Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

To: Office of Chief Clerk **DATE:** March 14, 2023

From: Bobby Salehi
Staff Attorney
Environmental Law Division

Subject: Backup Documents Filed for Consideration of Hearing Requests at Agenda

Applicant:	Rohm and Haas Texas Incorporated
Proposed Permit No.:	WQ0000458000
Program:	Water
Docket No.:	TCEQ Docket No. 2022-1586-IWD

Enclosed please find a copy of the following documents for inclusion in the background material for this permit application:

- Draft permit
- Statement of Basis/Technical Summary and ED's preliminary decision
- Compliance history report

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
P.O. Box 13087
Austin, Texas 78711-3087

TPDES PERMIT NO. WQ0000458000
[For TCEQ office use only - EPA I.D. No. TX0006084]

This major amendment replaces TPDES Permit No. WQ0000458000, issued on January 19, 2018.

PERMIT TO DISCHARGE WASTES
under provisions of
Section 402 of the Clean Water Act
and Chapter 26 of the Texas Water Code

Rohm and Haas Texas Incorporated

whose mailing address is

1900 Tidal Road
Deer Park, Texas 77536

is authorized to treat and discharge wastes from Rohm and Haas Texas Deer Park Plant, a chemical manufacturing plant that produces bulk and specialty organic chemicals, thermoplastic resins organic chemicals, and hydrogen cyanide (SIC 2869 and 2821)

located at 1900 Tidal Road, north of State Highway 225 and west of State Highway 134, in the City of Deer Park, Harris County, Texas 77536

via Outfalls 001, 009, and 011 directly to the Houston Ship Channel Tidal; via Outfalls 002, and 004 to the Tucker Bayou portion of the Houston Ship Channel Tidal; via Outfall 003 to East Fork Patrick Bayou, thence to Patrick Bayou, thence to the Houston Ship Channel Tidal in Segment No. 1006 of the San Jacinto River Basin

only according to effluent limitations, monitoring requirements, and other conditions set forth in this permit, as well as the rules of the Texas Commission on Environmental Quality (TCEQ), the laws of the State of Texas, and other orders of the TCEQ. The issuance of this permit does not grant to the permittee the right to use private or public property for conveyance of wastewater along the discharge route described in this permit. This includes, but is not limited to, property belonging to any individual, partnership, corporation, or other entity. Neither does this permit authorize any invasion of personal rights nor any violation of federal, state, or local laws or regulations. It is the responsibility of the permittee to acquire property rights as may be necessary to use the discharge route.

This permit shall expire at midnight, five years from the date of permit issuance.

ISSUED DATE:

For the Commission

1. During the period beginning upon the date of permit issuance and lasting through the date of permit expiration, the permittee is authorized to discharge treated process wastewater [1], stormwater, treated utility wastewaters [1], sanitary wastewater, untreated utility wastewater, and stormwater from construction activity subject to the following effluent limitations:

   The daily average flow of effluent shall not exceed 8.4 million gallons per day (MGD).

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average lbs/day	Daily Maximum lbs/day	Single Grab [2] mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type [3]
Flow, MGD [4]	8.4 MGD	Report, MGD	N/A	Continuous	Record
Biochemical Oxygen Demand, 5-Day (BOD_5)	Report	Report	77	2/week	24-hr Composite
Total Suspended Solids (TSS) [5]	Report	Report	160	2/week	24-hr Composite
Ammonia as Nitrogen (NH_3-N)	Report	Report	44	2/week	24-hr Composite
Chemical Oxygen Demand (COD)	Report	Report	600	1/week	24-hr Composite
Total Cyanide	Report	Report	8.33	1/week	Grab
Free Cyanide [6]	4.29	9.04	0.129	1/week	Grab
Copper, total	9.68	22.6	0.422	1/month	24-hr Composite
Nickel, total	11.3	26.6	0.569	1/month	24-hr Composite
Zinc, total	120	254	2.40	1/month	24-hr Composite
Acenaphthene	N/A	Report	0.0325	1/year	24-hr Composite
Acenaphthylene	N/A	Report	0.0325	1/year	24-hr Composite
Acrylonitrile	N/A	Report	0.133	1/year	24-hr Composite
Anthracene	N/A	Report	0.0325	1/year	24-hr Composite
Benzene	N/A	Report	0.0748	1/year	24-hr Composite
Benzo(*a*)anthracene [7]	N/A	Report	0.0325	1/year	24-hr Composite
Benzo(*a*)anthracene [8]	N/A	0.1633	0.005	1/year	24-hr Composite
Benzo(*a*)pyrene [7]	N/A	1.33	0.0287	1/year	24-hr Composite

[1] See Other Requirement No. 15.
[2] If a single grab sample is collected when the diffuser pump capacity is exceeded and there is a discharge via Outfall 009, single grab values specified at Outfall 009 shall apply at Outfall 001 for all parameters except free cyanide, total copper, total nickel, total zinc, benzo(*a*)anthracene, benzo(*a*)pyrene, and hexachlorobenzene.
[3] Composite samples collected proportional to Outfall 001 flow.
[4] In-line magnetic meter, located after the diffuser pump basin and prior to the Outfall 001 diffusers.
[5] Total Suspended Solids to be measured for compliance at the final clarifier.
[6] See Other Requirement No. 3.
[7] Beginning upon the permit issuance date and lasting for a period of two years and eleven months. See Other Requirement No. 10.
[8] Beginning upon two years and eleven months from the date of permit issuance and lasting through the date of permit expiration. See Other Requirement No. 10.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS Outfall Number 001

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average lbs/day	Daily Maximum lbs/day	Single Grab [2] mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type [3]
Benzo(*a*)pyrene [8]	N/A	0.0163	0.005	1/year	24-hr Composite
3,4-Benzofluoranthene	N/A	Report	0.0336	1/year	24-hr Composite
Benzo(*k*)fluoranthene	N/A	Report	0.0325	1/year	24-hr Composite
Bis(2-Ethylhexyl) Phthalate	N/A	Report	0.153	1/year	24-hr Composite
Carbon Tetrachloride	N/A	Report	0.0209	1/year	24-hr Composite
Chlorobenzene	N/A	Report	0.0154	1/year	24-hr Composite
Chloroethane	N/A	Report	0.147	1/year	24-hr Composite
Chloroform	N/A	Report	0.0253	1/year	24-hr Composite
2-Chlorophenol	N/A	Report	0.0539	1/year	24-hr Composite
Chrysene	N/A	Report	0.0325	1/year	24-hr Composite
Di-n-Butyl Phthalate	N/A	Report	0.0314	1/year	24-hr Composite
1,2-Dichlorobenzene	N/A	Report	0.0897	1/year	24-hr Composite
1,3-Dichlorobenzene	N/A	Report	0.0242	1/year	24-hr Composite
1,4-Dichlorobenzene	N/A	Report	0.0154	1/year	24-hr Composite
1,1-Dichloroethane	N/A	Report	0.0325	1/year	24-hr Composite
1,2-Dichloroethane	N/A	Report	0.116	1/year	24-hr Composite
1,1-Dichloroethylene	N/A	Report	0.0138	1/year	24-hr Composite
1,2-trans-Dichloroethylene	N/A	Report	0.0297	1/year	24-hr Composite
2,4-Dichlorophenol	N/A	Report	0.0616	1/year	24-hr Composite
1,2-Dichloropropane	N/A	Report	0.127	1/year	24-hr Composite
1,3-Dichloropropylene	N/A	Report	0.0242	1/year	24-hr Composite
Diethyl Phthalate	N/A	Report	0.0115	1/year	24-hr Composite
2,4-Dimethylphenol	N/A	Report	0.0198	1/year	24-hr Composite
Dimethyl Phthalate	N/A	Report	0.0259	1/year	24-hr Composite
4,6-Dinitro-o-Cresol	N/A	Report	0.152	1/year	24-hr Composite
2,4-Dinitrophenol	N/A	Report	0.0677	1/year	24-hr Composite
2,4-Dinitrotoluene	N/A	Report	0.157	1/year	24-hr Composite
2,6-Dinitrotoluene	N/A	Report	0.353	1/year	24-hr Composite
Ethylbenzene	N/A	Report	0.0594	1/year	24-hr Composite
Fluoranthene	N/A	Report	0.0374	1/year	24-hr Composite
Fluorene	N/A	Report	0.0325	1/year	24-hr Composite
Hexachlorobenzene [7]	0.0084	0.0182	0.005	1/year	24-hr Composite
Hexachlorobenzene [8]	0.00210	0.00444	0.005	1/year	24-hr Composite
Hexachlorobutadiene	N/A	Report	0.0270	1/year	24-hr Composite
Hexachloroethane	N/A	Report	0.0297	1/year	24-hr Composite

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average lbs/day	Daily Maximum lbs/day	Single Grab [2] mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type [3]
Methyl Chloride	N/A	Report	0.105	1/year	24-hr Composite
Methylene Chloride	N/A	Report	0.0490	1/year	24-hr Composite
Naphthalene	N/A	Report	0.0325	1/year	24-hr Composite
Nitrobenzene	N/A	Report	0.0374	1/year	24-hr Composite
2-Nitrophenol	N/A	Report	0.0380	1/year	24-hr Composite
4-Nitrophenol	N/A	Report	0.0682	1/year	24-hr Composite
Phenanthrene	N/A	Report	0.0325	1/year	24-hr Composite
Phenol	N/A	Report	0.0143	1/year	24-hr Composite
Pyrene	N/A	Report	0.0369	1/year	24-hr Composite
Tetrachloroethylene	N/A	Report	0.0308	1/year	24-hr Composite
Toluene	N/A	Report	0.0440	1/year	24-hr Composite
1,2,4-Trichlorobenzene	N/A	Report	0.0770	1/year	24-hr Composite
1,1,1-Trichloroethane	N/A	Report	0.0297	1/year	24-hr Composite
1,1,2-Trichloroethane	N/A	Report	0.0297	1/year	24-hr Composite
Trichloroethylene	N/A	Report	0.0297	1/year	24-hr Composite
Vinyl Chloride	N/A	Report	0.147	1/year	24-hr Composite
Enterococci (CFU or MPN/100 mL) [9]	168	500	500	2/month	Grab

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored continuously and recorded. See Other Requirement No. 6.

3. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

4. Effluent monitoring samples shall be taken at the following location: At Outfall 001, at the diffuser pump basin located downstream from the effluent from the West Wastewater Treatment Plant (WWTP), after commingling with untreated utility wastewaters and prior to discharge to the Houston Ship Channel Tidal.

[9] Colony-forming units (CFU) or most probable number (MPN) per 100 mL. Enterococci shall be monitored at the influent to the open basins, after all sanitary wastewater enters the treatment plant and prior to discharge to the Houston Ship Channel Tidal.

1. During the period beginning upon the date of permit issuance and lasting through the date of permit expiration, the permittee is authorized to discharge utility wastewater (only during stormwater events) via Outfalls 002 and 003 (utility wastewater consists primarily of boiler blowdown, condensate and cooling tower blowdown), and nonprocess area stormwater, hydrostatic test water from clean tankage, and stormwater from construction activity via Outfalls 002, 003, and 004 on an intermittent and flow-variable basis subject to the following effluent limitations:

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average	Daily Maximum	Single Grab	Report Daily Average and Daily Maximum	
	mg/L	mg/L	mg/L	Measurement Frequency	Sample Type
Flow, MGD	N/A	Report	N/A	1/Day [1]	Estimate
Total Organic Carbon (TOC)	N/A	75	75	1/Day [1]	Grab
Oil and Grease	N/A	15	15	1/Month [1]	Grab

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/day (when discharge occurs), by grab sample.

3. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

4. Effluent monitoring samples shall be taken at the following locations:

Outfall 002: at the overflow weir prior to discharge to the ditch leading to Tucker Bayou.

Outfall 003: at the Parshall flume located on the west side of the plant approximately 500 feet west of the main substation and prior to discharge to East Fork Patrick Bayou.

Outfall 004: at the Dock Road - Tank Farm area discharge point prior to discharge to Tucker Bayou.

[1] When discharge occurs.

1. During the period beginning upon the date of permit issuance and lasting through the date of permit expiration, the permittee shall comply with Outfall 008 requirements. Outfall 008 is a reporting outfall created for the purpose of regulating the sum of ammonia as nitrogen discharged via Outfalls 001, 009, and 011.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average	Daily Maximum	Single Grab	Report Daily Average and Daily Maximum	
	lbs/day	lbs/day	mg/L	Measurement Frequency	Sample Type
Ammonia as Nitrogen (NH_3-N)	1,116	2,224	N/A	- [1]	- [2]

2. Effluent monitoring samples shall be taken at the following locations: sampling locations applicable to Outfalls 001, 009, and 011, which comprise Outfall 008 for reporting purposes, are specified at each individual outfall.

[1] The monitoring frequencies applicable to Outfalls 001, 009, and 011, which comprise Outfall 008 for reporting purposes, are specified at each individual outfall.

[2] The daily pollutant mass discharge at Outfall 008 is defined as the arithmetic sum of the daily pollutant mass discharges from Outfalls 001, 009, and 011, occurring during the same 24-hour sampling period.

1. During the period beginning upon the date of permit issuance and lasting through the date of permit expiration, the permittee is authorized to discharge (primarily when the diffuser sump pump capacity is exceeded at Outfall 001 or other emergency discharge situations occur) treated process wastewater [1], stormwater, treated utility wastewaters [1], sanitary wastewater, untreated utility wastewater, and stormwater from construction activity on an intermittent and flow-variable basis subject to the following effluent limitations:

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average	Daily Maximum	Single Grab	Report Daily Average and Daily Maximum	
	lbs/day	lbs/day	mg/L	Measurement Frequency	Sample Type [2]
Flow, MGD [3]	Report	Report	N/A	Continuous	Record
Total Copper	N/A	3.18 (Report mg/L)	0.091	2/Month [4]	24-hr Composite
Biochemical Oxygen Demand, 5-Day (BOD_5)	N/A	Report	77	1/Year [4]	24-hr Composite
Total Suspended Solids (TSS)	N/A	Report	N/A	1/Year [4]	24-hr Composite
Chemical Oxygen Demand (COD)	N/A	Report	600	1/Year [4]	24-hr Composite
Ammonia as Nitrogen (NH_3-N)	N/A	Report	44	1/Year [4]	24-hr Composite
Total Cyanide	N/A	Report	8.33	1/Year [4]	Grab
Free Cyanide [5]	N/A	0.647 (Report mg/L)	0.009	1/Year [4]	Grab
Total Nickel	N/A	10.8 (Report mg/L)	0.308	1/Year [4]	24-hr Composite
Total Zinc	N/A	17.4 (Report mg/L)	0.496	1/Year [4]	24-hr Composite
Acenaphthene	N/A	Report	0.0325	1/Year [4]	24-hr Composite
Acenaphthylene	N/A	Report	0.0325	1/Year [4]	24-hr Composite
Acrylonitrile	N/A	Report	0.133	1/Year [4]	24-hr Composite
Anthracene	N/A	Report	0.0325	1/Year [4]	24-hr Composite
Benzene	N/A	Report	0.0748	1/Year [4]	24-hr Composite
Benzo(*a*)anthracene [6]	N/A	1.36 (Report mg/L)	0.0781	1/Year [4]	24-hr Composite
Benzo(*a*)anthracene [7]	N/A	0.120 (Report mg/L)	0.005	1/Year [4]	24-hr Composite
Benzo(*a*)pyrene [6]	N/A	0.831 (Report mg/L)	0.0781	1/Year [4]	24-hr Composite
Benzo(*a*)pyrene [7]	N/A	0.0120 (Report mg/L)	0.005	1/Year [4]	24-hr Composite

[1] See Other Requirement No. 15.
[2] Composite samples collected proportional to Outfall 009 flow when Outfall 009 discharges are greater than six hours in duration.
[3] The weir and secondary measuring device measuring the overflow from the diffuser pump basin.
[4] Sampling and analysis shall be in accordance with Other Requirement No. 12.
[5] See Other Requirement No. 3.
[6] Beginning upon the permit issuance date and lasting for a period of two years and eleven months. See Other Requirement No. 10.
[7] Beginning two years and eleven months from the permit issuance date and lasting through the date of permit expiration. See Other Requirement No. 10.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average	Daily Maximum	Single Grab	Report Daily Average and Daily Maximum	
	lbs/day	lbs/day	mg/L	Measurement Frequency	Sample Type [2]
3,4-Benzofluoranthene	N/A	Report	0.0336	1/Year [4]	24-hr Composite
Benzo(*k*)fluoranthene	N/A	Report	0.0325	1/Year [4]	24-hr Composite
Bis(2-Ethylhexyl) Phthalate	N/A	Report	0.153	1/Year [4]	24-hr Composite
Carbon Tetrachloride	N/A	Report	0.0209	1/Year [4]	24-hr Composite
Chlorobenzene	N/A	Report	0.0154	1/Year [4]	24-hr Composite
Chloroethane	N/A	Report	0.147	1/Year [4]	24-hr Composite
Chloroform	N/A	Report	0.0253	1/Year [4]	24-hr Composite
2-Chlorophenol	N/A	Report	0.0539	1/Year [4]	24-hr Composite
Chrysene	N/A	Report	0.0325	1/Year [4]	24-hr Composite
Di-n-Butyl Phthalate	N/A	Report	0.0314	1/Year [4]	24-hr Composite
1,2-Dichlorobenzene	N/A	Report	0.0897	1/Year [4]	24-hr Composite
1,3-Dichlorobenzene	N/A	Report	0.0242	1/Year [4]	24-hr Composite
1,4-Dichlorobenzene	N/A	Report	0.0154	1/Year [4]	24-hr Composite
1,1-Dichloroethane	N/A	Report	0.0325	1/Year [4]	24-hr Composite
1,2-Dichloroethane	N/A	Report	0.116	1/Year [4]	24-hr Composite
1,1-Dichloroethylene	N/A	Report	0.0138	1/Year [4]	24-hr Composite
1,2-trans-Dichloroethylene	N/A	Report	0.0297	1/Year [4]	24-hr Composite
2,4-Dichlorophenol	N/A	Report	0.0616	1/Year [4]	24-hr Composite
1,2-Dichloropropane	N/A	Report	0.127	1/Year [4]	24-hr Composite
1,3-Dichloropropylene	N/A	Report	0.0242	1/Year [4]	24-hr Composite
Diethyl Phthalate	N/A	Report	0.0115	1/Year [4]	24-hr Composite
2,4-Dimethylphenol	N/A	Report	0.0198	1/Year [4]	24-hr Composite
Dimethyl Phthalate	N/A	Report	0.0259	1/Year [4]	24-hr Composite
4,6-Dinitro-o-Cresol	N/A	Report	0.152	1/Year [4]	24-hr Composite
2,4-Dinitrophenol	N/A	Report	0.0677	1/Year [4]	24-hr Composite
2,4-Dinitrotoluene	N/A	Report	0.157	1/Year [4]	24-hr Composite
2,6-Dinitrotoluene	N/A	Report	0.353	1/Year [4]	24-hr Composite
Ethylbenzene	N/A	Report	0.0594	1/Year [4]	24-hr Composite
Fluoranthene	N/A	Report	0.0374	1/Year [4]	24-hr Composite
Fluorene	N/A	Report	0.0325	1/Year [4]	24-hr Composite
Hexachlorobenzene [6]	N/A	0.0113 (Report mg/L)	0.0050	1/Year [4]	24-hr Composite
Hexachlorobenzene [7]	N/A	0.0033 (Report mg/L)	0.0050	1/Year [4]	24-hr Composite

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average	Daily Maximum	Single Grab	Report Daily Average and Daily Maximum	
	lbs/day	lbs/day	mg/L	Measurement Frequency	Sample Type [2]
Hexachlorobutadiene [6]	N/A	Report	0.0277	1/Year [4]	24-hr Composite
Hexachlorobutadiene [7]	N/A	1.06 (Report mg/L)	0.0254	1/Year [4]	24-hr Composite
Hexachloroethane	N/A	Report	0.0297	1/Year [4]	24-hr Composite
Methyl Chloride	N/A	Report	0.105	1/Year [4]	24-hr Composite
Methylene Chloride	N/A	Report	0.049	1/Year [4]	24-hr Composite
Naphthalene	N/A	Report	0.0325	1/Year [4]	24-hr Composite
Nitrobenzene	N/A	Report	0.0374	1/Year [4]	24-hr Composite
2-Nitrophenol	N/A	Report	0.038	1/Year [4]	24-hr Composite
4-Nitrophenol	N/A	Report	0.0682	1/Year [4]	24-hr Composite
Phenanthrene	N/A	0.890 (Report mg/L)	0.0325	1/Year [4]	24-hr Composite
Phenol	N/A	Report	0.0143	1/Year [4]	24-hr Composite
Pyrene	N/A	Report	0.0369	1/Year [4]	24-hr Composite
Tetrachloroethylene	N/A	Report	0.0308	1/Year [4]	24-hr Composite
Toluene	N/A	Report	0.044	1/Year [4]	24-hr Composite
1,2,4-Trichlorobenzene	N/A	Report	0.077	1/Year [4]	24-hr Composite
1,1,1-Trichloroethane	N/A	Report	0.0297	1/Year [4]	24-hr Composite
1,1,2-Trichloroethane	N/A	Report	0.0297	1/Year [4]	24-hr Composite
Trichloroethylene	N/A	Report	0.0297	1/Year [4]	24-hr Composite
Vinyl Chloride	N/A	Report	0.147	1/Year [4]	24-hr Composite

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored continuously and recorded. See Other Requirement No. 6. If sampling is conducted at the Outfall 001 sampling location, pH shall be monitored continuously and recorded. If sampling is conducted at the discharge from the Outfall 009 weir, pH shall be monitored each discharge day, by grab sample.

3. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

4. Effluent monitoring samples shall be taken at the following location: Outfall 009 deemed the same as the Outfall 001 sampling location or the effluent from the Outfall 009 weir box [3].

1. During the period beginning upon the date of permit issuance and lasting through the date of permit expiration, the permittee shall comply with Outfall 010 requirements. Outfall 010 is a reporting outfall created for the purpose of regulating the sum of pollutants discharged via Outfalls 001 and 009.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average	Daily Maximum	Single Grab	Report Daily Average and Daily Maximum	
	lbs/day	lbs/day	mg/L	Measurement Frequency	Sample Type
Biochemical Oxygen Demand, 5-Day (BOD_5)	1,575	3,928	N/A	- [1]	- [2]
Total Suspended Solids (TSS) [3]	5,698	17,036	N/A	- [1]	- [2]
Chemical Oxygen Demand (COD)	14,020	28,040	N/A	- [1]	- [2]
Total Cyanide	207	584	N/A	- [1]	- [2]
Acenaphthene	0.565	1.52	N/A	- [1]	- [2]
Acenaphthylene	0.565	1.52	N/A	- [1]	- [2]
Acrylonitrile	2.47	6.22	N/A	- [1]	- [2]
Anthracene	0.565	1.52	N/A	- [1]	- [2]
Benzene	0.951	3.50	N/A	- [1]	- [2]
3,4-Benzofluoranthene	0.591	1.57	N/A	- [1]	- [2]
Benzo(k)fluoranthene	0.565	1.52	N/A	- [1]	- [2]
Bis(2-Ethylhexyl) Phthalate	2.65	7.17	N/A	- [1]	- [2]
Carbon Tetrachloride	0.463	0.977	N/A	- [1]	- [2]
Chlorobenzene	0.386	0.720	N/A	- [1]	- [2]
Chloroethane	2.67	6.89	N/A	- [1]	- [2]
Chloroform	0.540	1.18	N/A	- [1]	- [2]
2-Chlorophenol	0.797	2.52	N/A	- [1]	- [2]
Chrysene	0.565	1.52	N/A	- [1]	- [2]
Di-n-Butyl Phthalate	0.694	1.47	N/A	- [1]	- [2]
1,2-Dichlorobenzene	1.98	4.19	N/A	- [1]	- [2]
1,3-Dichlorobenzene	0.797	1.13	N/A	- [1]	- [2]
1,4-Dichlorobenzene	0.386	0.720	N/A	- [1]	- [2]
1,1-Dichloroethane	0.565	1.52	N/A	- [1]	- [2]

[1] The monitoring frequencies applicable to Outfalls 001 and 009 which comprise Outfall 010 for reporting purposes are specified at each individual outfall.
[2] The sample type is specified at each individual outfall. The daily pollutant mass discharged at Outfall 010 is defined as the arithmetic sum of the daily pollutant mass discharged from Outfalls 001 and 009 occurring during the same 24-hour sampling period, unless otherwise noted.
[3] Total suspended solids to be measured for compliance at the final clarifier.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average	Daily Maximum	Single Grab	Report Daily Average and Daily Maximum	
	lbs/day	lbs/day	mg/L	Measurement Frequency	Sample Type
1,2-Dichloroethane	1.75	5.42	N/A	- [1]	- [2]
1,1-Dichloroethylene	0.411	0.643	N/A	- [1]	- [2]
1,2-trans-Dichloroethylene	0.540	1.39	N/A	- [1]	- [2]
2,4-Dichlorophenol	1.00	2.88	N/A	- [1]	- [2]
1,2-Dichloropropane	3.93	5.91	N/A	- [1]	- [2]
1,3-Dichloropropylene	0.745	1.13	N/A	- [1]	- [2]
Diethyl Phthalate	2.08	5.22	N/A	- [1]	- [2]
2,4-Dimethylphenol	0.463	0.925	N/A	- [1]	- [2]
Dimethyl Phthalate	0.488	1.21	N/A	- [1]	- [2]
4,6-Dinitro-o-Cresol	2.01	7.12	N/A	- [1]	- [2]
2,4-Dinitrophenol	1.83	3.16	N/A	- [1]	- [2]
2,4-Dinitrotoluene	2.90	7.33	N/A	- [1]	- [2]
2,6-Dinitrotoluene	6.55	16.5	N/A	- [1]	- [2]
Ethylbenzene	0.822	2.78	N/A	- [1]	- [2]
Fluoranthene	0.643	1.75	N/A	- [1]	- [2]
Fluorene	0.565	1.52	N/A	- [1]	- [2]
Hexachlorobutadiene	0.514	1.26	N/A	- [1]	- [2]
Hexachloroethane	0.540	1.39	N/A	- [1]	- [2]
Methyl Chloride	2.21	4.88	N/A	- [1]	- [2]
Methylene Chloride	1.03	2.29	N/A	- [1]	- [2]
Naphthalene	0.565	1.52	N/A	- [1]	- [2]
Nitrobenzene	0.694	1.75	N/A	- [1]	- [2]
2-Nitrophenol	1.05	1.77	N/A	- [1]	- [2]
4-Nitrophenol	1.85	3.19	N/A	- [1]	- [2]
Phenanthrene	0.565	1.52	N/A	- [1]	- [2]
Phenol	0.386	0.668	N/A	- [1]	- [2]
Pyrene	0.643	1.72	N/A	- [1]	- [2]
Tetrachoroethylene	0.565	1.44	N/A	- [1]	- [2]
Toluene	0.668	2.06	N/A	- [1]	- [2]
1,2,4-Trichlorobenzene	1.75	3.60	N/A	- [1]	- [2]
1,1,1-Trichloroethane	0.540	1.39	N/A	- [1]	- [2]
1,1,2-Trichloroethane	0.540	1.39	N/A	- [1]	- [2]
Trichloroethylene	0.540	1.39	N/A	- [1]	- [2]
Vinyl Chloride	2.67	6.89	N/A	- [1]	- [2]

2. Effluent monitoring samples shall be taken at the following locations: sampling locations applicable to Outfalls 001 and 009 which comprise Outfall 010 for reporting purposes are specified at each individual outfall.

1. During the period beginning upon the date of permit issuance and lasting through the date of permit expiration, the permittee is authorized to discharge treated process wastewater [1], stormwater, treated utility wastewaters [1], sanitary wastewater, untreated utility wastewater, and stormwater from construction activity subject to the following effluent limitations:

   The daily average flow of effluent shall not exceed 2.5 million gallons per day (MGD). The total volume discharged during any 24-hour period shall not exceed 4.2 MGD as dry weather conditions.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average	Daily Maximum	Single Grab	Report Daily Average and Daily Maximum	
	lbs/day	lbs/day	mg/L	Measurement Frequency	Sample Type [2]
Flow	2.5 MGD	4.2 MGD	N/A	Continuous	Record
Biochemical Oxygen Demand, 5-Day (BOD_5)	289	752	72	2/Week	24-hr Composite
Total Suspended Solids (TSS) [3]	530	1,631	156	2/Week	24-hr Composite
Ammonia as Nitrogen (NH_3-N)	Report	Report	59	2/Week	24-hr Composite
Free Cyanide [4]	0.183	0.386	0.0185	1/Month	Grab
Total Copper [5]	Report	Report	N/A	1/Month	24-hr Composite
Total Copper [6]	0.901	1.91	0.183	1/Month	24-hr Composite
Total Nickel [5]	Report	Report	N/A	1/Month	24-hr Composite
Total Nickel [6]	3.05	6.47	0.620	1/Month	24-hr Composite
Chemical Oxygen Demand (COD)	2,983	5,988	431	1/Year	24-hr Composite
Oil and Grease	N/A	Report	15	1/Year	Grab
Acenaphthene	0.198	0.531	0.038	1/Year	24-hr Composite
Acenaphthylene	0.198	0.531	0.038	1/Year	24-hr Composite
Acrylonitrile	0.865	2.18	0.156	1/Year	24-hr Composite
Anthracene	0.198	0.531	0.038	1/Year	24-hr Composite
Benzene	0.333	1.22	0.0882	1/Year	24-hr Composite
Benzo(*a*)anthracene [5]	0.198	0.531	0.038	1/Year	24-hr Composite
Benzo(*a*)anthracene [6]	0.0178	0.0376	0.005	1/Year	24-hr Composite
Benzo(*a*)pyrene [5]	0.207	0.497	0.0356	1/Year	24-hr Composite
Benzo(*a*)pyrene [6]	0.0018	0.0038	0.005	1/Year	24-hr Composite

[1] See Other Requirement No. 15.
[2] Composite samples collected proportional to Outfall 011 flow.
[3] Total Suspended Solids to be measured for compliance at the reaeration ladder.
[4] See Other Requirement No. 3.
[5] Beginning upon the permit issuance date and lasting for a period of two years and eleven months. See Other Requirement No. 10.
[6] Beginning two years and eleven months from the permit issuance date and lasting through the date of permit expiration. See Other Requirement No. 10.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average	Daily Maximum	Single Grab	Report Daily Average and Daily Maximum	
	lbs/day	lbs/day	mg/L	Measurement Frequency	Sample Type [2]
3,4-Benzofluoranthene	0.207	0.549	0.0393	1/Year	24-hr Composite
Benzo(*k*)fluoranthene	0.198	0.531	0.038	1/Year	24-hr Composite
Bis(2-Ethylhexyl) Phthalate	0.928	2.51	0.180	1/Year	24-hr Composite
Carbon Tetrachloride	0.162	0.342	0.0244	1/Year	24-hr Composite
Chlorobenzene	0.135	0.252	0.018	1/Year	24-hr Composite
Chloroethane	0.937	2.41	0.173	1/Year	24-hr Composite
Chloroform	0.189	0.414	0.0296	1/Year	24-hr Composite
2-Chlorophenol	0.279	0.883	0.0637	1/Year	24-hr Composite
Chrysene	0.198	0.531	0.038	1/Year	24-hr Composite
Di-n-Butyl Phthalate	0.243	0.513	0.0367	1/Year	24-hr Composite
1,2-Dichlorobenzene	0.694	1.46	0.105	1/Year	24-hr Composite
1,3-Dichlorobenzene	0.279	0.396	0.0283	1/Year	24-hr Composite
1,4-Dichlorobenzene	0.135	0.252	0.018	1/Year	24-hr Composite
1,1-Dichloroethane	0.198	0.531	0.038	1/Year	24-hr Composite
1,2-Dichloroethane	0.612	1.90	0.0908	1/Year	24-hr Composite
1,1-Dichloroethylene	0.144	0.225	0.0161	1/Year	24-hr Composite
1,2-trans-Dichloroethylene	0.189	0.486	0.0347	1/Year	24-hr Composite
2,4-Dichlorophenol	0.351	1.00	0.0728	1/Year	24-hr Composite
1,2-Dichloropropane	1.37	2.07	0.148	1/Year	24-hr Composite
1,3-Dichloropropylene	0.261	0.396	0.0283	1/Year	24-hr Composite
Diethyl Phthalate	0.730	1.82	0.131	1/Year	24-hr Composite
2,4-Dimethylphenol	0.162	0.324	0.0231	1/Year	24-hr Composite
Dimethyl Phthalate	0.171	0.423	0.0302	1/Year	24-hr Composite
4,6-Dinitro-o-Cresol	0.703	2.49	0.179	1/Year	24-hr Composite
2,4-Dinitrophenol	0.640	1.10	0.0799	1/Year	24-hr Composite
2,4-Dinitrotoluene	1.01	2.56	0.184	1/Year	24-hr Composite
2,6-Dinitrotoluene	2.29	5.77	0.414	1/Year	24-hr Composite
Ethylbenzene	0.288	0.973	0.112	1/Year	24-hr Composite
Fluoranthene	0.225	0.612	0.0438	1/Year	24-hr Composite
Fluorene	0.198	0.531	0.038	1/Year	24-hr Composite
Hexachlorobenzene [5]	0.0032	0.0067	0.0086	1/Year	24-hr Composite
Hexachlorobenzene [6]	0.0005	0.0010	0.005	1/Year	24-hr Composite
Hexachlorobutadiene [5]	0.180	0.441	0.0315	1/Year	24-hr Composite
Hexachlorobutadiene [6]	0.157	0.332	0.0315	1/Year	24-hr Composite
Hexachloroethane	0.189	0.486	0.0347	1/Year	24-hr Composite

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average	Daily Maximum	Single Grab	Report Daily Average and Daily Maximum	
	lbs/day	lbs/day	mg/L	Measurement Frequency	Sample Type [2]
Methyl Chloride	0.775	1.71	0.123	1/Year	24-hr Composite
Methylene Chloride	0.360	0.802	0.0573	1/Year	24-hr Composite
Naphthalene	0.198	0.531	0.0380	1/Year	24-hr Composite
Nitrobenzene	0.243	0.612	0.0438	1/Year	24-hr Composite
2-Nitrophenol	0.369	0.622	0.0444	1/Year	24-hr Composite
4-Nitrophenol	0.649	1.11	0.0805	1/Year	24-hr Composite
Phenanthrene	0.198	0.531	0.0380	1/Year	24-hr Composite
Phenol	0.135	0.234	0.0167	1/Year	24-hr Composite
Pyrene	0.225	0.603	0.0431	1/Year	24-hr Composite
Tetrachloroethylene	0.198	0.504	0.0360	1/Year	24-hr Composite
Toluene	0.234	0.721	0.0515	1/Year	24-hr Composite
1,2,4-Trichlorobenzene	0.612	1.26	0.0908	1/Year	24-hr Composite
1,1,1-Trichloroethane	0.189	0.486	0.0347	1/Year	24-hr Composite
1,1,2-Trichloroethane	0.189	0.486	0.0347	1/Year	24-hr Composite
Trichloroethylene	0.189	0.486	0.0347	1/Year	24-hr Composite
Vinyl Chloride	0.937	2.41	0.173	1/Year	24-hr Composite
Enterococci (CFU or MPN/100 mL) [7]	168	500	500	2/month	Grab
Lethal Whole Effluent Toxicity (WET) limit 8% (Parameter 51713) [8]					
Mysidopsis bahia					
(7-day Chronic NOEC)	8%	8%		1/quarter	24-hr Composite
Lethal Whole Effluent Toxicity (WET) limit 8% (Parameter 51712) [8]					
Menidia beryllina					
(7-day Chronic NOEC)	8%	8%		1/quarter	24-hr Composite

[7] Colony-forming units (CFU) or most probable number (MPN) per 100 mL. Enterococci shall be monitored at the influent to the open basins, after all sanitary wastewater enters the treatment plant and prior to discharge to the Houston Ship Channel Tidal.

[8] The lethal No Observed Effect Concentration (NOEC) of 8% is effective at the permit issuance date. The NOEC is defined as the greatest effluent dilution at which no significant lethality is demonstrated. Significant lethality is defined as a statistically significant difference between a specified effluent dilution and the control for lethal effects (i.e., between the survival of the test organism in a specified effluent dilution when compared to the survival of the test organism in the control).

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored continuously and recorded. See Other Requirement No. 6.

3. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

4. Effluent monitoring samples shall be taken at the following location: At Outfall 011, downstream from the final treatment unit of the East Wastewater Treatment Plant (EWTP), after commingling with all other wastestreams discharged through this outfall and prior to discharge to the Houston Ship Channel Tidal.

DEFINITIONS AND STANDARD PERMIT CONDITIONS

As required by Title 30 Texas Administrative Code (TAC) Chapter 305, certain regulations appear as standard conditions in waste discharge permits. 30 TAC §§305.121 - 305.129 (relating to Permit Characteristics and Conditions) as promulgated under the Texas Water Code (TWC) §§5.103 and 5.105, and the Texas Health and Safety Code (THSC) §§361.017 and 361.024(a), establish the characteristics and standards for waste discharge permits, including sewage sludge, and those sections of 40 Code of Federal Regulations (CFR) Part 122 adopted by reference by the Commission. The following text includes these conditions and incorporates them into this permit. All definitions in Texas Water Code §26.001 and 30 TAC Chapter 305 shall apply to this permit and are incorporated by reference. Some specific definitions of words or phrases used in this permit are as follows:

1. Flow Measurements

   a. Annual average flow - the arithmetic average of all daily flow determinations taken within the preceding 12 consecutive calendar months. The annual average flow determination shall consist of daily flow volume determinations made by a totalizing meter, charted on a chart recorder, and limited to major domestic wastewater discharge facilities with a one million gallons per day or greater permitted flow.

   b. Daily average flow - the arithmetic average of all determinations of the daily flow within a period of one calendar month. The daily average flow determination shall consist of determinations made on at least four separate days. If instantaneous measurements are used to determine the daily flow, the determination shall be the arithmetic average of all instantaneous measurements taken during that month. Daily average flow determination for intermittent discharges shall consist of a minimum of three flow determinations on days of discharge.

   c. Daily maximum flow - the highest total flow for any 24-hour period in a calendar month.

   d. Instantaneous flow - the measured flow during the minimum time required to interpret the flow measuring device.

   e. 2-hour peak flow (domestic wastewater treatment plants) - the maximum flow sustained for a two-hour period during the period of daily discharge. The average of multiple measurements of instantaneous maximum flow within a two-hour period may be used to calculate the 2-hour peak flow.

   f. Maximum 2-hour peak flow (domestic wastewater treatment plants) - the highest 2-hour peak flow for any 24-hour period in a calendar month.

2. Concentration Measurements

   a. Daily average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar month, consisting of at least four separate representative measurements.

      i. For domestic wastewater treatment plants - When four samples are not available in a calendar month, the arithmetic average (weighted by flow) of all values in the previous four consecutive month period consisting of at least four measurements shall be utilized as the daily average concentration.

      ii. For all other wastewater treatment plants - When four samples are not available in a calendar month, the arithmetic average (weighted by flow) of all values taken during the month shall be utilized as the daily average concentration.

   b. 7-day average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar week, Sunday through Saturday.

   c. Daily maximum concentration - the maximum concentration measured on a single day, by the sample type specified in the permit, within a period of one calendar month.

   d. Daily discharge - the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in terms of mass, the “daily discharge” is calculated as the total

mass of the pollutant discharged over the sampling day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the sampling day.

The "daily discharge" determination of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the "daily discharge" determination of concentration shall be the arithmetic average (weighted by flow value) of all samples collected during that day.

e. Bacteria concentration (Fecal coliform, *E. coli*, or Enterococci) – the number of colonies of bacteria per 100 milliliters effluent. The daily average bacteria concentration is a geometric mean of the values for the effluent samples collected in a calendar month. The geometric mean shall be determined by calculating the nth root of the product of all measurements made in a calendar month, where n equals the number of measurements made; or computed as the antilogarithm of the arithmetic mean of the logarithms of all measurements made in a calendar month. For any measurement of bacteria equaling zero, a substitute value of one shall be made for input into either computation method. If specified, the 7-day average for bacteria is the geometric mean of the values for all effluent samples collected during a calendar week.

f. Daily average loading (lbs/day) - the arithmetic average of all daily discharge loading calculations during a period of one calendar month. These calculations must be made for each day of the month that a parameter is analyzed. The daily discharge, in terms of mass (lbs/day), is calculated as (Flow, MGD × Concentration, mg/L × 8.34).

g. Daily maximum loading (lbs/day) - the highest daily discharge, in terms of mass (lbs/day), within a period of one calendar month.

3. Sample Type

   a. Composite sample - For domestic wastewater, a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected at the intervals required by 30 TAC §319.9(a). For industrial wastewater, a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected at the intervals required by 30 TAC §319.9(c).

   b. Grab sample - an individual sample collected in less than 15 minutes.

4. Treatment Facility (facility) - wastewater facilities used in the conveyance, storage, treatment, recycling, reclamation or disposal of domestic sewage, industrial wastes, agricultural wastes, recreational wastes, or other wastes including sludge handling or disposal facilities under the jurisdiction of the Commission.

5. The term "sewage sludge" is defined as solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in 30 TAC Chapter 312. This includes the solids that have not been classified as hazardous waste separated from wastewater by unit processes.

6. Bypass - the intentional diversion of a waste stream from any portion of a treatment facility.

MONITORING AND REPORTING REQUIREMENTS

1. Self-Reporting

   Monitoring results shall be provided at the intervals specified in the permit. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall conduct effluent sampling and reporting in accordance with 30 TAC §§319.4 - 319.12. Unless otherwise specified, effluent monitoring data shall be submitted each month, to the Enforcement Division (MC 224), by the 20th day of the following month for each discharge that is described by this permit whether or not a discharge is made for that month. Monitoring results must be submitted online using the NetDMR reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver. Monitoring results must be signed and certified as required by Monitoring and Reporting Requirements No. 10.

As provided by state law, the permittee is subject to administrative, civil and criminal penalties, as applicable, for negligently or knowingly violating the Clean Water Act; TWC Chapters 26, 27, and 28; and THSC Chapter 361, including but not limited to knowingly making any false statement, representation, or certification on any report, record, or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, or falsifying, tampering with or knowingly rendering inaccurate any monitoring device or method required by this permit or violating any other requirement imposed by state or federal regulations.

2. Test Procedures

   a. Unless otherwise specified in this permit, test procedures for the analysis of pollutants shall comply with procedures specified in 30 TAC §§319.11 - 319.12. Measurements, tests, and calculations shall be accurately accomplished in a representative manner.

   b. All laboratory tests submitted to demonstrate compliance with this permit must meet the requirements of 30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.

