 Compliance Assurance Monitoring (CAM)**

CAM applicability was evaluated during previous permit renewal, and there were no new PSEUs added to the facility since then.

9) **40 C.F.R. 63, Subpart JJJJJJ “National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources “** is not applicable because of the following reasons stated in the table below:

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity in mmBtu/hr	Subpart JJJJJJ applicability
B-6	H-B-6	Boiler	1977	93.7 mmBtu/hr	Meets “gas-fired boiler” definition in § 63.11237, therefore per § 63.11195 (e) the Subpart is not applicable
B-5A	H-B-5A	Boiler	1998	122 mmBtu/hr	Meets “gas-fired boiler” definition in § 63.11237, therefore per § 63.11195 (e) the Subpart is not applicable
F-5	C-F-5	Heater (heats non-contact coolant)	1960	8.2 mmBtu/hr	Doesn’t meet “boiler” definition in § 63.11237, therefore per § 63.11193 the Subpart is not applicable
F-6	C-F-6	Heater (heats non-contact coolant)	1969	6.4 mmBtu/hr	Doesn’t meet “boiler” definition in § 63.11237, therefore per § 63.11193 the Subpart is not applicable
F-7	C-F-7	Heater (heats non-contact coolant)	1976	0.75 mmBtu/hr	Doesn’t meet “boiler” definition in § 63.11237, therefore per § 63.11193 the Subpart is not applicable
F-8	C-F-8	Heater (heats non-contact coolant)	1976	0.75 mmBtu/hr	Doesn’t meet “boiler” definition in § 63.11237, therefore per § 63.11193 the Subpart is not applicable

10) **Conditions 4.2.8. and 4.2.9** of the Permit R13-2438P were not included in the permit as written, but were cited along with the appropriate monitoring, recordkeeping and reporting requirements (if any) of the corresponding rules (45CSR2, 45CSR10, 40 C.F.R. 60, Subpart Db and 40 C.F.R. 63, Subpart H).

11) **Former condition 4.3.2** was not included in this permit renewal because Boilers B-5A and B-6 are exempt from testing requirements of 45CSR2 and 45CSR10 (see items (1) and (3) above), but condition 4.3.2 of the Permit R13-2438P was cited along with the appropriate testing requirements of 40 C.F.R. 60 Subpart Db and 40CFR63 Subpart H (requirements 4.3.2 and 4.3.3).

12) 40 C.F.R. 60 Subparts K and Ka are not applicable to the facility because there are no storage tanks that store petroleum liquids.

40 C.F.R. 60 Subpart Kb, *Standards of Performance for Volatile Organic Liquid (VOL) Storage Vessels (Including Petroleum liquid Storage Vessels) for which Construction, Reconstruction or Modification Commenced after July 23, 1984*, is not applicable to storage vessels with a capacity greater than or equal to 151 m³ storing VOL with a maximum true vapor pressure less than 3.5 kPa or with a capacity greater than or equal to 75 m³ but less than 151 m³ storing VOL with a maximum true vapor pressure less than 15.0 kPa (§60.110b(b)). Based on these criteria the Subpart is not applicable to the following tanks:

Emission Unit ID	Emission Point ID	Description	Year Installed	Design Capacity (gal)	Design Capacity (m ³)	VOL	Subpart Kb non-applicability basis
V-6	B-6	Tank	1956	50,000 gal	189.3	Y	Installation Year
V-7	B-7	Tank	1955	50,000 gal	189.3	Y	Installation Year
V-12	B-12	Tank	1955	10,000 gal	37.9	Y	Volume < 75 m ³ ; Year
V-13	B-J-55	Tank	1994	50,000 gal	189.3	No	Not a VOL
V-15	B-15	Tank	1955	100,000 gal	378.5	Y	Installation Year
V-16	B-16	Tank	1955	100,000 gal	378.5	Y	Installation Year
V-17	B-17	Tank	1955	50,000 gal	189.3	Y	Installation Year
V-18	B-18	Tank	1955	50,000 gal	189.3	Y	Installation Year
V-19	B-19	Tank	1955	50,000 gal	189.3	Y	Installation Year
V-20	B-20	Tank	1955	50,000 gal	189.3	Y	Installation Year
V-21	B-21	Tank	1955	50,000 gal	189.3	Y	Installation Year
V-23	B-23	Tank	1956	15,000 gal	56.8	Y	Volume < 75 m ³ ; Year
V-24	B-24	Tank	1955	15,000 gal	56.8	Y	Volume < 75 m ³ ; Year
V-30	H-30	Tank	1983	8,000 gal	30.3	Y	Volume < 75 m ³ ; Year
V-31	T-31	Tank	1978	10,000 gal	37.9	Y	Volume < 75 m ³ ; Year
V-37	C-37	Tank	1987	6,000 gal	22.7	Y	Volume < 75 m ³
V-56	C-56	K O Pot	1956	600 gal	2.3	Y	Volume < 75 m ³ ; Year
V-57	C-57	Washer Feed	2002	7,500 gal	28.4	Y	Volume < 75 m ³
V-63	C-63	Dryer Feed	2002	12,000 gal	45.4	Y	Volume < 75 m ³
V-75	R-75	Tank	1979	1,800 gal	6.8	Y	Volume < 75 m ³ ; Year
V-80	C-80	Dryer Feed	1980	8,000 gal	30.3	Y	Volume < 75 m ³ ; Year
V-81	C-81	Dehydrator Feed Tank	1956	<19,800 gal	<74.95	Y	Volume < 75 m ³ ; Year
V-82	C-82	Dryer Feed	1980	8,000 gal	30.3	Y	Volume < 75 m ³ ; Year
V-83	C-83	Dehydrator Feed Tank	1956	<19,800 gal	<74.95	Y	Volume < 75 m ³ ; Year
V-84	C-84	Dryer Feed	1980	8,000 gal	30.3	Y	Volume < 75 m ³ ; Year

Emission Unit ID	Emission Point ID	Description	Year Installed	Design Capacity (gal)	Design Capacity (m ³)	VOL	Subpart Kb non-applicability basis
V-88	C-88	Filter Feed Tank	2001	140 gal	0.53	Y	Volume < 75 m ³
V-89	C-89	Filter Feed	1995	125 gal	0.47	Y	Volume < 75 m ³
V-90	C-90	Filter Feed Tank	1995	125 gal	0.47	Y	Volume < 75 m ³
V-91	C-91	Tank	1980	8,000 gal	30.3	Y	Volume < 75 m ³ ; Year
V-92	C-92	Tank	1980	8,000 gal	30.3	Y	Volume < 75 m ³ ; Year
V-93	C-93	Tank	1980	8,000 gal	30.3	Y	Volume < 75 m ³ ; Year
V-94	C-94	Dehydrator Feed Tank	1956	<19,800 gal	<74.95	Y	Volume < 75 m ³ ; Year
V-97	C-97	Tank	1980	15,000 gal	56.8	Y	Volume < 75 m ³ ; Year
V-98	C-98	Tank	1980	15,000 gal	56.8	Y	Volume < 75 m ³ ; Year
V-100	C-100	Check/Day Tank	1955	<19,800 gal	<74.95	Y	Volume < 75 m ³ ; Year
V-101	C-101	Check/Day Tank	1955	<19,800 gal	<74.95	Y	Volume < 75 m ³ ; Year
V-104	B-104	Tank	1955	15,000 gal	56.8	Y	Volume < 75 m ³ ; Year
V-105	B-105	Tank	1955	15,000 gal	56.8	Y	Volume < 75 m ³ ; Year
V-107	H-107	Save All Tank	1981	9,000 gal	34	Y	Volume < 75 m ³ ; Year
V-114	R-114	Expansion Tank	1989	1,720 gal	6.5	Y	Volume < 75 m ³
V-116	H-116	Washer Feed	1957	1,700 gal	6.4	Y	Volume < 75 m ³ ; Year
V-119	H-119	Washer Feed	1957	1,700 gal	6.4	Y	Volume < 75 m ³ ; Year
V-159	C-159	Expansion Tank	Pre 1980	100 gal	0.38	Y	Volume < 75 m ³ ; Year
V-160	C-160	Expansion Tank	Pre 1980	100 gal	0.38	Y	Volume < 75 m ³ ; Year
V-166	C-166	Washer Feed	1958	<19,800 gal	<74.95	Y	Volume < 75 m ³ ; Year
V-168	B-168	Tank	1974	5,000 gal	18.9	Y	Volume < 75 m ³ ; Year
V-170	B-170	Tank	1982	50,000 gal	189.3	Y	Installation Year
V-171	B-171	Tank	1959	50,000 gal	189.3	Y	Installation Year
V-172	B-172	Tank	1959	50,000 gal	189.3	Y	Installation Year