3. Records of Results

   a. Monitoring samples and measurements shall be taken at times and in a manner so as to be representative of the monitored activity.

   b. Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), monitoring and reporting records, including strip charts and records of calibration and maintenance, copies of all records required by this permit, records of all data used to complete the application for this permit, and the certification required by 40 CFR §264.73(b)(9) shall be retained at the facility site, or shall be readily available for review by a TCEQ representative for a period of three years from the date of the record or sample, measurement, report, application or certification. This period shall be extended at the request of the Executive Director.

   c. Records of monitoring activities shall include the following:

      i. date, time, and place of sample or measurement;
      ii. identity of individual who collected the sample or made the measurement;
      iii. date and time of analysis;
      iv. identity of the individual and laboratory who performed the analysis;
      v. the technique or method of analysis; and
      vi. the results of the analysis or measurement and quality assurance/quality control records.

      The period during which records are required to be kept shall be automatically extended to the date of the final disposition of any administrative or judicial enforcement action that may be instituted against the permittee.

4. Additional Monitoring by Permittee

   If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit using approved analytical methods as specified above, all results of such monitoring shall be included in the calculation and reporting of the values submitted on the approved self-report form. Increased frequency of sampling shall be indicated on the self-report form.

5. Calibration of Instruments

   All automatic flow measuring or recording devices and all totalizing meters for measuring flows shall be accurately calibrated by a trained person at plant start-up and as often thereafter as necessary to ensure accuracy, but not less often than annually unless authorized by the Executive Director for a longer period. Such person shall verify in writing that the device is operating properly and giving accurate results. Copies of the verification shall be retained at the facility site or shall be readily available for review by a TCEQ representative for a period of three years.

6. Compliance Schedule Reports

   Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date to the regional office and the Enforcement Division (MC 224).

7. Noncompliance Notification

   a. In accordance with 30 TAC §305.125(9) any noncompliance that may endanger human health or safety, or the environment shall be reported by the permittee to the TCEQ. Report of such information shall be provided orally or by facsimile transmission (FAX) to the regional office within 24 hours of becoming aware of the noncompliance. A written submission of such information shall also be provided by the permittee to the regional office and the Enforcement Division (MC 224) within five working days of becoming aware of the noncompliance. For Publicly Owned Treatment Works (POTWs), effective September 1, 2020, the permittee must submit the written report for unauthorized discharges and unanticipated bypasses that exceed any effluent limit in the permit using the online electronic reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver. The written submission shall contain a description of the noncompliance and its cause; the potential danger to human health or safety, or the environment; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, and to mitigate its adverse effects.

   b. The following violations shall be reported under Monitoring and Reporting Requirement 7.a.:

      i. unauthorized discharges as defined in Permit Condition 2(g).
      ii. any unanticipated bypass that exceeds any effluent limitation in the permit.
      iii. violation of a permitted maximum daily discharge limitation for pollutants listed specifically in the Other Requirements section of an Industrial TPDES permit.

   c. In addition to the above, any effluent violation that deviates from the permitted effluent limitation by more than 40% shall be reported by the permittee in writing to the regional office and the Enforcement Division (MC 224) within 5 working days of becoming aware of the noncompliance.

   d. Any noncompliance other than that specified in this section, or any required information not submitted or submitted incorrectly, shall be reported to the Enforcement Division (MC 224) as promptly as possible. For effluent limitation violations, noncompliances shall be reported on the approved self-report form.

   8. In accordance with the procedures described in 30 TAC §§35.301 - 35.303 (relating to Water Quality Emergency and Temporary Orders) if the permittee knows in advance of the need for a bypass, it shall submit prior notice by applying for such authorization.

9. Changes in Discharges of Toxic Substances

   All existing manufacturing, commercial, mining, and silvicultural permittees shall notify the regional office, orally or by facsimile transmission within 24 hours, and both the regional office and the Enforcement Division (MC 224) in writing within five (5) working days, after becoming aware of or having reason to believe:

   a. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant listed at 40 CFR Part 122, Appendix D, Tables II and III (excluding Total Phenols) that is not limited in the permit, if that discharge will exceed the highest of the following “notification levels”:

      i. one hundred micrograms per liter (100 µg/L);
      ii. two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
      iii. five (5) times the maximum concentration value reported for that pollutant in the permit application; or
      iv. the level established by the TCEQ.

b. That any activity has occurred or will occur that would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant that is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

i. five hundred micrograms per liter (500 µg/L);
ii. one milligram per liter (1 mg/L) for antimony;
iii. ten (10) times the maximum concentration value reported for that pollutant in the permit application; or
iv. the level established by the TCEQ.

10. Signatories to Reports

All reports and other information requested by the Executive Director shall be signed by the person and in the manner required by 30 TAC §305.128 (relating to Signatories to Reports).

11. All POTWs must provide adequate notice to the Executive Director of the following:

a. any new introduction of pollutants into the POTW from an indirect discharger that would be subject to CWA §301 or §306 if it were directly discharging those pollutants;

b. any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit; and

c. for the purpose of this paragraph, adequate notice shall include information on:

i. the quality and quantity of effluent introduced into the POTW; and
ii. any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

PERMIT CONDITIONS

1. General

a. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in an application or in any report to the Executive Director, it shall promptly submit such facts or information.

b. This permit is granted on the basis of the information supplied and representations made by the permittee during action on an application, and relying upon the accuracy and completeness of that information and those representations. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked, in whole or in part, in accordance with 30 TAC Chapter 305, Subchapter D, during its term for good cause including, but not limited to, the following:

i. violation of any terms or conditions of this permit;
ii. obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
iii. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

c. The permittee shall furnish to the Executive Director, upon request and within a reasonable time, any information to determine whether cause exists for amending, revoking, suspending, or terminating the permit. The permittee shall also furnish to the Executive Director, upon request, copies of records required to be kept by the permit.

2. Compliance

a. Acceptance of the permit by the person to whom it is issued constitutes acknowledgment and agreement that such person will comply with all the terms and conditions embodied in the permit, and the rules and other orders of the Commission.

b. The permittee has a duty to comply with all conditions of the permit. Failure to comply with any permit condition constitutes a violation of the permit and the Texas Water Code or the Texas Health and Safety Code, and is grounds for enforcement action, for permit amendment,

revocation, or suspension, or for denial of a permit renewal application or an application for a permit for another facility.

c. 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 the permit.

d. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal or other permit violation that has a reasonable likelihood of adversely affecting human health or the environment.

e. Authorization from the Commission is required before beginning any change in the permitted facility or activity that may result in noncompliance with any permit requirements.

f. A permit may be amended, suspended and reissued, or revoked for cause in accordance with 30 TAC §§305.62 and 305.66 and TWC §7.302. The filing of a request by the permittee for a permit amendment, suspension and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

g. There shall be no unauthorized discharge of wastewater or any other waste. For the purpose of this permit, an unauthorized discharge is considered to be any discharge of wastewater into or adjacent to water in the state at any location not permitted as an outfall or otherwise defined in the Other Requirements section of this permit.

h. In accordance with 30 TAC §305.535(a), the permittee may allow any bypass to occur from a TPDES permitted facility that does not cause permitted effluent limitations to be exceeded or an unauthorized discharge to occur, but only if the bypass is also for essential maintenance to assure efficient operation.

i. The permittee is subject to administrative, civil, and criminal penalties, as applicable, under Texas Water Code §§7.051 - 7.075 (relating to Administrative Penalties), 7.101 - 7.111 (relating to Civil Penalties), and 7.141 - 7.202 (relating to Criminal Offenses and Penalties) for violations including, but not limited to, negligently or knowingly violating the federal CWA §§301, 302, 306, 307, 308, 318, or 405, or any condition or limitation implementing any sections in a permit issued under the CWA §402, or any requirement imposed in a pretreatment program approved under the CWA §§402(a)(3) or 402(b)(8).

3. Inspections and Entry

a. Inspection and entry shall be allowed as prescribed in the TWC Chapters 26, 27, and 28, and THSC Chapter 361.

b. The members of the Commission and employees and agents of the Commission are entitled to enter any public or private property at any reasonable time for the purpose of inspecting and investigating conditions relating to the quality of water in the state or the compliance with any rule, regulation, permit, or other order of the Commission. Members, employees, or agents of the Commission and Commission contractors are entitled to enter public or private property at any reasonable time to investigate or monitor or, if the responsible party is not responsive or there is an immediate danger to public health or the environment, to remove or remediate a condition related to the quality of water in the state. Members, employees, Commission contractors, or agents acting under this authority who enter private property shall observe the establishment's rules and regulations concerning safety, internal security, and fire protection, and if the property has management in residence, shall notify management or the person then in charge of his presence and shall exhibit proper credentials. If any member, employee, Commission contractor, or agent is refused the right to enter in or on public or private property under this authority, the Executive Director may invoke the remedies authorized in TWC §7.002. The statement above, that Commission entry shall occur in accordance with an establishment's rules and regulations concerning safety, internal security, and fire protection, is not grounds for denial or restriction of entry to any part of the facility, but merely describes the Commission's duty to observe appropriate rules and regulations during an inspection.

4. Permit Amendment or Renewal

   a. The permittee shall give notice to the Executive Director as soon as possible of any planned physical alterations or additions to the permitted facility if such alterations or additions would require a permit amendment or result in a violation of permit requirements. Notice shall also be required under this paragraph when:

      i. the alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in accordance with 30 TAC §305.534 (relating to New Sources and New Dischargers); or

      ii. the alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in the permit, nor to notification requirements in Monitoring and Reporting Requirements No. 9; or

      iii. the alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

   b. Prior to any facility modifications, additions, or expansions that will increase the plant capacity beyond the permitted flow, the permittee must apply for and obtain proper authorization from the Commission before commencing construction.

   c. The permittee must apply for an amendment or renewal at least 180 days prior to expiration of the existing permit in order to continue a permitted activity after the expiration date of the permit. If an application is submitted prior to the expiration date of the permit, the existing permit shall remain in effect until the application is approved, denied, or returned. If the application is returned or denied, authorization to continue such activity shall terminate upon the effective date of the action. If an application is not submitted prior to the expiration date of the permit, the permit shall expire and authorization to continue such activity shall terminate.

   d. Prior to accepting or generating wastes that are not described in the permit application or that would result in a significant change in the quantity or quality of the existing discharge, the permittee must report the proposed changes to the Commission. The permittee must apply for a permit amendment reflecting any necessary changes in permit conditions, including effluent limitations for pollutants not identified and limited by this permit.

   e. In accordance with the TWC §26.029(b), after a public hearing, notice of which shall be given to the permittee, the Commission may require the permittee, from time to time, for good cause, in accordance with applicable laws, to conform to new or additional conditions.

   f. If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under CWA §307(a) for a toxic pollutant that is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition. The permittee shall comply with effluent standards or prohibitions established under CWA §307(a) for toxic pollutants within the time provided in the regulations that established those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

5. Permit Transfer

   a. Prior to any transfer of this permit, Commission approval must be obtained. The Commission shall be notified in writing of any change in control or ownership of facilities authorized by this permit. Such notification should be sent to the Applications Review and Processing Team (MC 148) of the Water Quality Division.

   b. A permit may be transferred only according to the provisions of 30 TAC §305.64 (relating to Transfer of Permits) and 30 TAC §50.133 (relating to Executive Director Action on Application or WQMP update).

6. Relationship to Hazardous Waste Activities

   This permit does not authorize any activity of hazardous waste storage, processing, or disposal that requires a permit or other authorization pursuant to the Texas Health and Safety Code.

7. Relationship to Water Rights

   Disposal of treated effluent by any means other than discharge directly to water in the state must be specifically authorized in this permit and may require a permit pursuant to Texas Water Code Chapter 11.

8. Property Rights

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

9. Permit Enforceability

   The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

10. Relationship to Permit Application

    The application pursuant to which the permit has been issued is incorporated herein; provided, however, that in the event of a conflict between the provisions of this permit and the application, the provisions of the permit shall control.

11. Notice of Bankruptcy.

    a. Each permittee shall notify the executive director, in writing, immediately following the filing of a voluntary or involuntary petition for bankruptcy under any chapter of Title 11 (Bankruptcy) of the United States Code (11 USC) by or against:

       i. the permittee;
       ii. an entity (as that term is defined in 11 USC, §101(15)) controlling the permittee or listing the permit or permittee as property of the estate; or
       iii. an affiliate (as that term is defined in 11 USC, §101(2)) of the permittee.

    b. This notification must indicate:

       i. the name of the permittee;
       ii. the permit number(s);
       iii. the bankruptcy court in which the petition for bankruptcy was filed; and
       iv. the date of filing of the petition.

OPERATIONAL REQUIREMENTS

1. The permittee shall at all times ensure that the facility and all of its systems of collection, treatment, and disposal are properly operated and maintained. This includes, but is not limited to, the regular, periodic examination of wastewater solids within the treatment plant by the operator in order to maintain an appropriate quantity and quality of solids inventory as described in the various operator training manuals and according to accepted industry standards for process control. Process control, maintenance, and operations records shall be retained at the facility site, or shall be readily available for review by a TCEQ representative, for a period of three years.

2. Upon request by the Executive Director, the permittee shall take appropriate samples and provide proper analysis in order to demonstrate compliance with Commission rules. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall comply with all applicable provisions of 30 TAC Chapter 312 concerning sewage sludge use and disposal and 30 TAC §§319.21 - 319.29 concerning the discharge of certain hazardous metals.

3. Domestic wastewater treatment facilities shall comply with the following provisions:

   a. The permittee shall notify the Municipal Permits Team, Wastewater Permitting Section (MC 148) of the Water Quality Division, in writing, of any facility expansion at least 90 days prior to conducting such activity.

   b. The permittee shall submit a closure plan for review and approval to the Municipal Permits Team, Wastewater Permitting Section (MC 148) of the Water Quality Division, for any closure activity at least 90 days prior to conducting such activity. Closure is the act of permanently taking a waste management unit or treatment facility out of service and includes the permanent removal from service of any pit, tank, pond, lagoon, surface impoundment or other treatment unit regulated by this permit.

4. The permittee is responsible for installing prior to plant start-up, and subsequently maintaining, adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failures by means of alternate power sources, standby generators, or retention of inadequately treated wastewater.

5. Unless otherwise specified, the permittee shall provide a readily accessible sampling point and, where applicable, an effluent flow measuring device or other acceptable means by which effluent flow may be determined.

6. The permittee shall remit an annual water quality fee to the Commission as required by 30 TAC Chapter 21. Failure to pay the fee may result in revocation of this permit under TWC §7.302(b)(6).

7. Documentation

   For all written notifications to the Commission required of the permittee by this permit, the permittee shall keep and make available a copy of each such notification under the same conditions as self-monitoring data are required to be kept and made available. Except for information required for TPDES permit applications, effluent data, including effluent data in permits, draft permits and permit applications, and other information specified as not confidential in 30 TAC §1.5(d), any information submitted pursuant to this permit may be claimed as confidential by the submitter. Any such claim must be asserted in the manner prescribed in the application form or by stamping the words “confidential business information” on each page containing such information. If no claim is made at the time of submission, information may be made available to the public without further notice. If the Commission or Executive Director agrees with the designation of confidentiality, the TCEQ will not provide the information for public inspection unless required by the Texas Attorney General or a court pursuant to an open records request. If the Executive Director does not agree with the designation of confidentiality, the person submitting the information will be notified.

8. Facilities that generate domestic wastewater shall comply with the following provisions; domestic wastewater treatment facilities at permitted industrial sites are excluded.

   a. Whenever flow measurements for any domestic sewage treatment facility reach 75% of the permitted daily average or annual average flow for three consecutive months, the permittee must initiate engineering and financial planning for expansion or upgrading of the domestic wastewater treatment or collection facilities. Whenever the flow reaches 90% of the permitted daily average or annual average flow for three consecutive months, the permittee shall obtain necessary authorization from the Commission to commence construction of the necessary additional treatment or collection facilities. In the case of a domestic wastewater treatment facility that reaches 75% of the permitted daily average or annual average flow for three consecutive months, and the planned population to be served or the quantity of waste produced is not expected to exceed the design limitations of the treatment facility, the permittee shall submit an engineering report supporting this claim to the Executive Director of the Commission.

      If in the judgment of the Executive Director the population to be served will not cause permit noncompliance, then the requirement of this section may be waived. To be effective, any waiver must be in writing and signed by the Director of the Enforcement Division (MC 219) of the Commission, and such waiver of these requirements will be reviewed upon expiration of the existing permit; however, any such waiver shall not be interpreted as condoning or excusing any violation of any permit parameter.

b. The plans and specifications for domestic sewage collection and treatment works associated with any domestic permit must be approved by the Commission, and failure to secure approval before commencing construction of such works or making a discharge is a violation of this permit and each day is an additional violation until approval has been secured.

c. Permits for domestic wastewater treatment plants are granted subject to the policy of the Commission to encourage the development of area-wide waste collection, treatment, and disposal systems. The Commission reserves the right to amend any domestic wastewater permit in accordance with applicable procedural requirements to require the system covered by this permit to be integrated into an area-wide system, should such be developed; to require the delivery of the wastes authorized to be collected in, treated by or discharged from said system, to such area-wide system; or to amend this permit in any other particular to effectuate the Commission's policy. Such amendments may be made when the changes required are advisable for water quality control purposes and are feasible on the basis of waste treatment technology, engineering, financial, and related considerations existing at the time the changes are required, exclusive of the loss of investment in or revenues from any then existing or proposed waste collection, treatment or disposal system.

9. Domestic wastewater treatment plants shall be operated and maintained by sewage plant operators holding a valid certificate of competency at the required level as defined in 30 TAC Chapter 30.

10. For Publicly Owned Treatment Works (POTWs), the 30-day average (or monthly average) percent removal for BOD and TSS shall not be less than 85%, unless otherwise authorized by this permit.

11. Facilities that generate industrial solid waste as defined in 30 TAC §335.1 shall comply with these provisions:

a. Any solid waste, as defined in 30 TAC §335.1 (including but not limited to such wastes as garbage, refuse, sludge from a waste treatment, water supply treatment plant or air pollution control facility, discarded materials, discarded materials to be recycled, whether the waste is solid, liquid, or semisolid), generated by the permittee during the management and treatment of wastewater, must be managed in accordance with all applicable provisions of 30 TAC Chapter 335, relating to Industrial Solid Waste Management.

b. Industrial wastewater that is being collected, accumulated, stored, or processed before discharge through any final discharge outfall, specified by this permit, is considered to be industrial solid waste until the wastewater passes through the actual point source discharge and must be managed in accordance with all applicable provisions of 30 TAC Chapter 335.

c. The permittee shall provide written notification, pursuant to the requirements of 30 TAC §335.8(b)(1), to the Corrective Action Section (MC 127) of the Remediation Division informing the Commission of any closure activity involving an Industrial Solid Waste Management Unit, at least 90 days prior to conducting such an activity.

d. Construction of any industrial solid waste management unit requires the prior written notification of the proposed activity to the Registration and Reporting Section (MC 129) of the Permitting and Remediation Support Division. No person shall dispose of industrial solid waste, including sludge or other solids from wastewater treatment processes, prior to fulfilling the deed recordation requirements of 30 TAC §335.5.

e. The term “industrial solid waste management unit” means a landfill, surface impoundment, waste-pile, industrial furnace, incinerator, cement kiln, injection well, container, drum, salt dome waste containment cavern, or any other structure vessel, appurtenance, or other improvement on land used to manage industrial solid waste.

f. The permittee shall keep management records for all sludge (or other waste) removed from any wastewater treatment process. These records shall fulfill all applicable requirements of 30 TAC Chapter 335 and must include the following, as it pertains to wastewater treatment and discharge:

i. volume of waste and date(s) generated from treatment process;
ii. volume of waste disposed of on-site or shipped off-site;
iii. date(s) of disposal;

iv. identity of hauler or transporter;
v. location of disposal site; and
vi. method of final disposal.

The above records shall be maintained on a monthly basis. The records shall be retained at the facility site, or shall be readily available for review by authorized representatives of the TCEQ for at least five years.

12. For industrial facilities to which the requirements of 30 TAC Chapter 335 do not apply, sludge and solid wastes, including tank cleaning and contaminated solids for disposal, shall be disposed of in accordance with THSC Code Chapter 361.

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OTHER REQUIREMENTS

1. The executive director reviewed this action for consistency with the goals and policies of the Texas Coastal Management Program (CMP) in accordance with the regulations of the General Land Office and determined that the action is consistent with the applicable CMP goals and policies.

2. Violations of daily maximum limitations for the following pollutants shall be reported orally or by facsimile to TCEQ Region 12 within 24 hours from the time the permittee becomes aware of the violation, followed by a written report within five working days to TCEQ Region 12 and Compliance Monitoring Team (MC 224):

Pollutant	MAL[1] (mg/L)
Copper (Total)	0.002
Cyanide (Available; Free)	0.002
Cyanide (Total)	0.010
Nickel (Total)	0.002
Zinc (Total)	0.005

40 CFR PART 414, SUBPART I (end-of-pipe biological treatment)

Pollutant	MAL (mg/L)
Acenaphthene	0.010
Acenaphthylene	0.010
Acrylonitrile	0.050
Anthracene	0.010
Benzene	0.010
Benzo(*a*)anthracene	0.005
3,4-Benzofluoranthene (Benzo(*b*)fluoranthene)	0.010
Benzo(*k*)fluoranthene	0.005
Benzo(*a*)pyrene	0.005
Bis(2-Ethylhexyl) Phthalate	0.010
Carbon Tetrachloride	0.002
Chlorobenzene	0.010
Chloroethane	0.050
Chloroform	0.010
2-Chlorophenol	0.010
Chrysene	0.005
Di-n-Butyl Phthalate	0.010
1,2-Dichlorobenzene	0.010
1,3-Dichlorobenzene	0.010
1,4-Dichlorobenzene	0.010
1,1-Dichloroethane	0.010
1,2-Dichloroethane	0.010
1,1-Dichloroethylene	0.010
1,2-trans-Dichloroethylene	0.010
2,4-Dichlorophenol	0.010
1,2-Dichloropropane	0.010
1,3-Dichloropropylene	0.010
Diethyl Phthalate	0.010
2,4-Dimethylphenol	0.010

[1] Minimum analytical level.

40 CFR PART 414, SUBPART I (end-of-pipe biological treatment)	
Pollutant	**MAL (mg/L)**
Dimethyl Phthalate	0.010
4,6-Dinitro-o-Cresol	0.050
2,4-Dinitrophenol	0.050
2,4-Dinitrotoluene	0.010
2,6-Dinitrotoluene	0.010
Ethylbenzene	0.010
Fluoranthene	0.010
Fluorene	0.010
Hexachlorobenzene	0.005
Hexachlorobutadiene	0.010
Hexachloroethane	0.020
Methylene Chloride	0.020
Methyl Chloride	0.050
Naphthalene	0.010
Nitrobenzene	0.010
2-Nitrophenol	0.020
4-Nitrophenol	0.050
Phenanthrene	0.010
Phenol	0.010
Pyrene	0.010
Tetrachloroethylene	0.010
Toluene	0.010
1,2,4-Trichlorobenzene	0.010
1,1,1-Trichloroethane	0.010
1,1,2-Trichloroethane	0.010
Trichloroethylene	0.010
Vinyl Chloride	0.010

Test methods used must be sensitive enough to demonstrate compliance with the permit effluent limitations. If an effluent limit for a pollutant is less than the MAL, then the test method for that pollutant must be sensitive enough to demonstrate compliance at the MAL. Permit compliance/noncompliance determinations will be based on the effluent limitations contained in this permit, with consideration given to the MAL for the pollutants specified above.

When an analysis of an effluent sample for a pollutant listed above indicates no detectable levels above the MAL and the test method detection level is as sensitive as the specified MAL, a value of zero shall be used for that measurement when making calculations for the self-reporting form. This applies to determinations of daily maximum concentration, calculations of loading and daily averages, and other reportable results.

When a reported value is zero based on this MAL provision, the permittee shall submit the following statement with the self-reporting form either as a separate attachment to the form or as a statement in the comments section of the form:

> "The reported value(s) of zero for ____[list pollutant(s)]____ on the self-reporting form for [monitoring period date range]___ is based on the following conditions: (1) the analytical method used had a method detection level as sensitive as the MAL specified in the permit, and (2) the analytical results contained no detectable levels above the specified MAL."

When an analysis of an effluent sample for a pollutant indicates no detectable levels and the test method detection level is not as sensitive as the MAL specified in the permit, or an MAL is not specified in the permit for that pollutant, the level of detection achieved shall be used for that measurement when making calculations for the self-reporting form. A zero may not be used.

The permittee may develop a matrix-specific method detection limit (MDL), in accordance with Appendix B of 40 CFR Part 136, to develop a permit-specific MAL. For any pollutant for which the permittee develops a permit-specific MAL, the permittee shall send to the TCEQ Industrial Permits Team (MC 148) a report containing quality assurance/quality control documentation, analytical results, and calculations necessary to support the requested permit-specific MAL. A permit-specific MAL must be derived from a matrix-specific MDL in accordance with the following equation:

$$MAL = 3.18 \times MDL$$

Upon written approval by the Wastewater Permitting Section of the TCEQ, an approved permit-specific MAL will supersede the MAL listed above as the level of demonstrated compliance. The matrix-specific MDL must be verified annually in accordance with Appendix B of 40 CFR Part 136. This ongoing annual verification of the MDL must be sent to the TCEQ Industrial Permits Team (MC 148) by September 1 of each year for continued authorization of the permit-specific MAL granted by the TCEQ. If ongoing annual verification is not submitted to the TCEQ Industrial Permits Team for review, the original MAL in the permit will become applicable.

3. Any analytical method for free cyanide or available cyanide that is approved in 40 CFR Part 136 may be used.

4. The facility shall not use cooling tower additives or maintenance chemical which contain chromium.

5. <u>MIXING ZONES:</u>

Outfall 001: The chronic aquatic life mixing zone is defined as a volume within a 515-foot (measured parallel to the direction the diffuser ports point) by 244-foot (measured perpendicular to the direction the diffuser ports point) rectangle that is centered on the diffuser barrel. This area is approximately equal to the area of a 200-foot radius circle. Chronic toxic criteria apply at the edge of the chronic aquatic life mixing zone.

Upon its reconfiguration, Outfall 001 will consist of a submerged four-port diffuser with all ports on the downstream side of the existing diffuser barrel. The diffuser will be located approximately 160 meters from the shoreline with an orientation perpendicular to the channel centerline. The diffuser will sit approximately 1.5 meters above the channel bottom. The diffuser ports will each have a diameter of 120 millimeters and be spaced at 2.67-meter intervals for a total diffuser length of 8 meters. The diffuser ports will discharge at a vertical angle of 0° to the bottom (i.e., horizontal). The permittee shall maintain the diffuser at Outfall 001 to achieve a maximum effluent percentage of 4.3% at the edge of the zone of initial dilution.

Outfall 002: The chronic aquatic life mixing zone is defined as a volume within a radius of 5 feet from the point of discharge. Chronic toxic criteria apply at the edge of the chronic aquatic life mixing zone.

Outfall 003: There is no mixing zone established for this discharge to an intermittent stream. Acute toxic criteria apply at the point of discharge.

Outfall 004: The chronic aquatic life mixing zone is defined as a volume within a radius of 15 feet from the point of discharge. Chronic toxic criteria apply at the edge of the chronic aquatic life mixing zone.

Outfall 009: The chronic aquatic life mixing zone is defined as a volume within a radius of 200 feet from the point of discharge. Chronic toxic criteria apply at the edge of the chronic aquatic life mixing zone.

Outfall 011: The chronic aquatic life mixing zone is defined as a volume within a radius of 200 feet from the point of discharge. Chronic toxic criteria apply at the edge of the chronic aquatic life mixing zone.

6. The permittee shall maintain the pH within the range specified on Pages 2b (Outfall 001), 2g (Outfall 009), and 2n (Outfall 011) of this permit. Excursions from the range are permitted. An excursion is an unintentioned and temporary incident in which the pH value of the wastewater exceeds the range set forth on Pages 2b, 2g or 2n. A pH excursion is not a violation and a non-compliance report is not required for pH excursions provided:

   A. the excursion does not exceed the range of 5-11 standard pH units;

   B. the individual excursion does not exceed 60 minutes; and

   C. the sum of all excursions does not exceed 7 hours and 26 minutes in any calendar month.

7. POND REQUIREMENTS

   A wastewater pond must comply with the following requirements. A wastewater pond (or lagoon) is an earthen structure used to evaporate, hold, store, or treat water that contains a waste or pollutant or that would cause pollution upon discharge as those terms are defined in Texas Water Code § 26.001, but does not include a pond that contains only stormwater.

   A. A wastewater pond subject to 40 CFR Part 257, Subpart D (related to coal combustion residuals) must comply with those requirements in lieu of the requirements in B through G of POND REQUIREMENTS.

   B. An existing wastewater pond must be maintained to meet or exceed the original approved design and liner requirements; or, in the absence of original approved requirements, must be maintained to prevent unauthorized discharges of wastewater into or adjacent to water in the state. The permittee shall maintain copies of all liner construction and testing documents at the facility or in a reasonably accessible location and make the information available to the executive director upon request.

   C. A new wastewater pond constructed after the issuance date of this permit must be lined in compliance with one of the following requirements if it will contain process wastewater as defined in 40 CFR § 122.2. The executive director will review ponds that will contain only non-process wastewater on a case-by-case basis to determine whether the pond must be lined. If a pond will contain only non-process wastewater, the owner shall notify the Industrial Permits Team (MC 148) to obtain a written determination at least 90 days before the pond is placed into service and copy the TCEQ Compliance Monitoring Team (MC 224) and regional office. The permittee must submit all information about the proposed pond contents that is reasonably necessary for the executive director to make a determination. If the executive director determines that a pond does not need to be lined, then the pond is exempt from C(1) through C(3) and D through G of POND REQUIREMENTS.

A wastewater pond that only contains domestic wastewater must comply with the design requirements in 30 TAC Chapter 217 and 30 TAC § 309.13(d) in lieu of items C(1) through C(3) of this subparagraph.

(1) Soil liner: The soil liner must contain clay-rich soil material (at least 30% of the liner material passing through a #200 mesh sieve, liquid limit greater than or equal to 30, and plasticity index greater than or equal to 15) that completely covers the sides and bottom of the pond. The liner must be at least 3.0 feet thick. The liner material must be compacted in lifts of no more than 8 inches to 95% standard proctor density at the optimum moisture content in accordance with ASTM D698 to achieve a permeability less than or equal to $1 \times 10\text{-}7$ (≤ 0.0000001) cm/sec. For in-situ soil material that meets the permeability requirement, the material must be scarified at least 8 inches deep and then re-compacted to finished grade.

(2) Synthetic membrane: The liner must be a synthetic membrane liner at least 40 mils in thickness that completely covers the sides and the bottom of the pond. The liner material used must be compatible with the wastewater and be resistant to degradation (e.g., from ultraviolet light, chemical reactions, wave action, erosion, etc.). The liner material must be installed and maintained in accordance with the manufacturer's guidelines. A wastewater pond with a synthetic membrane liner must include an underdrain with a leak detection and collection system.

(3) Alternate liner: The permittee shall submit plans signed and sealed by a Texas-licensed professional engineer for any other equivalently protective pond lining method to the TCEQ Industrial Permits Team (MC 148) and copy the regional office.

D. For a pond that must be lined according to subparagraph C (including ponds with in-situ soil liners), the permittee shall provide certification, signed and sealed by a Texas-licensed professional engineer, stating that the completed pond lining and any required underdrain with leak detection and collection system for the pond meet the requirements in subparagraph C(1) – C(3) before using the pond. The certification shall include the following minimum details about the pond lining system: (1) pond liner type (in-situ soil, amended in-situ soil, imported soil, synthetic membrane, or alternative), (2) materials used, (3) thickness of materials, and (4) either permeability test results or a leak detection and collection system description, as applicable.

The certification must be provided to the TCEQ Water Quality Assessment Team (MC 150), Industrial Permits Team (MC 148), and regional office. A copy of the liner certification and construction details (i.e., as-built drawings, construction QA/QC documentation, and post construction testing) must be kept on-site or in a reasonably accessible location (in either hardcopy or digital format) until the pond is closed.

E. Protection and maintenance requirements for a pond subject to subparagraph B or C (including ponds with in-situ soil liners).

(1) The permittee shall maintain a liner to prevent the unauthorized discharge of wastewater into or adjacent to water in the state.

(2) A liner must be protected from damage caused by animals. Fences or other protective devices or measures may be used to satisfy this requirement.

(3) The permittee shall maintain the structural integrity of the liner and shall keep the liner and embankment free of woody vegetation, animal burrows, and excessive erosion.

(4) The permittee shall inspect each pond liner and each leak detection system at least once per month. Evidence of damage or unauthorized discharge must be evaluated by a Texas-licensed professional engineer or Texas-licensed professional geoscientist within 30 days. The permittee is not required to drain an operating pond or to inspect below the waterline during these routine inspections.

a) Texas-licensed professional engineer or Texas-licensed professional geoscientist must evaluate damage to a pond liner, including evidence of an unauthorized discharge without visible damage.

b) Pond liner damage must be repaired at the recommendation of a Texas-licensed professional engineer or Texas-licensed professional geoscientist. If the damage is significant or could result in an unauthorized discharge, then the repair must be documented and certified by a Texas-licensed professional engineer. Within 60 days after a repair is completed, the liner certification must be provided to the TCEQ Water Quality Assessments Team (MC 150) and regional office. A copy of the liner certification must be maintained at the facility or in a reasonably accessible location and made available to the executive director upon request.

c) A release determination and subsequent corrective action will be based on 40 CFR Part 257 or the Texas Risk Reduction Program (30 TAC Chapter 350), as applicable. If evidence indicates that an unauthorized discharge occurred, including evidence that the actual permeability exceeds the design permeability, the matter may also be referred to the TCEQ Enforcement Division to ensure the protection of the public and the environment.

F. For a pond subject to subparagraph B or C (including ponds with in-situ soil liners), the permittee shall have a Texas-licensed professional engineer perform an evaluation of each pond that requires a liner at least once every five years. The evaluation must include: (1) a physical inspection of the pond liner to check for structural integrity, damage, and evidence of leaking; (2) a review of the liner documentation for the pond; and (3) a review of all documentation related to liner repair and maintenance performed since the last evaluation. For the purposes of this evaluation, evidence of leaking also includes evidence that the actual permeability exceeds the design permeability. The permittee is not required to drain an operating pond or to inspect below the waterline during the evaluation. A copy of the engineer's evaluation report must be maintained at the facility or in a reasonably accessible location and made available to the executive director upon request.

G. For a pond subject to subparagraph B or C (including ponds with in-situ soil liners), the permittee shall maintain at least 2.0 feet of freeboard in the pond except when:

(1) the freeboard requirement temporarily cannot be maintained due to a large storm event that requires the additional retention capacity to be used for a limited period of time;

(2) the freeboard requirement temporarily cannot be maintained due to upset plant conditions that require the additional retention capacity to be used for treatment for a limited period of time; or

(3) the pond was not required to have at least 2.0 feet of freeboard according to the requirements at the time of construction.

8. COOLING WATER INTAKE STRUCTURE REQUIREMENTS

The permittee shall provide written notification to the TCEQ Industrial Permits Team (MC 148) and Region 12 Office of any changes in the method by which the facility obtains water for cooling purposes. This notification must be submitted 30 days prior to any such change and must include a description of the planned changes. The TCEQ may, upon review of the notification, reopen the permit to include additional terms and conditions as necessary.

9. Monitoring results must be provided at the intervals specified in this permit. For pollutants which are monitored annually, effluent reports must be submitted in September of each year. For pollutants which are monitored twice per year, the first effluent report must be submitted six months after the date of permit issuance and subsequent reports every six months thereafter. For pollutants which are monitored four times per year, the first effluent report must be submitted three months after the date of permit issuance and subsequent reports every three months thereafter.

10. SCHEDULE OF COMPLIANCE FOR WATER QUALITY BASED EFFLUENT LIMITS

The permittee shall comply with the following schedule of activities for the attainment of water quality-based final effluent limitations for benzo(*a*)anthracene, benzo(*a*)pyrene, and hexachlorobenzene at Outfall 001; benzo(*a*)anthracene, benzo(*a*)pyrene, hexachlorobenzene, and hexachlorobutadiene at Outfall 009; and total copper, total nickel, benzo(*a*)anthracene, benzo(*a*)pyrene, hexachlorobenzene, and hexachlorobutadiene at Outfall 011.

A. determine exceedance cause(s);
B. develop control options;
C. evaluate and select control mechanisms;
D. implement corrective action; and
E. attain final effluent limitations no later than two years and eleven months from the date of permit issuance.

The permittee shall submit quarterly progress reports in accordance with the following schedule. The requirement to submit quarterly progress reports shall expire when the permittee has demonstrated the above criteria but no later than three years from the date of permit issuance.

PROGRESS REPORT DATE
January 1
April 1
July 1
October 1

The quarterly progress reports shall include a discussion of the interim requirements that have been completed at the time of the report and shall address the progress towards attaining the water quality-based final effluent limitations for benzo(*a*)anthracene, benzo(*a*)pyrene, and hexachlorobenzene at Outfall 001; benzo(*a*)anthracene, benzo(*a*)pyrene, hexachlorobenzene, and hexachlorobutadiene at Outfall 009; and total copper, total nickel, benzo(*a*)anthracene, benzo(*a*)pyrene, hexachlorobenzene, and hexachlorobutadiene at Outfall 011 no later than two years and eleven months from the date of permit issuance.

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled

requirement. All reports shall be submitted to the Region 12 Office and to the Compliance Monitoring Team (MC 224) of the TCEQ.

11. COMPOSITE SAMPLING FOR VOLATILE ORGANIC COMPOUNDS

For the composite sampling of volatile organics using EPA Methods 601, 602, 603, 624.1, or 1624B (or any other 40 CFR Part 136 method approved after the effective date of this permit), the permittee shall manually collect four aliquots (grab samples) in clean zero-head-space containers at regular intervals during the actual hours of discharge during the 24-hour sampling period using sample collection, preservation, and handling techniques specified in the appropriate test method. These aliquots must be combined in the laboratory immediately before analysis to represent the composite sample of the discharge. One of the following alternative methods must be used to composite these aliquots.

A. Each aliquot is poured into a syringe. The plunger is added, and the volume is adjusted to 1-1/4 mL. Each aliquot (1-1/4 mL) is injected into the purging chamber (total 5 mL) of the purge and trap system. After four injections (total of 5 mL), the chamber is purged. Alternatively, equal volumes (1¼ mL) of the individual grab samples are added to the purge device to a total volume of 5 mL, and the sample is then analyzed. Only one analysis or run is required since the aliquots are combined prior to analysis.

B. Chill the four aliquots to ≤6˚C. These aliquots must be of equal volume. Carefully pour the contents of each of the 4 aliquots into a 250-500 mL flask which is chilled in a wet ice bath. Stir the mixture gently with a clean glass rod while in the wet ice bath. Carefully fill two or more clean 40-mL zero-head-space vials from the flask and dispose of the remainder of the mixture. Analyze one of the aliquots to determine the concentrations of the composite sample. The remaining aliquot(s) are replicate composite samples that can be analyzed if desired or necessary.

C. Alternative sample compositing methods may be used following written approval by the TCEQ.

The individual samples resulting from the application of these compositing methods shall be analyzed following the procedures specified for the selected test method. The resulting analysis shall be reported as the daily composite concentration.

As an alternative to the above compositing methods, the permittee may manually collect four aliquots (grab samples) in clean zero head-spaced containers at regular intervals during the actual hours of discharge during the 24-hour sampling period using sample collection, preservation, and handling techniques specified in the appropriate test method. A separate analysis must be conducted for each discrete aliquot or grab sample following approved test procedures.

The determination of daily composite concentration shall be the arithmetic average (weighted by flow) of all grab samples collected during the 24-hour sampling period.

12. Sampling at Outfall 009 shall be conducted when (1) sampling is also being conducted at Outfall 001; and (2) when there is a discharge greater than six hours in duration via Outfall 009 during a 24-hour period in which Outfall 001 sampling is conducted. Discharges via Outfall 009 shall be *de minimis* except for time periods in which discharge occurs via Outfall 001 or during essential maintenance activities or emergencies at Outfall 001.

13. This provision supersedes and replaces Provision 1, Paragraph 1 of Monitoring and Reporting Requirements found on Page 4 of this permit.

Monitoring results shall be provided at the intervals specified in the permit. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall conduct

effluent sampling and reporting in accordance with 30 TAC §§ 319.4 - 319.12. Unless otherwise specified, effluent monitoring data shall be submitted each month, to the TCEQ Compliance Monitoring Team (MC 224), by the 25th day of the following month for each discharge that is described by this permit whether or not a discharge is made for that month. Monitoring results must be submitted online using the NetDMR reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver. Monitoring results must be signed and certified as required by Monitoring and Reporting Requirements No. 10.

14. Outfalls 001, 002, 003, 004, 009 and 011 contain enforceable single grab effluent limitations. However, unless specifically required by this permit (i.e., the daily maximum effluent limitation is required to be collected as a grab sample), the permittee is not required to collect and analyze grab samples to demonstrate compliance with these limitations.

15. The term "process wastewaters" means wastewaters from, but not limited to, a chemical manufacturing plant that produces primarily acrylic acid, methacrylic acid, acrylic acid esters, alkyl amines, oil additives composed of acryloids, acetylene gas and acrylic emulsions (Standard Industrial Classification, SIC Nos. 2869 and 2821). The plant also manufactures acetonecyanohydrin, hydrogen cyanide, sodium sulfite, sulfur dioxide, sulfur trioxide, and sulfuric acid for use in its primary manufacturing operations. Also, included are recovered groundwater and landfill leachate comprised of constituents that are the same as those in wastewaters associated with the chemical manufacturing plant.

    The term "utility wastewaters" means wastewaters from, but not limited to, wet scrubber air pollution control systems, evaporator and boiler blowdown, steam condensate, laboratory and sampling streams, non-contact cooling (heating) operations, cooling tower basin cleaning wastes, cooling tower blowdown, hydrostatic test water, and fire control system flush. Sanitary wastes are not included.

16. During high water level conditions the permittee may shut down aerators and mixers in a segment of the aeration basin such that the mixed liquor solids can settle and the basin can be used for clarification. If the water level in the basin rises above normal operating conditions a manually operated valve is opened to release clarified water into the effluent header discharging from the final clarifier. The combined stream flows by gravity for discharge through Outfalls 001 and 009.