Emission Unit ID	Emission Point ID	Description	Year Installed	Design Capacity (gal)	Design Capacity (m ³)	VOL	Subpart Kb non-applicability basis
V-174	C-174	Filter Feed Tank	1988	500 gal	1.9	Y	Volume < 75 m ³
V-176	B-176	Tank	1959	12,000 gal	45.4	Y	Volume < 75 m ³ ; Year
V-180	B-180	Tank	1959	100,000 gal	378.5	Y	Installation Year
V-183	C-183	Day Tank	1960	6,000 gal	22.7	Y	Volume < 75 m ³ ; Year
V-184	C-184	Day Tank	1960	6,000 gal	22.7	Y	Volume < 75 m ³ ; Year
V-185	C-185	Day Tank	1960	6,000 gal	22.7	Y	Volume < 75 m ³ ; Year
V-208	B-208	Tank	1961	50,000 gal	189.3	Y	Installation Year
V-209	B-209	Tank	1961	50,000 gal	189.3	Y	Installation Year
V-210	B-210	Tank	1961	50,000 gal	189.3	Y	Installation Year
V-211	B-211	Tank	1962	25,000 gal	94.6	Y	Installation Year
V-212	C-212	Tank	1980	15,000 gal	56.8	Y	Volume < 75 m ³ ; Year
V-213	B-213	Tank	1959	50,000 gal	189.3	Y	Installation Year
V-215	C-215	Check/Day Tank	~1963	<19,800 gal	<74.95	Y	Volume < 75 m ³ ; Year
V-216	C-216	Check/Day Tank	~1963	<19,800 gal	<74.95	Y	Volume < 75 m ³ ; Year
V-231	B-231	Tank	1994	100,000 gal	378.5	Y	Volume > 151 m ³ ; Vapor Pressure < 3.5 kPa
V-232	B-232	Tank	1966	15,000 gal	56.8	Y	Volume < 75 m ³ ; Year
V-233	B-233	Tank	1973	12,500 gal	47.3	Y	Volume < 75 m ³ ; Year
V-234	B-234	Tank	1966	15,000 gal	56.8	Y	Volume < 75 m ³ ; Year
V-236	B-236	Tank	1969	50,000 gal	189.3	Y	Installation Year
V-259	R-259	Tank	1967	12,000 gal	45.4	Y	Volume < 75 m ³ ; Year
V-260	R-260	Tank	1967	12,000 gal	45.4	Y	Volume < 75 m ³ ; Year
V-261	R-261	Tank	1968	6,000 gal	22.7	Y	Volume < 75 m ³ ; Year
V-262	R-262	Reactor Dump Tank	1968	6,000 gal	22.7	Y	Volume < 75 m ³ ; Year
V-263	n/a	Tank	1968	6,000 gal	22.7	Y	Volume < 75 m ³ ; Year
V-279	B-279	Tank	1994	15,000 gal	56.8	Y	Volume < 75 m ³
V-280	B-280	Tank	1968	15,000 gal	56.8	Y	Volume < 75 m ³ ; Year
V-287	H-287	Separator	1983	420 gal	1.6	Y	Volume < 75 m ³ ; Year
V-290	B-290	Tank	1969	100,000 gal	378.5	Y	Installation Year