17. The permittee may develop additional site-specific information and request, through a major permit amendment, that new limitations be calculated using site-specific information or site-specific standards for the Houston Ship Channel or Tucker Bayou or both. Alternatively, the permittee may also consider other options, for example, relocation of an outfall or offsite disposal. Actions undertaken pursuant to this provision may be in addition to or in lieu of those identified in Other Requirement No. 10A-E, to achieve compliance with applicable water quality-based permit limitations.

18. <u>STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES</u>

    The permittee must either 1) develop a Stormwater Pollution Prevention Plan (SWP3) and follow the other conditions of this permit to authorize stormwater discharges from each construction activity performed by the permittee that results in a land disturbance of one (1) or more acres, or 2) apply under TPDES general permit TXR150000 for authorization to discharge stormwater runoff from construction activities. If the permittee opts to discharge stormwater via this permit, only discharges of stormwater runoff from construction activities that are located at the facility authorized under this TPDES permit are eligible for authorization under this permit. Discharges of stormwater from small and large (1 acre or more) construction activities and support activities,

include, but are not limited to: concrete batch plants, rock crushers, asphalt batch plants, equipment staging areas, material storage yards, material borrow areas, and excavated material disposal areas, may be authorized under this permit. Also, the following non-stormwater discharges may be discharged as a result of the construction activities: water line flushing and similar potable water sources; uncontaminated pumped groundwater, including infiltrated water in trenches or other excavated areas; air conditioning condensate; and pavement, exterior building, vehicle, and equipment wash water from washing activities conducted without the use of detergents or other chemicals.

Construction Stormwater Discharges

The permittee shall develop and implement a stormwater pollution prevention plan (SWP3). The SWP3 must be maintained onsite and made readily available for review by the TCEQ upon request. The SWP3 must, at a minimum, include the following:

a) a site or project description, which includes the following information:

1) a description of the nature of the construction activity;

2) a list of potential pollutants and their sources;

3) a description of the intended schedule or sequence of activities that will disturb soils for major portions of the site;

4) the total number of acres of the entire property and the total number of acres where construction activities will occur, including off-site material storage areas, overburden and stockpiles of dirt, and borrow areas;

5) data describing the soil or the quality of any discharge from the site;

6) a map showing the general location of the site (e.g., a portion of a city or county map);

7) a detailed site map (or maps) indicating the following:

a) drainage patterns and approximate slopes anticipated after major grading activities;
b) areas where soil disturbance will occur;
c) locations of all major erosion and sediment controls and natural buffers, either planned or in place;
d) locations where temporary or permanent stabilization practices are expected to be used;
e) locations of construction support activities, including off-site activities, including material, waste, borrow, fill, or equipment storage areas;
f) surface waters (including wetlands) either at, adjacent, or in close proximity to the site;
g) locations where stormwater discharges from the site directly to a surface water body or a municipal separate storm sewer system; and
h) vehicle wash areas.

8) the location and description of support activities such as the concrete plant, gravel washing facilities, and other activities providing support to the construction site; and

9) the name of receiving waters at or near the site(s) that may be disturbed or that may receive discharges from disturbed areas of the project(s).

b) A description of the Best Management Practices (BMPs) that will be used to minimize pollution in runoff. The description must identify the general timing or sequence for implementation. At a minimum, the description must include the following components:

1) General Requirements

a) Erosion and sediment controls must be designed to retain sediment on-site to the extent practicable with consideration for local topography, soil type, and rainfall.

b) Control measures must be properly selected, installed, and maintained according to the manufacturer's or designer's specifications.

c) Controls must be developed to minimize the offsite transport of litter, construction debris, and construction materials.

2) Erosion Control and Stabilization Practices

The SWP3 must include a description of temporary and permanent erosion control and stabilization practices for the site(s), including a schedule of when the practices will be implemented. Site plans should ensure that existing vegetation is preserved where it is possible.

a) Erosion control and stabilization practices may include but are not limited to: establishment of temporary or permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of existing trees and vegetation, slope texturing, temporary velocity dissipation devices, flow diversion mechanisms, and other similar measures.

b) The following records must be maintained and either attached to or referenced in the SWP3:

i. the dates when major grading activities occur;

ii. the dates when construction activities temporarily or permanently cease on a portion of the site; and

iii. the dates when stabilization measures are initiated.

c) Erosion control and stabilization measures must be initiated immediately in portions of the site(s) where construction activities have temporarily ceased. Stabilization measures that provide a protective cover must be initiated immediately in portions of the site(s) where construction activities have permanently ceased. Except as provided in (c)(i) through (c)(iii) below, these measures must be completed no more than 14 days after the construction activity in that portion of the site(s) has temporarily or permanently ceased:

i. Where the immediate initiation of stabilization measures after construction activity temporarily or permanently ceased is precluded by snow cover or frozen ground conditions, stabilization measures must be initiated as soon as practicable.

ii. In arid areas, semi-arid areas, or drought-stricken areas where the immediate initiation of stabilization measures after construction activity has temporarily or permanently ceased or is precluded by arid conditions, erosion control and stabilization measures must be initiated as soon as

practicable. Where vegetative controls are not feasible due to arid conditions, the permittee shall immediately install, and within 14 calendar days of a temporary or permanent cessation of work in any portion of the site(s) complete, non-vegetative erosion controls. If non-vegetative controls are not feasible, the permittee shall install temporary sediment controls as required in Paragraph (c)(iii) below.

iii. In areas where temporary stabilization measures are infeasible, the permittee may alternatively utilize temporary perimeter controls. The permittee must document in the SWP3 the reason why stabilization measures are not feasible, and must demonstrate that the perimeter controls will retain sediment on site(s) to the extent practicable. The permittee must continue to inspect the BMPs for unstabilized sites.

3) Sediment Control Practices

The SWP3 must include a description of any sediment control practices used to remove eroded soils from stormwater runoff, including the general timing or sequence for implementation of controls.

a) Sedimentation Basin(s)

i. A sedimentation basin is required, where feasible, for a common drainage location that serves an area with ten (10) or more acres disturbed at one time. A sedimentation basin may be temporary or permanent, and must provide sufficient storage to contain a calculated volume of runoff from a 2-year, 24-hour storm from each disturbed acre drained. When calculating the volume of runoff from a 2-year, 24-hour storm event, it is not required to include the flows from offsite areas and flow from onsite areas that are either undisturbed or have already undergone permanent stabilization, if these flows are diverted around both the disturbed areas of the site(s) and the sediment basin. Capacity calculations shall be included in the SWP3.

ii. Where rainfall data is not available or a calculation cannot be performed, the sedimentation basin must provide at least 3,600 cubic feet of storage per acre drained until final stabilization of the site(s).

iii. If a sedimentation basin is not feasible, then the permittee shall provide equivalent control measures until final stabilization of the site(s). In determining whether installing a sediment basin is feasible, the permittee may consider factors such as site soils, slope, available area, public safety, precipitation patterns, site geometry, site vegetation, infiltration capacity, geotechnical factors, depth to groundwater, and other similar considerations. The permittee shall document the reason that the sediment basins are not feasible, and shall utilize equivalent control measures, which may include a series of smaller sediment basins.

b) Perimeter Controls - At a minimum, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries of the construction area, and for those side slope boundaries deemed appropriate as dictated by individual site(s) conditions.

c) Controls for Sites With Drainage Areas Less than Ten Acres:

i. Sediment traps and sediment basins may be used to control solids in stormwater runoff for drainage locations serving less than ten (10) acres. At a minimum, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries of the construction area,

and for those side slope boundaries deemed appropriate as dictated by individual site(s) conditions.

ii. Alternatively, a sediment basin that provides storage for a calculated volume of runoff from a 2-year, 24-hour storm from each disturbed acre drained may be utilized. Where rainfall data is not available or a calculation cannot be performed, a temporary or permanent sediment basin providing 3,600 cubic feet of storage per acre drained may be provided. If a calculation is performed, then the calculation shall be included in the SWP3.

c) Description of Permanent Stormwater Controls

A description of any measures that will be installed during the construction process to control pollutants in stormwater discharges that may occur after construction operations have been completed must be included in the SWP3.

d) Other Required Controls and BMPs

1) The permittee shall minimize, to the extent practicable, the off-site vehicle tracking of sediments and the generation of dust. The SWP3 must include a description of controls utilized to accomplish this requirement.

2) The SWP3 must include a description of construction and waste materials expected to be stored on-site and a description of controls to minimize pollutants from these materials.

3) The SWP3 must include a description of potential pollutant sources from areas other than construction (such as stormwater discharges from dedicated gravel washing facilities and dedicated concrete batch plants), and a description of controls and measures that will be implemented at those sites to minimize pollutant discharges.

4) The permittee shall place velocity dissipation devices at discharge locations and along the length of any outfall channel (such as runoff conveyance) to provide a non-erosive flow velocity from the structure to a water course, so that the natural physical and biological characteristics and functions are maintained and protected.

5) The permittee shall design and utilize appropriate controls to minimize the offsite transport of suspended sediments and other pollutants if it is necessary to pump or channel standing water from the site(s).

e) Maintenance Requirements

1) All protective measures identified in the SWP3 must be maintained in effective operating condition. If, through inspections or other means, the permittee determines that BMPs are not operating effectively, then the permittee shall perform maintenance as necessary to maintain the continued effectiveness of stormwater controls, and prior to the next rain event if feasible. If maintenance prior to the next anticipated storm event is impracticable, the reason shall be documented in the SWP3 and maintenance must be scheduled and accomplished as soon as practicable. Erosion and sediment controls that have been intentionally disabled, run-over, removed, or otherwise rendered ineffective must be replaced or corrected immediately upon discovery.

2) If periodic inspections or other information indicates a control has been used incorrectly, is performing inadequately, or is damaged, then the permittee shall replace or modify the control as soon as practicable after making the discovery.

3) Sediment must be removed from sediment traps and sedimentation ponds no later than the time that design capacity has been reduced by 50%. For perimeter controls

such as silt fences, berms, etc., the trapped sediment must be removed before it reaches 50% of the above-ground height.

4) If sediment escapes the site(s), accumulations must be removed at a frequency that minimizes offsite impacts, and prior to the next rain event, if feasible.

f) Inspections of Controls

1) Personnel provided by the permittee must inspect disturbed areas of the construction site(s) that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, discharge locations, and structural controls for evidence of, or the potential for, pollutants entering the drainage system. Personnel conducting these inspections must be knowledgeable of this permit, familiar with the construction site(s), and knowledgeable of the SWP3 for the site(s). Sediment and erosion control measures identified in the SWP3 must be inspected to ensure that they are operating correctly. Locations where vehicles enter or exit the site must be inspected for evidence of off-site sediment tracking. Inspections must be conducted at least once every 14 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater.

2) Where sites have been finally or temporarily stabilized or where runoff is unlikely due to winter conditions (e.g., site(s) is covered with snow, ice, or frozen ground exists), inspections must be conducted at least once every month. During periods of drought, inspections must be conducted at least once every month and within 24 hours after the end of a storm event of 0.5 inches or greater.

3) As an alternative to the above-described inspection schedule of once every 14 calendar days and within 24 hours of a storm event of 0.5 inches or greater, the SWP3 may be developed to require that these inspections will occur at least once every seven (7) calendar days. If this alternative schedule is developed, then the inspection must occur on a specifically defined day, regardless of whether or not there has been a rainfall event since the previous inspection.

4) The inspections may occur on either schedule provided that the SWP3 reflects the current schedule and that any changes to the schedule are conducted in accordance with the following provisions: the schedule may be changed a maximum of one time each month, the schedule change must be implemented at the beginning of a calendar month, and the reason for the schedule change must be documented in the SWP3 (e.g., end of “dry” season and beginning of “wet” season).

5) In the event of flooding or other uncontrollable situations which prohibit access to the inspection sites, inspections must be conducted as soon as access is practicable.

6) The SWP3 must be modified based on the results of inspections, as necessary, to better control pollutants in runoff. Revisions to the SWP3 must be completed within seven (7) calendar days following the inspection. If existing BMPs are modified or if additional BMPs are necessary, an implementation schedule must be described in the SWP3 and wherever possible those changes implemented before the next storm event. If implementation before the next anticipated storm event is impracticable, these changes must be implemented as soon as practicable.

7) The permittee shall prepare, and retain as part of the SWP3 a report summarizing the scope of the inspection, the date(s) of the inspection, and major observations relating to the implementation of the SWP3 must be made and retained as part of the SWP3. Major observations should include: The locations of discharges of sediment or other pollutants from the site(s); locations of BMPs that need to be maintained; locations of BMPs that failed to operate as designed or proved

inadequate for a particular location; and locations where additional BMPs are needed.

8) Actions taken as a result of inspections must be described within, and retained as a part of, the SWP3. Reports must identify any incidents of non-compliance. Where a report does not identify any incidents of non-compliance, the report must contain a certification that the facility or site is in compliance with the SWP3 and this permit. The report must be signed by the person and in the manner required by 30 TAC §305.128 (relating to Signatories to Reports).

9) The names and qualifications of personnel making the inspections for the permittee may be documented once in the SWP3 rather than being included in each report.

g) Erosion and Sediment Control Requirements

The permittee shall ensure that the discharge, achieves, at a minimum, the following effluent limitations representing the degree of effluent reduction attainable by application of the best practicable control technology currently available (BPT).

1) Erosion and sediment controls - Design, install, and maintain effective erosion controls and sediment controls to minimize the discharge of pollutants. At a minimum, such controls must be designed, installed, and maintained to:

a) Control stormwater volume and velocity within the site(s) to minimize soil erosion;

b) Control stormwater discharges, including both peak flowrates and total stormwater volume, to minimize erosion at outlets and to minimize downstream channel and streambank erosion;

c) Minimize the amount of soil exposed during construction activity;

d) Minimize the disturbance of steep slopes;

e) Minimize sediment discharges from the site(s). The design, installation, and maintenance of erosion and sediment controls must address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting stormwater runoff, and soil characteristics, including the range of soil particle sizes expected to be present on the site(s);

f) If earth disturbance activities are located in close proximity to a surface water, provide and maintain appropriate natural buffers if feasible and as necessary, around surface waters, depending on site-specific topography, sensitivity, and proximity to water bodies. Direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration unless unfeasible; and

g) Minimize soil compaction and, unless infeasible, preserve topsoil.

h) TCEQ does not consider stormwater control features (e.g., stormwater conveyance channels, storm drain inlets, sediment basins) to constitute “surface waters” for the purposes of triggering the buffer requirement in item (f) above. Also, areas that the permittee does not own or that are otherwise outside their operational control may be considered areas of undisturbed natural buffer for purposes of compliance with this requirement.

2) Soil stabilization - Stabilization of disturbed areas must, at a minimum, be initiated immediately whenever any clearing, grading, excavating, or other earth disturbing activities have permanently ceased on any portion of the site(s), or temporarily ceased on any portion of the site(s) and will not resume for a period exceeding 14

calendar days. Temporary stabilization must be completed within 14 days after initiation of soil stabilization measures, and final stabilization must be achieved prior to termination of permit coverage. In arid, semi-arid, and drought-stricken areas where initiating vegetative stabilization measures immediately is infeasible, alternative non-vegetative stabilization measures must be employed as soon as practicable.

3) Dewatering - Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, are prohibited, unless managed by appropriate controls.

4) Pollution prevention measures - Design, install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, such measures must be designed, installed, implemented, and maintained to:

   a) Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;

   b) Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site(s) to precipitation and to stormwater; and

   c) Minimize the discharge of pollutants from spills and leaks, and implement chemical spill and leak prevention and response procedures.

5) Prohibited discharges - The following discharges are prohibited:

   a) Wastewater from wash out of concrete trucks, unless managed by an appropriate control;

   b) Wastewater from wash out and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;

   c) Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and

   d) Soaps or solvents used in vehicle and equipment washing.

6) Surface outlets - When discharging from basins and impoundments, utilize outlet structures that withdraw water from the surface, unless infeasible.

BIOMONITORING REQUIREMENTS

CHRONIC BIOMONITORING REQUIREMENTS: MARINE

The provisions of this section apply to Outfalls 001 and 011 for whole effluent toxicity (WET) testing.

1. Scope, Frequency and Methodology

   a. The permittee shall test the effluent for toxicity in accordance with the provisions below. Such testing will determine if an appropriately dilute effluent sample adversely affects the survival or growth of the test organisms.

   b. The permittee shall conduct the following toxicity tests using the test organisms, procedures, and quality assurance requirements specified below and in accordance with "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms," third edition (EPA-821-R-02-014) or its most recent update:

      1) Chronic static renewal 7-day survival and growth test using the mysid shrimp (*Mysidopsis bahia*) (Method 1007.0). A minimum of eight replicates with five organisms per replicate shall be used in the control and in each dilution. This test shall be conducted once per quarter.

      2) Chronic static renewal 7-day larval survival and growth test using the inland silverside (*Menidia beryllina*) (Method 1006.0). A minimum of five replicates with eight organisms per replicate shall be used in the control and in each dilution. This test shall be conducted once per quarter.

      The permittee must perform and report a valid test for each test species during the prescribed reporting period. An invalid test must be repeated during the same reporting period. An invalid test is defined as any test failing to satisfy the test acceptability criteria, procedures, and quality assurance requirements specified in the test methods and permit.

   c. The permittee shall use five effluent dilution concentrations and a control in each toxicity test. For Outfall 001, these effluent dilution concentrations are 1.5%, 2%, 2.5%, 3.5%, and 5% effluent. The critical dilution, defined as 3.5% effluent, is the effluent concentration representative of the proportion of effluent in the receiving water during critical low flow or critical mixing conditions. For Outfall 011, these effluent dilution concentrations are 3%, 5%, 6%, 8%, and 11% effluent and the critical dilution is 8% effluent.

   d. This permit may be amended to require a WET limit, a chemical-specific limit, a best management practice, or other appropriate actions to address toxicity. The permittee may be required to conduct a toxicity reduction evaluation (TRE) after multiple toxic events.

   e. Testing Frequency Reduction

      1) If none of the first four consecutive quarterly tests demonstrates significant toxicity, the permittee may submit this information in writing and, upon

approval, reduce the testing frequency to once per six months for the invertebrate test species and once per year for the vertebrate test species.

2) If one or more of the first four consecutive quarterly tests demonstrates significant toxicity, the permittee shall continue quarterly testing for that species until this permit is reissued. If a testing frequency reduction had been previously granted and a subsequent test demonstrates significant toxicity, the permittee will resume a quarterly testing frequency for that species until this permit is reissued.

f. The lethal No Observed Effect Concentration (NOEC) effluent limitations for both test species of not less than 8% (see the EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS section) are effective at permit issuance for Outfall 011.

g. If a test species fails to meet the lethal NOEC of 8% at Outfall 011, the testing frequency for that species will increase to monthly until such time compliance is demonstrated for a period of three consecutive months, at which time the permittee may return to quarterly testing.

2. Required Toxicity Testing Conditions

a. Test Acceptance - The permittee shall repeat any toxicity test, including the control and all effluent dilutions, which fails to meet any of the following criteria:

1) a control mean survival of 80% or greater;

2) a control mean dry weight of surviving mysid shrimp of 0.20 mg or greater;

3) a control mean dry weight for surviving unpreserved inland silverside of 0.50 mg or greater and 0.43 mg or greater for surviving preserved inland silverside;

4) a control coefficient of variation percent (CV%) between replicates of 40 or less in the growth and survival tests;

5) a critical dilution CV% of 40 or less in the growth and survival endpoints for either growth and survival test. However, if statistically significant lethal or nonlethal effects are exhibited at the critical dilution, a CV% greater than 40 shall not invalidate the test;

6) a percent minimum significant difference of 37 or less for mysid shrimp growth; and

7) a percent minimum significant difference of 28 or less for inland silverside growth.

b. Statistical Interpretation

1) For the mysid shrimp and the inland silverside larval survival and growth tests, the statistical analyses used to determine if there is a significant difference between the control and an effluent dilution shall be in accordance with the manual referenced in Part 1.b.

2) The permittee is responsible for reviewing test concentration-response relationships to ensure that calculated test-results are interpreted and reported correctly. The document entitled "Method Guidance and Recommendation for Whole Effluent Toxicity (WET) Testing (40 CFR Part 136)" (EPA 821-B-00-004) provides guidance on determining the validity of test results.

3) If significant lethality is demonstrated (that is, there is a statistically significant difference in survival at the critical dilution when compared to the survival in the control), the conditions of test acceptability are met, and the survival of the test organisms are equal to or greater than 80% in the critical dilution and all dilutions below that, then the permittee shall report a survival No Observed Effect Concentration (NOEC) of not less than the critical dilution for the reporting requirements.

4) The NOEC is defined as the greatest effluent dilution at which no significant effect is demonstrated. The Lowest Observed Effect Concentration (LOEC) is defined as the lowest effluent dilution at which a significant effect is demonstrated. A significant effect is herein defined as a statistically significant difference between the survival, reproduction, or growth of the test organism in a specified effluent dilution compared to the survival, reproduction, or growth of the test organism in the control (0% effluent).

5) The use of NOECs and LOECs assumes either a monotonic (continuous) concentration-response relationship or a threshold model of the concentration-response relationship. For any test result that demonstrates a non-monotonic (non-continuous) response, the NOEC should be determined based on the guidance manual referenced in Item 2.

6) Pursuant to the responsibility assigned to the permittee in Part 2.b.2), test results that demonstrate a non-monotonic (non-continuous) concentration-response relationship may be submitted, prior to the due date, for technical review. The guidance manual referenced in Part 1.b. will be used when making a determination of test acceptability.

7) TCEQ staff will review test results for consistency with rules, procedures, and permit requirements.

c. Dilution Water

1) Dilution water used in the toxicity tests must be the receiving water collected as close to the point of discharge as possible but unaffected by the discharge.

2) Where the receiving water proves unsatisfactory as a result of preexisting instream toxicity (i.e., fails to fulfill the test acceptance criteria of Part 2.a.), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:

a) a synthetic lab water control was performed (in addition to the receiving water control) which fulfilled the test acceptance requirements of Part 2.a;

b) the test indicating receiving water toxicity was carried out to completion (i.e., 7 days); and

c) the permittee submitted all test results indicating receiving water toxicity with the reports and information required in Part 3.

3) The synthetic dilution water shall consist of standard, reconstituted seawater. Upon approval, the permittee may substitute other dilution water with chemical and physical characteristics similar to that of the receiving water.

d. Samples and Composites

1) The permittee shall collect a minimum of three composite samples from either Outfall 001 or Outfall 011, whichever one is being tested. The second and third composite samples will be used for the renewal of the dilution concentrations for each toxicity test.

2) The permittee shall collect the composite samples such that the samples are representative of any periodic episode of chlorination, biocide usage, or other potentially toxic substance being discharged on an intermittent basis.

3) The permittee shall initiate the toxicity tests within 36 hours after collection of the last portion of the first composite sample. The holding time for any subsequent composite sample shall not exceed 72 hours. Samples shall be maintained at a temperature of 0-6 degrees Centigrade during collection, shipping, and storage.

4) If the outfall being sampled ceases discharging during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions, and the sample holding time are waived during that sampling period for that outfall. However, the permittee must have collected an effluent composite sample volume sufficient to complete the required toxicity tests with renewal of the effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report.

3. Reporting

All reports, tables, plans, summaries, and related correspondence required in this section shall be submitted to the attention of the Standards Implementation Team (MC 150) of the Water Quality Division.

a. The permittee shall prepare a full report of the results of all tests conducted in accordance with the manual referenced in Part 1.b. for every valid and invalid toxicity test initiated whether carried to completion or not.

b. The permittee shall routinely report the results of each biomonitoring test on the Table 1 forms provided with this permit.

1) Annual biomonitoring test results are due on or before January 20th for biomonitoring conducted during the previous 12-month period.

2) Semiannual biomonitoring test results are due on or before July 20th and January 20th for biomonitoring conducted during the previous 6-month period.

3) Quarterly biomonitoring test results are due on or before April 20th, July 20th, October 20th, and January 20th, for biomonitoring conducted during the previous calendar quarter.

4) Monthly biomonitoring test results are due on or before the 20th day of the month following sampling.

c. Enter the following codes for the appropriate parameters for valid tests only:

1) For the mysid shrimp, Parameter TLP3E, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

2) For the mysid shrimp, Parameter TOP3E, report the NOEC for survival.

3) For the mysid shrimp, Parameter TXP3E, report the LOEC for survival.

4) For the mysid shrimp, Parameter TWP3E, enter a "1" if the NOEC for growth is less than the critical dilution; otherwise, enter a "0."

5) For the mysid shrimp, Parameter TPP3E, report the NOEC for growth.

6) For the mysid shrimp, Parameter TYP3E, report the LOEC for growth.

7) For the inland silverside, Parameter TLP6B, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

8) For the inland silverside, Parameter TOP6B, report the NOEC for survival.

9) For the inland silverside, Parameter TXP6B, report the LOEC for survival.

10) For the inland silverside, Parameter TWP6B, enter a "1" if the NOEC for growth is less than the critical dilution; otherwise, enter a "0."

11) For the inland silverside, Parameter TPP6B, report the NOEC for growth.

12) For the inland silverside, Parameter TYP6B, report the LOEC for growth.

d. Enter the following codes for retests only:

1) For retest number 1, Parameter 22415, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

2) For retest number 2, Parameter 22416, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

e. The permittee shall report the lethal WET values for the 30-day average and the 7-day minimum under Parameter No. 51713 for the mysid shrimp and Parameter No. 51712 for the inland silverside for the appropriate reporting. If more than one valid test was performed during the reporting period, the NOECs will be averaged arithmetically and

reported as the daily average NOEC. The data submitted should reflect the lowest lethal results during the reporting period.

4. Persistent Toxicity

The requirements of this part apply only when a test demonstrates a significant effect at the critical dilution. Significant effect and significant lethality were defined in Part 2.b. Significant sublethality is defined as a statistically significant difference in growth at the critical dilution when compared to the growth of the test organism in the control.

a. The permittee shall conduct a total of 2 additional tests (retests) for any species that demonstrates a significant effect (lethal or sublethal) at the critical dilution. The two retests shall be conducted monthly during the next two consecutive months. The permittee shall not substitute either of the two retests in lieu of routine toxicity testing. All reports shall be submitted within 20 days of test completion. Test completion is defined as the last day of the test.

b. If the retests are performed due to a demonstration of significant lethality, and one or both of the two retests specified in Part 4.a. demonstrates significant lethality, the permittee shall initiate the TRE requirements as specified in Part 5. The provisions of Part 4.a. are suspended upon completion of the two retests and submittal of the TRE Action plan and schedule defined in Part 5. The significant lethality provisions in this part apply to Outfall 001 only, since Outfall 011 already has lethal WET limits for both test species.

If neither test demonstrates significant lethality and the permittee is testing under the reduced testing frequency provision of Part 1.e., the permittee shall return to a quarterly testing frequency for that species.

c. If the two retests are performed due to a demonstration of significant sublethality, and one or both of the two retests specified in Part 4.a. demonstrates significant lethality, the permittee shall again perform two retests as stipulated in Part 4.a. The significant lethality provisions in this part apply to Outfall 001 only, since Outfall 011 already has lethal WET limits for both test species.

d. If the two retests are performed due to a demonstration of significant sublethality, and neither test demonstrates significant lethality, the permittee shall continue testing at the quarterly frequency.

e. Regardless of whether retesting for lethal or sublethal effects or a combination of the two, no more than one retest per month is required for a species.

5. Toxicity Reduction Evaluation

a. Within 45 days of the retest that demonstrates significant lethality, or within 45 days of being so instructed due to multiple toxic events, the permittee shall submit a general outline for initiating a TRE. The outline shall include, but not be limited to, a description of project personnel, a schedule for obtaining consultants (if needed), a discussion of influent and effluent data available for review, a sampling and analytical schedule, and a proposed TRE initiation date.

b. Within 90 days of the retest that demonstrates significant lethality, or within 90 days of being so instructed due to multiple toxic events, the permittee shall submit a TRE

action plan and schedule for conducting a TRE. The plan shall specify the approach and methodology to be used in performing the TRE. A TRE is a step-wise investigation combining toxicity testing with physical and chemical analyses to determine actions necessary to eliminate or reduce effluent toxicity to a level not effecting significant lethality at the critical dilution. The TRE action plan shall describe an approach for the reduction or elimination of lethality for both test species defined in Part 1.b. At a minimum, the TRE Action Plan shall include the following:

1) Specific Activities - The TRE action plan shall specify the approach the permittee intends to utilize in conducting the TRE, including toxicity characterizations, identifications, confirmations, source evaluations, treatability studies, and alternative approaches. When conducting characterization analyses, the permittee shall perform multiple characterizations and follow the procedures specified in the document entitled "Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures" (EPA/600/6-91/003) or alternate procedures. The permittee shall perform multiple identifications and follow the methods specified in the documents entitled, "Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/080) and "Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/081). All characterization, identification, and confirmation tests shall be conducted in an orderly and logical progression;

2) Sampling Plan - The TRE action plan should describe sampling locations, methods, holding times, chain of custody, and preservation techniques. The effluent sample volume collected for all tests shall be adequate to perform the toxicity characterization/identification/confirmation procedures and chemical-specific analyses when the toxicity tests show significant lethality. Where the permittee has identified or suspects specific pollutant and source of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical-specific analyses for the identified and suspected pollutant and source of effluent toxicity;

3) Quality Assurance Plan - The TRE action plan should address record keeping and data evaluation, calibration and standardization, baseline tests, system blanks, controls, duplicates, spikes, toxicity persistence in the samples, randomization, reference toxicant control charts, and mechanisms to detect artifactual toxicity; and

4) Project Organization - The TRE action plan should describe the project staff, project manager, consulting engineering services (where applicable), consulting analytical and toxicological services, etc.

c. Within 30 days of submittal of the TRE action plan and schedule, the permittee shall implement the TRE.

d. The permittee shall submit quarterly TRE activities reports concerning the progress of the TRE. The quarterly reports are due on or before April 20th, July 20th, October 20th, and January 20th. The report shall detail information regarding the TRE activities including:

1) results and interpretation of any chemical-specific analyses for the identified and suspected pollutant performed during the quarter;

2) results and interpretation of any characterization, identification, and confirmation tests performed during the quarter;

3) any data and substantiating documentation which identifies the pollutant and source of effluent toxicity;

4) results of any studies/evaluations concerning the treatability of the facility's effluent toxicity;

5) any data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant lethality at the critical dilution; and

6) any changes to the initial TRE plan and schedule that are believed necessary as a result of the TRE findings.

e. During the TRE, the permittee shall perform, at a minimum, quarterly testing using the more sensitive species. Testing for the less sensitive species shall continue at the frequency specified in Part 1.b.

f. If the effluent ceases to effect significant lethality, i.e., there is a cessation of lethality, the permittee may end the TRE. A cessation of lethality is defined as no significant lethality for a period of 12 consecutive months with at least monthly testing. At the end of the 12 months, the permittee shall submit a statement of intent to cease the TRE and may then resume the testing frequency specified in Part 1.b.

This provision accommodates situations where operational errors and upsets, spills, or sampling errors triggered the TRE, in contrast to a situation where a single toxicant or group of toxicants cause lethality. This provision does not apply as a result of corrective actions taken by the permittee. Corrective actions are herein defined as proactive efforts that eliminate or reduce effluent toxicity. These include, but are not limited to, source reduction or elimination, improved housekeeping, changes in chemical usage, and modifications of influent streams and effluent treatment.

The permittee may only apply this cessation of lethality provision once. If the effluent again demonstrates significant lethality to the same species, the permit will be amended to add a WET limit with a compliance period, if appropriate. However, prior to the effective date of the WET limit, the permittee may apply for a permit amendment removing and replacing the WET limit with an alternate toxicity control measure by identifying and confirming the toxicant and an appropriate control measure.

g. The permittee shall complete the TRE and submit a final report on the TRE activities no later than 28 months from the last test day of the retest that confirmed significant lethal effects at the critical dilution. The permittee may petition the Executive Director (in writing) for an extension of the 28-month limit. However, to warrant an extension the permittee must have demonstrated due diligence in its pursuit of the toxicity identification evaluation/TRE and must prove that circumstances beyond their control stalled the toxicity identification evaluation/TRE. The report shall provide information pertaining to the specific control mechanism selected that will, when implemented, result in the reduction of effluent toxicity to no significant lethality at the critical

dilution. The report shall also provide a specific corrective action schedule for implementing the selected control mechanism.

h. Based upon the results of the TRE and proposed corrective actions, this permit may be amended to modify the biomonitoring requirements, where necessary, require a compliance schedule for implementation of corrective actions, specify a WET limit, specify a best management practice, and to specify a chemical-specific limit.

i. Copies of any and all required TRE plans and reports shall also be submitted to the U.S. EPA Region 6 office, 6WQ-PO.

TABLE 1 (SHEET 1 OF 4) - OUTFALL 001

MYSID SHRIMP SURVIVAL AND GROWTH

Dates and Times Composites Collected

Date Time Date Time

No. 1 FROM: _____ TO: _____

No. 2 FROM: _____ TO: _____

No. 3 FROM: _____ TO: _____

Test initiated: _____am/pm _____date

Dilution water used: _____ Receiving water _____ Synthetic dilution water

MYSID SHRIMP SURVIVAL

Percent Effluent	Percent Survival in Replicate Chambers								Mean Percent Survival			CV%*
	A	B	C	D	E	F	G	H	24h	48h	7 day	
0%												
1.5%												
2%												
2.5%												
3.5%												
5%												

* Coefficient of Variation = standard deviation x 100/mean

DATA TABLE FOR GROWTH OF MYSID SHRIMP

Replicate	Mean dry weight in milligrams in replicate chambers					
	0%	1.5%	2%	2.5%	3.5%	5%
A						
B						
C						
D						
E						

TABLE 1 (SHEET 2 OF 4) – OUTFALL 001

MYSID SHRIMP SURVIVAL AND GROWTH

DATA TABLE FOR GROWTH OF MYSID SHRIMP (Continued)

Replicate	Mean dry weight in milligrams in replicate chambers					
	0%	1.5%	2%	2.5%	3.5%	5%
F						
G						
H						
Mean Dry Weight (mg)						
CV%*						
PMSD						

1. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

   Is the mean survival at 7 days significantly less than the control survival for the % effluent corresponding to lethality?

   CRITICAL DILUTION (3.5%): _____ YES _____ NO

2. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

   Is the mean dry weight (growth) at 7 days significantly less than the control's dry weight (growth) for the % effluent corresponding to non-lethal effects?

   CRITICAL DILUTION (3.5%): _____ YES _____ NO

3. Enter percent effluent corresponding to each NOEC\LOEC below:

   a.) NOEC survival = _____% effluent

   b.) LOEC survival = _____% effluent

   c.) NOEC growth = _____% effluent

   d.) LOEC growth = _____% effluent

TABLE 1 (SHEET 3 OF 4) - OUTFALL 001

INLAND SILVERSIDE MINNOW LARVAL SURVIVAL AND GROWTH TEST

		Date Time	Date Time
Dates and Times Composites Collected	No. 1 FROM:	_____	TO: _____
	No. 2 FROM:	_____	TO: _____
	No. 3 FROM:	_____	TO: _____

Test initiated: _____am/pm _____date

Dilution water used: _____ Receiving water _____ Synthetic Dilution water

INLAND SILVERSIDE SURVIVAL

Percent Effluent	Percent Survival in Replicate Chambers					Mean Percent Survival			CV%*
	A	B	C	D	E	24h	48h	7 days	
0%									
1.5%									
2%									
2.5%									
3.5%									
5%									

* Coefficient of Variation = standard deviation x 100/mean

TABLE 1 (SHEET 4 OF 4) – OUTFALL 001

INLAND SILVERSIDE LARVAL SURVIVAL AND GROWTH TEST

INLAND SILVERSIDE GROWTH

Percent Effluent	Average Dry Weight in milligrams in replicate chambers					Mean Dry Weight (mg)	CV%*
	A	B	C	D	E		
0%							
1.5%							
2%							
2.5%							
3.5%							
5%							
PMSD							

Weights are for: ____ preserved larvae, or ____ unpreserved larvae

1. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

   Is the mean survival at 7 days significantly less than the control survival for the % effluent corresponding to lethality?

   CRITICAL DILUTION (3.5%): _____ YES _____ NO

2. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

   Is the mean dry weight (growth) at 7 days significantly less than the control's dry weight (growth) for the % effluent corresponding to non-lethal effects?

   CRITICAL DILUTION (3.5%): _____ YES _____ NO

3. Enter percent effluent corresponding to each NOEC/LOEC below:

   a.) NOEC survival = _____% effluent

   b.) LOEC survival = _____% effluent

   c.) NOEC growth = _____% effluent

   d.) LOEC growth = _____% effluent

TABLE 1 (SHEET 1 OF 4) - OUTFALL 011

MYSID SHRIMP SURVIVAL AND GROWTH

Dates and Times Composites Collected

	Date Time		Date Time
No. 1	FROM: _____	TO:	_____
No. 2	FROM: _____	TO:	_____
No. 3	FROM: _____	TO:	_____

Test initiated: _____am/pm _____date

Dilution water used: _____ Receiving water _____ Synthetic dilution water

MYSID SHRIMP SURVIVAL

Percent Effluent	Percent Survival in Replicate Chambers								Mean Percent Survival			CV%*
	A	B	C	D	E	F	G	H	24h	48h	7 day	
0%												
3%												
5%												
6%												
8%												
11%												

* Coefficient of Variation = standard deviation x 100/mean

DATA TABLE FOR GROWTH OF MYSID SHRIMP

Replicate	Mean dry weight in milligrams in replicate chambers					
	0%	3%	5%	6%	8%	11%
A						
B						
C						
D						
E						

TABLE 1 (SHEET 2 OF 4) – OUTFALL 011

MYSID SHRIMP SURVIVAL AND GROWTH

DATA TABLE FOR GROWTH OF MYSID SHRIMP (Continued)

Replicate	Mean dry weight in milligrams in replicate chambers					
	0%	3%	5%	6%	8%	11%
F						
G						
H						
Mean Dry Weight (mg)						
CV%*						
PMSD						

1. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

   Is the mean survival at 7 days significantly less than the control survival for the % effluent corresponding to lethality?

   CRITICAL DILUTION (8%): _____ YES _____ NO

2. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

   Is the mean dry weight (growth) at 7 days significantly less than the control's dry weight (growth) for the % effluent corresponding to non-lethal effects?

   CRITICAL DILUTION (8%): _____ YES _____ NO

3. Enter percent effluent corresponding to each NOEC\LOEC below:

   a.) NOEC survival = _____% effluent

   b.) LOEC survival = _____% effluent

   c.) NOEC growth = _____% effluent

   d.) LOEC growth = _____% effluent

TABLE 1 (SHEET 3 OF 4) - OUTFALL 011

INLAND SILVERSIDE MINNOW LARVAL SURVIVAL AND GROWTH TEST

		Date Time		Date Time
Dates and Times Composites Collected	No. 1	FROM: _____	TO:	_____
	No. 2	FROM: _____	TO:	_____
	No. 3	FROM: _____	TO:	_____

Test initiated: _____am/pm _____date

Dilution water used: _____ Receiving water _____ Synthetic Dilution water

INLAND SILVERSIDE SURVIVAL

Percent Effluent	Percent Survival in Replicate Chambers					Mean Percent Survival			CV%*
	A	B	C	D	E	24h	48h	7 days	
0%									
3%									
5%									
6%									
8%									
11%									

* Coefficient of Variation = standard deviation x 100/mean

TABLE 1 (SHEET 4 OF 4) – OUTFALL 011

INLAND SILVERSIDE LARVAL SURVIVAL AND GROWTH TEST

INLAND SILVERSIDE GROWTH

Percent Effluent	Average Dry Weight in milligrams in replicate chambers					Mean Dry Weight (mg)	CV%*
	A	B	C	D	E		
0%							
3%							
5%							
6%							
8%							
11%							
PMSD							

Weights are for: ____ preserved larvae, or ____ unpreserved larvae

1. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

   Is the mean survival at 7 days significantly less than the control survival for the % effluent corresponding to lethality?

   CRITICAL DILUTION (8%): _____ YES _____ NO

2. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

   Is the mean dry weight (growth) at 7 days significantly less than the control's dry weight (growth) for the % effluent corresponding to non-lethal effects?

   CRITICAL DILUTION (8%): _____ YES _____ NO

3. Enter percent effluent corresponding to each NOEC/LOEC below:

   a.) NOEC survival = _____% effluent

   b.) LOEC survival = _____% effluent

   c.) NOEC growth = _____% effluent

   d.) LOEC growth = _____% effluent

24-HOUR ACUTE BIOMONITORING REQUIREMENTS: MARINE

The provisions of this section apply to Outfalls 001 and 011 for whole effluent toxicity (WET) testing.

1. Scope, Frequency, and Methodology

a. The permittee shall test the effluent for lethality in accordance with the provisions in this Section. Such testing will determine compliance with Texas Surface Water Quality Standard 30 TAC § 307.6(e)(2)(B), which requires greater than 50% survival of the appropriate test organisms in 100% effluent for a 24-hour period.

b. The toxicity tests specified shall be conducted once per six months. The permittee shall conduct the following toxicity tests using the test organisms, procedures, and quality assurance requirements specified in this section of the permit and in accordance with "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms," fifth edition (EPA-821-R-02-012) or its most recent update:

1) Acute 24-hour static toxicity test using the mysid shrimp (*Mysidopsis bahia*). A minimum of five replicates with eight organisms per replicate shall be used in the control and each dilution.

2) Acute 24-hour static toxicity test using the inland silverside (*Menidia beryllina*). A minimum of five replicates with eight organisms per replicate shall be used in the control and each dilution.

A valid test result must be submitted for each reporting period. The permittee must report, then repeat, an invalid test during the same reporting period. The repeat test shall include the control and all effluent dilutions and use the appropriate number of organisms and replicates, as specified above. An invalid test is defined as any test failing to satisfy the test acceptability criteria, procedures, and quality assurance requirements specified in the test methods and permit.

c. In addition to an appropriate control, a 100% effluent concentration shall be used in the toxicity tests. Except as discussed in Part 2.b., the control and dilution water shall consist of standard, synthetic, reconstituted seawater.

d. This permit may be amended to require a WET limit, a best management practice, a chemical-specific limit, additional toxicity testing, and other appropriate actions to address toxicity. The permittee may be required to conduct a toxicity reduction evaluation (TRE) after multiple toxic events.

2. Required Toxicity Testing Conditions

a. Test Acceptance - The permittee shall repeat any toxicity test, including the control, if the control fails to meet a mean survival equal to or greater than 90%.

b. Dilution Water - In accordance with Part 1.c., the control and dilution water shall consist of standard, synthetic, reconstituted seawater.

c. Samples and Composites

1) The permittee shall collect one composite sample from Outfall 001 or Outfall 011, whichever one is being tested.