Emission Unit ID	Emission Point ID	Description	Year Installed	Design Capacity (gal)	Design Capacity (m ³)	VOL	Subpart Kb non-applicability basis
V-291	B-291	Tank	1969	100,000 gal	378.5	Y	Installation Year
V-302	H-302	Washer	1997	470 gal	1.6	Y	Volume < 75 m ³
V-303	H-303	Washer	1997	470 gal	1.6	Y	Volume < 75 m ³
V-306	H-306	Distillation Feed	1969	1,270 gal	4.8	Y	Volume < 75 m ³ ; Year
V-308	B-308	Tank	1970	15,000 gal	56.8	Y	Volume < 75 m ³ ; Year
V-323	R-323	Separator	1971	2,000 gal	7.6	Y	Volume < 75 m ³ ; Year
V-324	R-324	Separator	1971	2,000 gal	7.6	Y	Volume < 75 m ³ ; Year
V-333	R-333	Save All Tank	1973	12,500 gal	47.3	Y	Volume < 75 m ³ ; Year
V-334	R-334	Tank	1973	12,500 gal	47.3	Y	Volume < 75 m ³ ; Year
V-335	R-335	Tank	1973	12,500 gal	47.3	Y	Volume < 75 m ³ ; Year
V-339	B-339	Tank	1973	100,000 gal	378.5	Y	Installation Year
V-340	B-340	Tank	1973	100,000 gal	378.5	Y	Installation Year
V-341	B-341	Tank	1973	100,000 gal	378.5	Y	Installation Year
V-342	B-342	Tank	1973	50,000 gal	189.3	Y	Installation Year
V-343	B-343	Mix Tank	1974	5,000 gal	18.9	Y	Volume < 75 m ³ ; Year
V-345	B-345	Mix Tank	1974	5,000 gal	18.9	Y	Volume < 75 m ³ ; Year
V-346	B-346	Mix Tank	1974	5,000 gal	18.9	Y	Volume < 75 m ³ ; Year
V-358	B-J-55	Tank	2002	10,000 gal	37.9	Y	Volume < 75 m ³
V-365	C-365	Save All Tank	1974	<39,000 gal	<147.6	Y	Installation Year
V-368	C-368	Save All Tank	2001	25,000 gal	94.6	No	Not a VOL
V-372	R-372	Tank	1975	12,500 gal	47.3	Y	Volume < 75 m ³ ; Year
V-373	R-373	Tank	1974	12,500 gal	47.3	Y	Volume < 75 m ³ ; Year
V-374	R-374	Tank	1975	12,500 gal	47.3	Y	Volume < 75 m ³ ; Year
V-375	R-375	Tank	1974	12,500 gal	47.3	Y	Volume < 75 m ³ ; Year
V-376	R-376	Tank	1975	12,500 gal	47.3	Y	Volume < 75 m ³ ; Year
V-377	R-377	Tank	1974	12,500 gal	47.3	Y	Volume < 75 m ³ ; Year
V-386	n/a	Tank	1976	30,000 gal	113.6	Y	Installation Year
V-387	n/a	Tank	1976	30,000 gal	113.6	Y	Installation Year
V-388	n/a	Tank	1976	30,000 gal	113.6	Y	Installation Year