2) The permittee shall collect the composite sample such that the sample is representative of any periodic episode of chlorination, biocide usage, or other potentially toxic substance being discharged on an intermittent basis.

3) The permittee shall initiate the toxicity tests within 36 hours after collection of the last portion of the composite sample. The sample shall be maintained at a temperature of 0-6 degrees Centigrade during collection, shipping, and storage.

4) If the outfall being tested ceases discharging during the collection of the effluent composite sample, the requirements for the minimum number of effluent portions are waived. However, the permittee must have collected a composite sample volume sufficient for completion of the required test at that outfall. The abbreviated sample collection, duration, and methodology must be documented in the full report.

3. Reporting

All reports, tables, plans, summaries, and related correspondence required of this section shall be submitted to the attention of the Standards Implementation Team (MC 150) of the Water Quality Division.

a. The permittee shall prepare a full report of the results of all tests conducted in accordance with the manual referenced in Part 1.b. for every valid and invalid toxicity test initiated.

b. The permittee shall routinely report the results of each biomonitoring test on the Table 2 forms provided with this permit.

1) Semiannual biomonitoring test results are due on or before July 20th and January 20th for biomonitoring conducted during the previous 6-month period.

2) Quarterly biomonitoring test results are due on or before April 20th, July 20th, October 20th, and January 20th for biomonitoring conducted during the previous calendar quarter.

c. Enter the following codes for the appropriate parameters for valid tests only:

1) For the mysid shrimp, Parameter TIE3E, enter a “0” if the mean survival at 24-hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter a “1.”

2) For the inland silverside, Parameter TIE6B, enter a “0” if the mean survival at 24-hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter a “1.”

d. Enter the following codes for retests only:

1) For retest number 1, Parameter 22415, enter a "0" if the mean survival at 24-hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter "1."

2) For retest number 2, Parameter 22416, enter a "0" if the mean survival at 24-hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter "1."

4. Persistent Mortality

The requirements of this part apply when a toxicity test demonstrates significant lethality, here defined as a mean mortality of 50% or greater to organisms exposed to the 100% effluent concentration after 24-hours.

a. The permittee shall conduct 2 additional tests (retests) for each species that demonstrates significant lethality. The two retests shall be conducted once per week for 2 weeks. Five effluent dilution concentrations in addition to an appropriate control shall be used in the retests. These additional effluent concentrations are 6%, 13%, 25%, 50% and 100% effluent. The first retest shall be conducted within 15 days of the laboratory determination of significant lethality. All test results shall be submitted within 20 days of test completion of the second retest. Test completion is defined as the 24th hour.

b. If one or both of the two retests specified in item 4.a. demonstrates significant lethality, the permittee shall initiate the TRE requirements as specified in Part 5 of this Section.

5. Toxicity Reduction Evaluation

a. Within 45 days of the retest that demonstrates significant lethality, the permittee shall submit a general outline for initiating a TRE. The outline shall include, but not be limited to, a description of project personnel, a schedule for obtaining consultants (if needed), a discussion of influent and effluent data available for review, a sampling and analytical schedule, and a proposed TRE initiation date.

b. Within 90 days of the retest that demonstrates significant lethality, the permittee shall submit a TRE action plan and schedule for conducting a TRE. The plan shall specify the approach and methodology to be used in performing the TRE. A TRE is a step-wise investigation combining toxicity testing with physical and chemical analyses to determine actions necessary to eliminate or reduce effluent toxicity to a level not effecting significant lethality at the critical dilution. The TRE action plan shall lead to the successful elimination of significant lethality for both test species defined in Part 1.b. At a minimum, the TRE action plan shall include the following:

1) Specific Activities - The TRE action plan shall specify the approach the permittee intends to utilize in conducting the TRE, including toxicity characterizations, identifications, confirmations, source evaluations, treatability studies, and alternative approaches. When conducting characterization analyses, the permittee shall perform multiple characterizations and follow the procedures specified in the document entitled “Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures” (EPA/600/6-91/003) or alternate procedures. The permittee shall perform multiple identifications and follow the methods specified in the documents entitled “Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity” (EPA/600/R-92/080) and “Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for

Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/081). All characterization, identification, and confirmation tests shall be conducted in an orderly and logical progression;

2) Sampling Plan - The TRE action plan should describe sampling locations, methods, holding times, chain of custody, and preservation techniques. The effluent sample volume collected for all tests shall be adequate to perform the toxicity characterization/identification/confirmation procedures and chemical-specific analyses when the toxicity tests show significant lethality. Where the permittee has identified or suspects a specific pollutant and source of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical-specific analyses for the identified and suspected pollutant and source of effluent toxicity;

3) Quality Assurance Plan - The TRE action plan should address record keeping and data evaluation, calibration and standardization, baseline tests, system blanks, controls, duplicates, spikes, toxicity persistence in the samples, randomization, reference toxicant control charts, and mechanisms to detect artifactual toxicity; and

4) Project Organization - The TRE action plan should describe the project staff, project manager, consulting engineering services (where applicable), consulting analytical and toxicological services, etc.

c. Within 30 days of submittal of the TRE action plan and schedule, the permittee shall implement the TRE.

d. The permittee shall submit quarterly TRE activities reports concerning the progress of the TRE. The quarterly TRE activities reports are due on or before April 20th, July 20th, October 20th, and January 20th. The report shall detail information regarding the TRE activities including:

1) results and interpretation of any chemical-specific analyses for the identified and suspected pollutant performed during the quarter;

2) results and interpretation of any characterization, identification, and confirmation tests performed during the quarter;

3) any data and substantiating documentation that identifies the pollutant and source of effluent toxicity;

4) results of any studies/evaluations concerning the treatability of the facility's effluent toxicity;

5) any data that identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to eliminate significant lethality; and

6) any changes to the initial TRE plan and schedule that are believed necessary as a result of the TRE findings.

e. During the TRE, the permittee shall perform, at a minimum, quarterly testing using the more sensitive species. Testing for the less sensitive species shall continue at the frequency specified in Part 1.b.

f. If the effluent ceases to effect significant lethality, i.e., there is a cessation of lethality, the permittee may end the TRE. A cessation of lethality is defined as no significant lethality for a period of 12 consecutive weeks with at least weekly testing. At the end of the 12 weeks, the permittee shall submit a statement of intent to cease the TRE and may then resume the testing frequency specified in Part 1.b.

This provision accommodates situations where operational errors and upsets, spills, or sampling errors triggered the TRE, in contrast to a situation where a single toxicant or group of toxicants cause lethality. This provision does not apply as a result of corrective actions taken by the permittee. Corrective actions are defined as proactive efforts that eliminate or reduce effluent toxicity. These include, but are not limited to, source reduction or elimination, improved housekeeping, changes in chemical usage, and modifications of influent streams and effluent treatment.

The permittee may only apply this cessation of lethality provision once. If the effluent again demonstrates significant lethality to the same species, the permit will be amended to add a WET limit with a compliance period, if appropriate. However, prior to the effective date of the WET limit, the permittee may apply for a permit amendment removing and replacing the WET limit with an alternate toxicity control measure by identifying and confirming the toxicant and an appropriate control measure.

g. The permittee shall complete the TRE and submit a final report on the TRE activities no later than 18 months from the last test day of the retest that demonstrates significant lethality. The permittee may petition the Executive Director (in writing) for an extension of the 18-month limit. However, to warrant an extension the permittee must have demonstrated due diligence in its pursuit of the toxicity identification evaluation/TRE and must prove that circumstances beyond its control stalled the toxicity identification evaluation/TRE. The report shall specify the control mechanism that will, when implemented, reduce effluent toxicity as specified in Part 5.h. The report shall also specify a corrective action schedule for implementing the selected control mechanism.

h. Within 3 years of the last day of the test confirming toxicity, the permittee shall comply with 30 TAC § 307.6(e)(2)(B), which requires greater than 50% survival of the test organism in 100% effluent at the end of 24-hours. The permittee may petition the Executive Director (in writing) for an extension of the 3-year limit. However, to warrant an extension the permittee must have demonstrated due diligence in its pursuit of the toxicity identification evaluation/TRE and must prove that circumstances beyond its control stalled the toxicity identification evaluation/TRE.

The permittee may be exempted from complying with 30 TAC § 307.6(e)(2)(B) upon proving that toxicity is caused by an excess, imbalance, or deficiency of dissolved salts. This exemption excludes instances where individually toxic components (e.g., metals) form a salt compound. Following the exemption, the permit may be amended to include an ion-adjustment protocol, alternate species testing, or single species testing.

i. Based upon the results of the TRE and proposed corrective actions, this permit may be amended to modify the biomonitoring requirements where necessary, require a compliance schedule for implementation of corrective actions, specify a WET limit, specify a best management practice, and to specify a chemical specific limit.

j. Copies of any and all required TRE plans and reports shall also be submitted to the U.S. EPA Region 6 office, 6WQ-PO.

TABLE 2 (SHEET 1 OF 2)

MYSID SHRIMP SURVIVAL

GENERAL INFORMATION

	Time	Date
Composite Sample Collected		
Test Initiated		

PERCENT SURVIVAL

Time	Rep	Percent effluent					
		0%	6%	13%	25%	50%	100%
24h	A						
	B						
	C						
	D						
	E						
	MEAN						

Enter percent effluent corresponding to the LC50 below:

24 hour LC50 = _____% effluent

TABLE 2 (SHEET 2 OF 2)

INLAND SILVERSIDE SURVIVAL

GENERAL INFORMATION

	Time	Date
Composite Sample Collected		
Test Initiated		

PERCENT SURVIVAL

Time	Rep	Percent effluent					
		0%	6%	13%	25%	50%	100%
24h	A						
	B						
	C						
	D						
	E						
	MEAN						

Enter percent effluent corresponding to the LC50 below:

24 hour LC50 = _____% effluent

Rohm and Haas Texas Incorporated
TPDES Permit No. WQ0000458000

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

For draft Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0000458000, U.S. Environmental Protection Agency (EPA) ID No. TX0006084, to discharge to water in the state

Issuing Office:	Texas Commission on Environmental Quality (TCEQ) P.O. Box 13087 Austin, Texas 78711-3087
Applicant:	Rohm and Haas Texas Incorporated 1900 Tidal Road Deer Park, Texas 77536
Prepared By:	Sarah A. Johnson Wastewater Permitting Section Water Quality Division (512) 239-4649
Date:	October 4, 2021
Permit Action:	Major amendment with renewal to revise the effluent limits to reflect an increase in production and a reconfiguration of the diffuser at Outfall 001, and to revise existing Other Requirement No. 14 to allow more than *de minimis* discharges at Outfall 009 in certain circumstances; TPDES Permit No. WQ0000458000

I. EXECUTIVE DIRECTOR RECOMMENDATION

The executive director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The draft permit will expire at midnight, five years from the date of permit issuance according to the requirements of 30 Texas Administrative Code (TAC) §305.127(1)(C)(i).

II. APPLICANT ACTIVITY

The applicant currently operates Rohm and Haas Texas Deer Park Plant, a chemical manufacturing plant that produces bulk and specialty organic chemicals, thermoplastic resins, and hydrogen cyanide.

III. DISCHARGE LOCATION

As described in the application, the facility is located at 1900 Tidal Road, north of State Highway 225 and west of State Highway 134, in the City of Deer Park, Harris County, Texas 77536. Discharge is via Outfalls 001, 009, and 011 directly to the Houston Ship Channel Tidal; via Outfalls 002, and 004 to the Tucker Bayou portion of the Houston Ship Channel Tidal; via Outfall 003 to East Fork Patrick Bayou, thence to Patrick Bayou, thence to the Houston Ship Channel Tidal in Segment No. 1006 of the San Jacinto River Basin.

IV. RECEIVING STREAM USES

The unclassified receiving water use is no significant aquatic life use for East Fork Patrick Bayou. The designated uses for Segment No. 1006 are navigation and industrial water supply.

V. STREAM STANDARDS

The general criteria and numerical criteria that make up the stream standards are provided in 30 TAC §§ 307.1 - 307.10.

VI. DISCHARGE DESCRIPTION

The following is a quantitative description of the discharge described in the monthly effluent report data for the period of May 2016 through April 2021. The "average of daily average" values presented in the following table are the average of all daily average values for the reporting period for each pollutant. The "maximum of daily maximum" values presented in the following table are the individual maximum values for the reporting period for each pollutant. Flows are expressed in million gallons per day (MGD). All pH values are expressed in standard units (SU). Bacteria levels are expressed in colony-forming units (CFU) or most probable number (MPN) per 100 mL. Concentration values are expressed in milligrams per liter (mg/L). Mass-based values are expressed as pounds per day (lbs/day). Pollutants not required by the existing permit is, therefore, not applicable (N/A). Outfall 008 is a reporting outfall only, created for regulating the sum of ammonia as nitrogen discharged via Outfalls 001, 009, and 011. Outfall 010 is a reporting outfall created for regulating the sum of pollutants discharged via Outfalls 001 and 009.

A. Flow

Outfall	Frequency	Average of Daily Average, MGD	Maximum of Daily Maximum, MGD
001	Continuous	4.65	9.60
002	Intermittent	N/A	54.80
003	Intermittent	N/A	4.49
004	Intermittent	N/A	2.63
008	Not Applicable	N/A	N/A
009	Continuous	1.80	10.08
010	Not Applicable	N/A	N/A
011	Continuous	0.94	2.90

B. Effluent Characteristics

Outfall	*Parameter*	*Daily Average, lbs/day*	*Daily Maximum, lbs/day*
001	Biochemical oxygen demand, five-day (BOD_5)	120	577
	Total suspended solids (TSS)	463	3,920
	Chemical oxygen demand (COD)	1,861	5,965
	Ammonia-nitrogen (NH_3-N)	15.88	436
	Cyanide, total	1.85	9.00
	Cyanide, free	0.59	4.84
	Copper, total	3.41	12.7
	Nickel, total	4.63	53.1
	Zinc, total	2.19	20.0
	Acenaphthene	N/A	0
	Acenaphthylene	N/A	0
	Acrylonitrile	N/A	0
001	Anthracene	N/A	0

Outfall	*Parameter*	*Daily Average, lbs/day*	*Daily Maximum, lbs/day*
	Benzene	N/A	0
	Benzo(*a*)anthracene	N/A	0
	Benzo(*a*)pyrene	N/A	0
	3,4-Benzofluoranthene	N/A	0
	Benzo(*k*)fluoranthene	N/A	0
	Bis(2-ethylhexyl)phthalate	N/A	0
	Carbon Tetrachloride	N/A	0
	Chlorobenzene	N/A	0
	Chloroethane	N/A	0
	Chloroform	N/A	0
	2-Chlorophenol	N/A	0
	Chrysene	N/A	0
	Di-*n*-butyl phthalate	N/A	0
	1,2-Dichlorobenzene	N/A	0
	1,3-Dichlorobenzene	N/A	0
	1,4-Dichlorobenzene	N/A	0
	1,1-Dichloroethane	N/A	0
	1,2-Dichloroethane	N/A	0
	1,1-Dichloroethylene	N/A	0
	1,2-trans Dichloroethylene	N/A	0
	2,4-Dichlorophenol	N/A	0
	1,2-Dichloropropane	N/A	0
	1,3-Dichloropropylene	N/A	0
	Diethyl phthalate	N/A	0
	2,4-Dimethylphenol	N/A	0
	Dimethyl phthalate	N/A	0
	4,6-Dinitro-o-cresol	N/A	0
	2,4-Dinitrophenol	N/A	0
	2,4-Dinitrotoluene	N/A	0
	2,6-Dinitrotoluene	N/A	0
	Ethylbenzene	N/A	0
	Fluoranthene	N/A	0
	Fluorene	N/A	0
	Hexachlorobenzene	0	0
	Hexachlorobutadiene	N/A	0
	Hexachloroethane	N/A	0
	Methyl Chloride	N/A	0
	Methylene Chloride	N/A	0
	Naphthalene	N/A	0
	Nitrobenzene	N/A	0
	2-Nitrophenol	N/A	0
	4-Nitrophenol	N/A	0
	Phenanthrene	N/A	0
	Phenol	N/A	0
	Pyrene	N/A	0
001	Tetrachloroethylene	N/A	0

Outfall	*Parameter*	*Daily Average, lbs/day*	*Daily Maximum, lbs/day*
	Toluene	N/A	0
	1,2,4-Trichlorobenzene	N/A	0
	1,1,1-Trichloroethane	N/A	0
	1,1,2-Trichloroethane	N/A	0
	Trichloroethylene	N/A	0
	Vinyl Chloride	N/A	0
	Enterococci CFU or MPN per 100 mL	5	236
	pH, SU	2.20 (min)	9.02
	pH range excursions, >60 minutes	0	
	pH range excursions, monthly total	0	

Outfall	*Parameter*	*Daily Minimum mg/L*	*Daily Maximum, mg/L*
002	Total organic carbon (TOC)	N/A	27.0
	Oil and Grease	N/A	3.00
	pH, SU	6.99	8.60
003	TOC	N/A	48.0
	Oil and Grease	N/A	3.0
	pH, SU	6.70	8.39
004	TOC	N/A	23.0
	Oil and Grease	N/A	3.0
	pH, SU	6.90	9.50

Outfall	*Parameter*	*Daily Minimum lbs/day*	*Daily Maximum, lbs/day*
008	NH_3-N	26.8	437

Outfall	*Parameter*	*Daily Maximum, mg/L*	*Daily Maximum, lbs/day*
009 [1]	BOD_5	N/A	117.26
	TSS	N/A	1,800
	COD	N/A	1,172.64
	NH_3-N	N/A	9.11
	Cyanide, total	N/A	2.52
	Free Cyanide	0.43	0.43
	Copper, total [2]	3.46	9.08
	Nickel, total	2.61	2.61
	Zinc, total	8.56	8.56
009 [1]	Acenaphthene	N/A	0
	Acrylonitrile	N/A	0

[1] The existing monitoring frequency at Outfall 009 is once per year for all parameters with the exceptions of total copper and pH.
[2] The existing monitoring frequency for total copper at Outfall 009 is twice per month. Copper data was reported for only six (nonconsecutive) months during the period reviewed.

Outfall	*Parameter*	*Daily Maximum, mg/L*	*Daily Maximum, lbs/day*
	Anthracene	N/A	0
	Benzene	N/A	0
	Benzo(*a*)anthracene	N/A	0
	Benzo(*a*)pyrene	N/A	0
	3,4-Benzofluoranthene	N/A	0
	Benzo(*k*)fluoranthene	N/A	0
	Bis(2-ethylhexyl)phthalate	N/A	0
	Carbon Tetrachloride	N/A	0
	Chlorobenzene	N/A	0
	Chloroethane	N/A	0
	Chloroform	N/A	0
	2-Chlorophenol	N/A	0
	Chrysene	N/A	0
	Di-*n*-butyl phthalate	N/A	0
	1,2-Dichlorobenzene	N/A	0
	1,3-Dichlorobenzene	N/A	0
	1,4-Dichlorobenzene	N/A	0
	1,1-Dichloroethane	N/A	0
	1,2-Dichloroethane	N/A	0
	1,1-Dichloroethylene	N/A	0
	1,2-trans Dichloroethylene	N/A	0
	2,4-Dichlorophenol	N/A	0
	1,2-Dichloropropane	N/A	0
	1,3-Dichloropropylene	N/A	0
	Diethyl phthalate	N/A	0
	2,4-Dimethylphenol	N/A	0
	Dimethyl phthalate	N/A	0
	4,6-Dinitro-o-cresol	N/A	0
	2,4-Dinitrophenol	N/A	0
	2,4-Dinitrotoluene	N/A	0
	2,6-Dinitrotoluene	N/A	0
	Ethylbenzene	N/A	0
	Fluoranthene	N/A	0
	Fluorene	N/A	0
	Hexachlorobenzene	0	0
	Hexachlorobutadiene	N/A	0
	Hexachloroethane	N/A	0
	Methyl Chloride	N/A	0
	Methylene Chloride	N/A	0
	Naphthalene	N/A	0
	Nitrobenzene	N/A	0
	2-Nitrophenol	N/A	0
	4-Nitrophenol	N/A	0
	Phenanthrene	0	0
009	Phenol	N/A	0
	Pyrene	N/A	0

Outfall	*Parameter*	*Daily Maximum, mg/L*	*Daily Maximum, lbs/day*
	Tetrachloroethylene	N/A	0
	Toluene	N/A	0
	1,2,4-Trichlorobenzene	N/A	0
	1,1,1-Trichloroethane	N/A	0
	1,1,2-Trichloroethane	N/A	0
	Trichloroethylene	N/A	0
	Vinyl Chloride	N/A	0
	pH, SU	6.67 (min)	8.92
	pH range excursions, >60 minutes	0	
	pH range excursions, monthly total	0	

Outfall	*Parameter*	*Daily Average lbs/day*	*Daily Maximum, lbs/day*
010 [3]	BOD_5	263.4	245.7
	TSS	2,591	3,578
	COD	2,969	3,044
	Cyanide, total	4.32	4.77
	Acenaphthene	0	0
	Acenaphthylene	0	0
	Acrylonitrile	0	0
	Anthracene	0	0
	Benzene	0	0
	Benzo(*a*)anthracene	0	0
	Benzo(*a*)pyrene	0	0
	3,4-Benzofluoranthene	0	0
	Benzo(*k*)fluoranthene	0	0
	Bis(2-ethylhexyl)phthalate	0	0
	Carbon Tetrachloride	0	0
	Chlorobenzene	0	0
	Chloroethane	0	0
	Chloroform	0	0
	2-Chlorophenol	0	0
	Chrysene	0	0
	Di-*n*-butyl phthalate	0	0
	1,2-Dichlorobenzene	0	0
	1,3-Dichlorobenzene	0	0
	1,4-Dichlorobenzene	0	0
	1,1-Dichloroethane	0	0
	1,2-Dichloroethane	0	0
010 [3]	1,1-Dichloroethylene	0	0
	1,2-trans Dichloroethylene	0	0
	2,4-Dichlorophenol	0	0

[3] Outfall 010 is a reporting outfall. The daily pollutant mass discharged is the arithmetic sum of the daily pollutant mass discharged from Outfalls 001 and 009 occurring during the same 24-hour sampling period.