Emission Unit ID	Emission Point ID	Description	Year Installed	Design Capacity (gal)	Design Capacity (m ³)	VOL	Subpart Kb non-applicability basis
V-389	n/a	Tank	1976	30,000 gal	113.6	Y	Installation Year
V-516	T-516	Tank	1977	230,000 gal	870.6	Y	Installation Year
V-517	T-517	Tank	1977	230,000 gal	870.6	Y	Installation Year
V-518	T-518	Tank	1977	230,000 gal	870.6	Y	Installation Year
V-519	H-519	Washer	1983	470 gal	1.6	Y	Volume < 75 m ³ ; Year
V-520	H-520	Washer	1983	470 gal	1.6	Y	Volume < 75 m ³ ; Year
V-531	B-J-55	Tank	1994	50,000 gal	189.3	No	Not a VOL
V-532	B-J-55	Tank	1994	50,000 gal	189.3	No	Not a VOL
V-533	B-J-55	Tank	1994	50,000 gal	189.3	No	Not a VOL
V-534	B-J-55	Tank	1994	50,000 gal	189.3	No	Not a VOL
V-539	B-539	Tank	2007	100,000 gal	378.5	Y	Volume > 151 m ³ ; Vapor Pressure < 3.5 kPa
V-548	R-548	Tank	1979	12,500 gal	47.3	Y	Volume < 75 m ³ ; Year
V-558	C-558	Tank	2007	10,000 gal	37.9	Y	Volume < 75 m ³
V-559	C-559	Tank	2007	10,000 gal	37.9	Y	Volume < 75 m ³
V-560	C-560	Day Tank	1980	10,000 gal	37.9	Y	Volume < 75 m ³ ; Year
V-561	C-561	Day Tank	1980	10,000 gal	37.9	Y	Volume < 75 m ³ ; Year
V-562	C-562	Tank	1980	10,000 gal	37.9	Y	Volume < 75 m ³ ; Year
V-563	C-563	Tank	1980	10,000 gal	37.9	Y	Volume < 75 m ³ ; Year
V-567	C-567	Save All Tank	1980	<39,900 gal	< 151	Y	Installation Year
V-568	C-568	Save All Tank	1980	25,000 gal	94.6	Y	Installation Year
V-569	C-569	Filter Feed Tank	1996	500 gal	1.9	Y	Volume < 75 m ³
V-571	C-571	Filter Feed Tank	1998	4,000 gal	15.1	Y	Volume < 75 m ³
V-574	C-574	Tank	1980	10,000 gal	37.9	Y	Volume < 75 m ³ ; Year
V-575	C-575	Tank	1980	10,000 gal	37.9	Y	Volume < 75 m ³ ; Year
V-576	C-576	Tank	1980	8,000 gal	30.3	Y	Volume < 75 m ³ ; Year
V-577	C-577	Dehydrator Feed Tank	1980	<19,800 gal	<74.95	Y	Volume < 75 m ³ ; Year
V-578	B-578	Tank	1982	7,900 gal	29.9	Y	Volume < 75 m ³ ; Year
V-590	T-590	Tank	1980	22,000 gal	83.3	Y	Installation Year

Emission Unit ID	Emission Point ID	Description	Year Installed	Design Capacity (gal)	Design Capacity (m ³)	VOL	Subpart Kb non-applicability basis
V-591	T-591	Tank	1980	22,000 gal	83.3	Y	Installation Year
V-592	T-592	Tank	1980	22,000 gal	83.3	Y	Installation Year
V-594	B-594	Tank	1980	100,000 gal	378.5	Y	Installation Year
V-595	B-595	Tank	1980	100,000 gal	378.5	Y	Installation Year
V-599	C-599	Dryer Feed	1980	8,000 gal	30.3	Y	Volume < 75 m ³ ; Year
V-605	B-605	Tank	1981	50,000 gal	189.3	Y	Installation Year
V-610	B-610	Tank	1982	57,000 gal	217.8	Y	Installation Year
V-613	B-613	Mix Tank	1982	5,000 gal	18.9	Y	Installation Year
V-633	C-633	Washer Feed	1985	<19,800 gal	<74.95	Y	Volume < 75 m ³
V-634	C-634	Day Tank	1985	16,900 gal	64	Y	Volume < 75 m ³
V-643	B-643	Tank	2006	100,000 gal	378.5	Y	Volume > 151 m ³ ; Vapor Pressure < 3.5 kPa
V-658	P-658	Tank	1986	50,000 gal	189.3	No	Not a VOL
V-666	B-666	Tank	1987	50,000 gal	189.3	Y	Volume > 151 m ³ ; Vapor Pressure < 3.5 kPa
V-668	C-668	Tank	1988	25,000 gal	94.6	Y	Volume > 75 m ³ and < 151 m ³ ; Vapor Pressure < 15.0 kPa
V-669	C-669	Tank	1988	25,000 gal	94.6	Y	Volume > 75 m ³ and < 151 m ³ ; Vapor Pressure < 15.0 kPa
V-670	C-670	Save All Tank	1992	25,000 gal	94.6	No	Not a VOL
V-671	C-671	Save All Vessel	1996	25,000 gal	94.6	No	Not a VOL
V-675	C-675	Day Tank	1995	25,000 gal	94.6	Y	Volume > 75 m ³ and < 151 m ³ ; Vapor Pressure < 15.0 kPa
V-676	C-676	Day Tank	1995	25,000 gal	94.6	Y	Volume > 75 m ³ and < 151 m ³ ; Vapor Pressure < 15.0 kPa

Emission Unit ID	Emission Point ID	Description	Year Installed	Design Capacity (gal)	Design Capacity (m ³)	VOL	Subpart Kb non-applicability basis
V-700	B-700	Tank	1990	50,000 gal	189.3	Y	Volume > 151 m ³ ; Vapor Pressure < 3.5 kPa
V-702	C-702	Washer Feed	2001	25,000 gal	94.6	Y	Volume > 75 m ³ and < 151 m ³ ; Vapor Pressure < 15.0 kPa
V-725	C-725	Wet Product Storage	2001	13,000 gal	49.2	Y	Volume < 75 m ³
V-735	B-735	Tank	1994	50,000 gal	189.3	Y	Volume > 75 m ³ and < 151 m ³ ; Vapor Pressure < 15.0 kPa
V-744	H-744	Expansion Tank	1996	6,000 gal	22.7	Y	Volume < 75 m ³
V-748	H-748	Expansion Tank	1996	6,000 gal	22.7	Y	Volume < 75 m ³
V-749	H-749	Expansion Tank	1996	6,000 gal	22.7	Y	Volume < 75 m ³
V-753	C-753	Expansion Tank	1995	100 gal	0.38	Y	Volume < 75 m ³

Request for Variances or Alternatives

None.

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Beginning Date: March 26, 2015

Ending Date: April 27, 2015

Point of Contact

All written comments should be addressed to the following individual and office:

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Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Response to Comments (Statement of Basis)

On May 6, 2015 EPA commented on the Draft/Proposed permit and the Fact Sheet via e-mail. The comments were reviewed, summarized and are addressed below:

Permit

- 1) **Comment (Table of Contents, Attachment A of the Consent Order CO-R27-96-29-A(92)):** see comment (3) below.

Response: we'll keep the Attachment A at this time (for detailed explanation please see answer to comment (3) on requirement 4.1.3 below).

- 2) **Comment (Emission Units Table, page 2):** With regard to all the tanks located at this facility, there is no information on whether the material stored in these tanks contains volatile organic compounds, therefore many of these tanks of certain capacities (if they contain volatile organic compounds) may be subject to either 40 CFR 60 Subpart K, Ka or Kb. This must be determined and the applicability or non-applicability documented and explained in the Fact sheet and if applicable, all of the appropriate applicable requirements must be included in the permit

Response: We performed 40CFR60 Subparts K, Ka and Kb applicability determinations for tanks at the facility. Also, two letters were received from the Company via e-mail on June 10 and June 16, 2015 concerning the applicability. As the result of a determination, six (6) tanks at the facility were found to be subject to Subpart Kb. Detailed applicability determination is included with the Fact Sheet, and all applicable requirements are included in the permit under condition 4.2.9.

- 3) **Comment (requirement 4.1.3):** The language in the permit: "The permittee shall abide by all provisions under Attachment A of this Permit, provided that the permittee meet any more stringent limitations set forth in this permit. [45CSR13, R13-2438, 4.1.3]" appears to be not applicable in this permit because the consent decree in attachment A appears to show all the required actions are complete, therefore, DAQ should review the language to verify all the actions have been completed and if so, remove the attachment

Response: Although it seems many of the Attachment A items were completed and many conditions were incorporated into the permit, some items still include on-going limits and work practices the facility should demonstrate compliance with. For example:

- a) On-going cleaning of scrubber packing based on air flow measurements (page 77, item 2a)
- b) Scrubber liquor modification to once through water mode (page 77, 2B1)
- c) Product degradation prevention standards (page 73, 1C)
- d) Acid treatment (page 79, 1B)
- e) EDC carbon treatment controls (page 82, 1D2b)

Therefore, we will keep the Attachment A with the permit at this time.

- 4) **Comment (requirement 4.1.6):** A requirement for a performance test should be included here to verify the flow rates for each scrubber.

Response: R13-2438E set the operating parameters for the scrubbers. Compliance demonstration is achieved by monitoring the liquor flow rates and maintaining them above the minimum established by R13-2438P. This is similar to many MACT standards where the initial test establishes the minimum flow rate and additional testing is not required until a process change is made. Since these rates were already established under the R13 permitting process for R13-2438E issued on August 24, 2009, we don't think

additional testing should be required unless there is a process change. As an additional method to demonstrate compliance with the scrubbers' operations, we revised the existing scrubbers' monitoring condition 4.2.2 (a) to add work practice standards (see item (5) of the "Determinations and Justifications" section).

- 5) **Comment (requirement 4.3.1):** Permit must include a schedule of performance testing as part of this renewal.

Response: After discussion with our enforcement Section, we dropped the first sentence of this requirement as it is obsolete, because all the testing it describes was already performed in the scope of consent order CO-R27-96-29-A(92).

Fact Sheet

- 6) **Comment (Plant-wide Emission Summary):** Based on review of the permit application there are no emissions calculated for HAPs from natural gas combustion for any of the combustion sources at this facility. The total HAPs must be recalculated to include HAPs from natural gas combustion and a redetermination of applicability of any additional MACT standards must be made.

Response: Two letters from the company were received via e-mail on June 5 and July 8, 2015 providing revised HAPs calculations and describing the changes in the facility-wide HAPs. As a result of these calculations, we revised PTE for VOCs, Total HAPs, and individual HAPs (Acetaldehyde, Epichlorohydrin, Ethylene Dichloride, Biphenyl, Cresol, Ethylene Ethers, Ethylene Oxide and Formaldehyde). HAPs from natural gas combustion sources were added (2.17 TPY total HAPs) and HAPs from production of Fyrol CEF (6.17 TPY total HAPs: Ethylene Oxide - 2.49 TPY, Ethylene Dichloride - 2.92 TPY, Formaldehyde - 0.16 TPY, Acetaldehyde 0.60 TPY) were subtracted (because it is no longer used in the product mix), resulting in a decrease of 4 TPY total HAPs. Also, permit R13-2438P was revised in order to remove Fyrol CEF from the requirement 4.1.11.2 (Table 4.1.11.2: Production Unit I/IV Subunit Material Limitations). We also updated the Plant-wide Emission Summary Table to include 2013 Actual Emissions.

- 7) **Comment (Non-Applicability Determinations):** Does not address the applicability of the facility's VOC storage tanks to 40 CFR Subpart K, 40 CFR 60 Subpart Ka, or 40 CFR 60 Subpart Kb.

Response: We've included a discussion of 40 CFR 60 Subparts K, Ka and Kb applicability for the tanks at the facility in the Non-Applicability Determinations section under item 12. Also, we included a discussion of applicability for the six (6) tanks subject to 40 CFR 60 Subpart Kb in the "Determinations and Justifications" section under item 4.