Outfall	*Parameter*	*Daily Average lbs/day*	*Daily Maximum, lbs/day*
	1,2-Dichloropropane	0	0
	1,3-Dichloropropylene	0	0
	Diethyl phthalate	0	0
	2,4-Dimethylphenol	0	0
	Dimethyl phthalate	0	0
	4,6-Dinitro-o-cresol	0	0
	2,4-Dinitrophenol	0	0
	2,4-Dinitrotoluene	0	0
	2,6-Dinitrotoluene	0	0
	Ethylbenzene	0	0
	Fluoranthene	0	0
	Fluorene	0	0
	Hexachlorobutadiene	0	0
	Hexachloroethane	0	0
	Methyl Chloride	0	0
	Methylene Chloride	0	0
	Naphthalene	0	0
	Nitrobenzene	0	0
	2-Nitrophenol	0	0
	4-Nitrophenol	0	0
	Phenanthrene	0	0
	Phenol	0	0
	Pyrene	0	0
	Tetrachloroethylene	0	0
	Toluene	0	0
	1,2,4-Trichlorobenzene	0	0
	1,1,1-Trichloroethane	0	0
	1,1,2-Trichloroethane	0	0
	Trichloroethylene	0	0
	Vinyl Chloride	0	0

Outfall	*Parameter*	*Daily Average lbs/day*	*Daily Maximum, lbs/day*
011 [4]	BOD_5 [5]	53.25	253
	TSS [5]	90.5	333
	COD	771.9	885.2
011 [4]	NH_3-N [5]	10.71	133
	Cyanide, free [6]	0.022	0.143
	Oil and Grease	N/A	19.27

[4] The existing monitoring frequency at Outfall 011 is once per year for all parameters with the exceptions of BOD_5, TSS, NH_3-N, free cyanide, Enterococci, and pH.
[5] The existing monitoring frequency is twice per week.
[6] The existing monitoring frequency is once per month.

Outfall	*Parameter*	*Daily Average lbs/day*	*Daily Maximum, lbs/day*
	Acenaphthene	0	0
	Acenaphthylene	0	0
	Acrylonitrile	0	0
	Anthracene	0	0
	Benzene	0	0
	Benzo(*a*)anthracene	0	0
	Benzo(*a*)pyrene	0	0
	3,4-Benzofluoranthene	0	0
	Benzo(*k*)fluoranthene	0	0
	Bis(2-ethylhexyl)phthalate	0	0
	Carbon Tetrachloride	0	0
	Chlorobenzene	0	0
	Chloroethane	0	0
	Chloroform	0	0
	2-Chlorophenol	0	0
	Chrysene	0	0
	Di-*n*-butyl phthalate	0	0
	1,2-Dichlorobenzene	0	0
	1,3-Dichlorobenzene	0	0
	1,4-Dichlorobenzene	0	0
	1,1-Dichloroethane	0	0
	1,2-Dichloroethane	0	0
	1,1-Dichloroethylene	0	0
	1,2-trans Dichloroethylene	0	0
	2,4-Dichlorophenol	0	0
	1,2-Dichloropropane	0	0
	1,3-Dichloropropylene	0	0
	Diethyl phthalate	0	0
	2,4-Dimethylphenol	0	0
	Dimethyl phthalate	0	0
	4,6-Dinitro-o-cresol	0	0
	2,4-Dinitrophenol	0	0
	2,4-Dinitrotoluene	0	0
	2,6-Dinitrotoluene	0	0
	Ethylbenzene	0	0
	Fluoranthene	0	0
	Fluorene	0	0
	Hexachlorobenzene	0	0
	Parameter	0	0
	Hexachlorobutadiene	0	0
	Hexachloroethane	0	0
011 [4]	Methyl Chloride	0	0
	Methylene Chloride	0	0
	Naphthalene	0	0
	Nitrobenzene	0	0
	2-Nitrophenol	0	0

Outfall	*Parameter*	*Daily Average lbs/day*	*Daily Maximum, lbs/day*
	4-Nitrophenol	0	0
	Phenanthrene	0	0
	Phenol	0	0
	Pyrene	0	0
	Tetrachloroethylene	0	0
	Toluene	0	0
	1,2,4-Trichlorobenzene	0	0
	1,1,1-Trichloroethane	0	0
	1,1,2-Trichloroethane	0	0
	Trichloroethylene	0	0
	Vinyl Chloride	0	0
	Enterococci, CFU or MPN/100 mL [7]	1	5
	pH, SU	5.78 (min)	9.24
	pH range excursions, >60 minutes	0	
	pH range excursions, monthly total	0	

Effluent limit violations documented in the monthly effluent reports are summarized in the following table.

D. Effluent Limitation Violations

Outfall	*Pollutant (units)*	*Month/ Year*	*Daily Average*		*Daily Maximum*	
			Limit	*Reported*	*Limit*	*Reported*
001	Total copper (lbs/day)	Feb. 2021	6.99	9.6		
	Free cyanide (lbs/day)	Jan. 2021			3.0	3.99
	Total nickel (lbs/day)	Feb.2020	27.3	53.1		
004	pH (SU)	Oct. 2019			9.0	9.5
009	Total copper (lbs/day)	Sept. 2019			3.18	9.08

The draft permit includes revisions to the total copper and free cyanide limits at Outfall 001, per the major amendment request. The revised limits are less stringent than the existing limits and would render the above mass loadings as compliant. The draft permit was not changed to address the remaining effluent limit violations because these violations are few and infrequent and therefore do not represent a pattern of on-going or chronic non-compliance. The Office of Compliance and Enforcement may address these exceedances during the next records review.

VII. DRAFT EFFLUENT LIMITATIONS

Effluent limitations are established in the draft permit as indicated in Appendix D of this document.

[7] The existing monitoring frequency is twice per month.

OUTFALL LOCATIONS

Outfall	Latitude	Longitude
001	29.7411 N	95.1067 W
002	29.73066 N	95.097562 W
003	29.71346 N	95.107532 W
004	29.738898 N	95.1008 W
009	29.7379 N	95.105799 W
011	29.7431 N	95.1025 W

VIII. SUMMARY OF CHANGES FROM APPLICATION

The following changes have been made from the application that make the draft permit more stringent:

1. Water quality-based effluent limits (WQBELs) for the following pollutants and Outfalls were included in the draft permit: benzo(*a*)anthracene, benzo(*a*)pyrene, and hexachlorobenzene at Outfall 001; benzo(*a*)anthracene, benzo(*a*)pyrene, hexachlorobenzene, and hexachlorobutadiene at Outfall 009; and free cyanide (daily maximum only), total copper, total nickel, benzo(*a*)anthracene, benzo(*a*)pyrene, hexachlorobenzene, and hexachlorobutadiene at Outfall 011. WQBELs for total copper and total nickel are added to Outfall 011 because the application indicated copper-bearing and nickel-bearing process wastewater at Outfall 011, however the existing permit did not limit these pollutants. The WQBELs calculated for total copper and total nickel at Outfall 011 were more stringent than the technology-based loading limits and are therefore applied in the draft permit. See Appendix B of this document for development of water quality-based limits.

   A three-year compliance period has been added for the benzo(*a*)anthracene, benzo(*a*)pyrene, and hexachlorobenzene at Outfall 001; benzo(*a*)anthracene, benzo(*a*)pyrene, hexachlorobenzene, and hexachlorobutadiene at Outfall 009; and total copper, total nickel, benzo(*a*)anthracene, benzo(*a*)pyrene, hexachlorobenzene, and hexachlorobutadiene at Outfall 011 in accordance with 30 Texas Administrative Code (TAC) § 307.2(f). The interim compliance period will give the applicant time to identify sources of the pollutants in the final effluent, explore source removal strategies and treatment options, implement appropriate mitigation efforts, and attain the final effluent limits. A compliance period is not offered for free cyanide at Outfall 011 because the facility is already meeting the revised limit.

2. The technology-based effluent limits (TBELs) for total nickel and total zinc at Outfall 001, all pollutants limited in Title 40 Code of Federal Regulations (CFR) Part 414-Subpart I at Outfall 010, and chemical oxygen demand at Outfall 011 are more stringent than the existing limits and have been included in the draft permit. There is no compliance period offered for the implementation of a technology-based limit. See Appendix A of this document for development of technology-based limits.

3. Single grab limitations for some pollutants have been revised at certain outfalls. Single grab limits were recalculated due to the revisions of the daily average and/or daily maximum limits. Single grab limits were set to the most stringent value in most cases. When the sample type for a pollutant is a grab sample, the single grab limit was set to

equal the daily maximum concentration, as is current team practice. When the calculated and existing single grab limit were lower than the minimum analytical level (MAL), the single grab limit in the draft permit was set to the MAL. Single grab limits are not monitored and reported by the permittee in the monthly discharge monitoring reports, but rather are used by Region investigators during site inspections to determine permit compliance. Therefore, no compliance period is offered for the revisions to single grab limits.

IX. SUMMARY OF CHANGES FROM EXISTING PERMIT

A. The permittee requested the following amendments that the executive director recommends granting:

1. Recalculation of technology-based effluent limits to reflect a proposed expansion of the NP2-N Area and HRB-HR Area Units.

The proposed expansion will result in an increase in the production of organic and inorganic products as well as additional associated process and utility wastewaters. The TBELs at Outfall 001, overflow Outfall 009, and summation Outfall 010 were calculated using the revised production and flow values provided in the application. The TBELs for total copper and total nickel at Outfall 001 were higher than the existing permit limits but more stringent than the WQBELs. Therefore, the TBELs for total copper and total nickel were applied in the draft permit. The TBELs for BOD_5, TSS, COD, and total cyanide were applied at summation Outfall 010. These limits are less stringent than the existing limits due to the increase in utility wastewater contributions. The recalculated TBELs for most pollutants decreased due to the decrease in process wastewater from the existing permit. The revised TBELs were applied at Outfall 010. In cases where the TBEL was less stringent than the WQBEL, and therefore not protective of aquatic life or human health, the WQBEL was applied.

An expansion in production and/or wastewater flow represents a substantial alteration to the permitted facility and information that was not available at the time of permit issuance and satisfies the antibacksliding exceptions at 40 CFR §§122.44(l)(i)(A) and 122.44(l)(2)(i)(B)(1), respectively.

Houston Ship Channel Tidal is currently attaining water quality standards for almost all pollutants limited in the permit, with the exception of bacteria. However, bacteria limits are not affected by the major amendment request and existing limits are continued in the draft permit, which satisfies the requirements of Clean Water Act (CWA) §§402(o) and 303(d)(4). According to the memo from the Standards Implementation Team dated November 12, 2020, a Tier 1 antidegradation review has preliminarily determined that existing water quality uses will not be impaired by this permit action and that numerical and narrative criteria to protect existing uses will be maintained and no Tier 2 antidegradation review was required. In no instance was a permit limit relaxed to be less stringent than any applicable water quality-based limit. This satisfies the requirements of CWA §303(d)(4)(B). In compliance with CWA §402(o)(3), the revision complies with any applicable effluent guidelines (which are applied in the draft permit when still protective of the receiving water based on water quality screening) and water quality standards, including degradation.

For all these reasons, the inclusion of recalculated effluent limit guidelines at Outfall 001, and summation Outfall 010 meets anti-backsliding requirements.

2. Revision of water-quality based effluent limits to reflect the redesigned diffuser configuration and subsequent updated critical conditions at Outfall 001.

   The reconfiguration of the diffuser also represents a substantial alteration to the permitted facility and information that was not available at the time of permit issuance and satisfies the antibacksliding exceptions at 40 CFR §§122.44(l)(i)(A) and 122.44(l)(2)(i)(B)(1), respectively. The revised critical conditions allowed the relaxation of mass loading limits for free cyanide (WQBEL applied), total zinc (WQBEL applied) and total copper (TBEL applied) at Outfall 001.

   Houston Ship Channel Tidal is currently attaining water quality standards for free cyanide and total copper, which satisfies the requirements of Clean Water Act (CWA) §§402(o) and 303(d)(4). According to the memo from the Standards Implementation Team dated November 12, 2020, a Tier 1 antidegradation review has preliminarily determined that existing water quality uses will not be impaired by this permit action and that numerical and narrative criteria to protect existing uses will be maintained. In no instance was a permit limit relaxed to be less stringent than any applicable water quality-based limit. This satisfies the requirements of CWA §303(d)(4)(B). In compliance with CWA §402(o)(3), the revision complies with any applicable effluent guidelines and water quality standards, including degradation.

   For all these reasons, the inclusion of revised free cyanide and total copper limits at Outfall 001 meets anti-backsliding requirements.

3. Revision of existing Other Requirement No. 14.

   The permittee has requested that existing Other Requirement No. 14 (now No. 12 in the draft permit) be revised to state the following, changes underlined:

   "Sampling at Outfall 009 shall be conducted when 1) sampling is also being conducted at Outfall 001; and 2) when there is a discharge greater than six hours in duration via Outfall 009 during a 24-hour period in which Outfall 001 sampling is conducted. Discharges via Outfall 009 shall be *de minimus* except for time periods in which discharge occurs via Outfall 001 <u>or during essential maintenance activities or emergencies at Outfall 001.</u>"

   This revision provides increased clarity and accuracy to the provision. It does not change when discharges via Outfall 009 occur, but rather clarifies discharges that are more than *de minimus* in flow. This revision does not relax any permit limits or requirements. Antibacksliding justification is not required.

B. The following additional changes have been made to the draft permit:

1. The facility name, activity description, and Standard Industrial Classification Code have been updated to reflect information provided in the application and Core Data Form.
2. The sample type for total cyanide and free cyanide were revised from 24-hr composite to grab sample. Grab samples are required by the TCEQ for pH, cyanide (all forms), oil and grease, bacteria, temperature, residual chlorine, and phenols.
3. Footnotes on pages 2-2n were updated as needed to reflect revised Other Requirements and permit limits.
4. Pages 3-13 were updated (May 2021 version).

5. The Other Requirements section (beginning on page 14) was rearranged to assist with compliance monitoring.

Existing Other Requirement No.	Draft Other Requirement No.
1	1
2	2- Revised
3	3- Revised
4	4
5	5- Revised
6	6- Revised
7	7- Revised
8-10	Combined with No. 5
11	9
12	10 - Revised
13	11 - Revised
14	12 - Revised
15	13
16	14
17	15
18	16
19	Combined with No. 5
20	17
21	18

5. Other Requirement No. 2 was revised to reflect current language for developing site-specific MDLs and MALs following the recent update to 40 CFR Part 136.
6. Other Requirement No. 3 was revised for consistency with current language for free cyanide analytical methods.
7. Other Requirement Nos. 8, 9, 10, and 19 were combined with Other Requirement No. 5 regarding mixing zones. This requirement also includes updated language for the reconfiguration of the diffuser at Outfall 001.
8. Other Requirement No. 7 was revised to include current language on pond liners.
9. New Other Requirement No. 8 was added to the draft permit to address cooling water intake structure requirements under CWA §316(b). Although CWA §316(b) does not currently apply to this facility, the applicant would be required to notify the TCEQ if there is a change in how the facility obtains cooling water.
10. Other Requirement No. 12 (now No. 10) was revised to reflect the water quality-based limits for benzo(*a*)anthracene, benzo(*a*)pyrene, and hexachlorobenzene at Outfall 001; benzo(*a*)anthracene, benzo(*a*)pyrene, hexachlorobenzene, and hexachlorobutadiene at Outfall 009; and total copper, total nickel, benzo(*a*)anthracene, benzo(*a*)pyrene, hexachlorobenzene, and hexachlorobutadiene at Outfall 011.
11. Other Requirement No. 13 (now No. 11) was updated to reflect current language. Aliquots are to be chilled to 6° Centigrade.
12. Other Requirement No. 14 (now No. 12) was revised per the permittee's major amendment request as discussed in Section IX. A.3 of this document.
13. The biomonitoring dilution series has been revised from 2%, 3%, 4%, 6%, and 8% with a critical dilution of 6% to 1.5%, 2%, 2.5%, 3.5%, and 5% with a critical dilution of 3.5% at Outfall 001.

X. DRAFT PERMIT RATIONALE

The following section sets forth the statutory and regulatory requirements considered in preparing the draft permit. Also set forth are any calculations or other necessary explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guidelines and water quality standards.

A. REASON FOR PERMIT ISSUANCE

The applicant applied to the TCEQ for a major amendment to Permit No. WQ0000458000 to revise the effluent limits to reflect an increase in production and a reconfiguration of the diffuser at Outfall 001, and to revise existing Other Requirement No. 14 to allow more than *de minimis* discharges at Outfall 009 in certain circumstances. The existing permit authorizes the discharge of treated process wastewater, stormwater, treated utility wastewaters, sanitary wastewater, untreated utility wastewater, and stormwater from construction activity at a daily average flow not to exceed 8.4 MGD via Outfall 001; utility wastewater (only during stormwater events), non-process area stormwater, hydrostatic test water from clean tankage, and stormwater from construction activity via Outfalls 002, 003 and 004 on an intermittent and flow-variable basis; treated process wastewater (primarily when the diffuser sump pump capacity is exceeded at Outfall 001 or other emergency discharge situations occur), stormwater, treated utility wastewaters1, sanitary wastewater, untreated utility wastewater, and stormwater from construction activity on an intermittent and flow-variable basis via Outfall 009; and treated process wastewater, stormwater, treated utility wastewaters, sanitary wastewater, untreated utility wastewater, and stormwater from construction activity at a daily average flow not to exceed 2.5 MGD via Outfall 011.

The executive director has reviewed this action for consistency with the goals and policies of the Texas Coastal Management Program (CMP) in accordance with the regulations of the General Land Office and has determined that the action is consistent with the applicable CMP goals and policies.

B. WATER QUALITY SUMMARY

Discharge Routes

The discharge route is via Outfalls 001, 009, and 011 directly to the Houston Ship Channel Tidal; via Outfalls 002, and 004 to the Tucker Bayou portion of the Houston Ship Channel Tidal; and via Outfall 003 to East Fork Patrick Bayou, thence to Patrick Bayou, thence to the Houston Ship Channel Tidal in Segment No. 1006 of the San Jacinto River Basin. The unclassified receiving water use is no significant aquatic life use for East Fork Patrick Bayou. The designated uses for Segment No. 1006 are navigation and industrial water supply. Effluent limitations and conditions established in the draft permit comply with state water quality standards and the applicable water quality management plan. The effluent limits in the draft permit will maintain and protect the existing instream uses. Additional discussion of the water quality aspects of the draft permit can be found at Section X.D. of this fact sheet.

Antidegradation Review

In accordance with 30 TAC § 307.5 and TCEQ's *Procedures to Implement the Texas Surface Water Quality Standards* (June 2010), an antidegradation review of the receiving waters was performed. A Tier 1 antidegradation review has preliminarily

determined that existing water quality uses will not be impaired by this permit action. Numerical and narrative criteria to protect existing uses will be maintained. This review has preliminarily determined that no water bodies with exceptional, high, or intermediate aquatic life uses are present within the stream reach assessed; therefore, no Tier 2 degradation determination is required. No significant degradation of water quality is expected in water bodies with exceptional, high, or intermediate aquatic life uses downstream, and existing uses will be maintained and protected. The preliminary determination can be reexamined and may be modified if new information is received.

Endangered Species Review

The discharge from this permit is not expected to have an effect on any federal endangered or threatened aquatic or aquatic-dependent species or proposed species or their critical habitat. This determination is based on the United States Fish and Wildlife Service's (USFWS's) biological opinion on the State of Texas authorization of the TPDES (September 14, 1998; October 21, 1998 update). To make this determination for TPDES permits, TCEQ and EPA only considered aquatic or aquatic-dependent species occurring in watersheds of critical concern or high priority as listed in Appendix A of the USFWS's biological opinion. The determination is subject to reevaluation due to subsequent updates or amendments to the biological opinion. The permit does not require EPA review with respect to the presence of endangered or threatened species.

Impaired Water Bodies

Segment No. 1006 is currently listed on the State's inventory of impaired and threatened waters (the 2020 CWA Section 303(d) list). The listing is for elevated bacteria in Goodyear Creek from confluence with Greens Bayou Tidal to Granada Street in Harris County (AU1006_05). The listings are also for dioxin and polychlorinated biphenyls (PCBs) in edible tissue in Houston Ship Channel Tidal-from the Greens Bayou confluence to the Patrick Bayou confluence (AU 1006_01); Houston Ship Channel Tidal-from the Patrick Bayou confluence to the Houston Ship Channel/San Jacinto River Tidal (1005) confluence (AU 1006_02); Greens Bayou Tidal-from the Houston Ship Channel confluence to a point 0.7 kilometers (km) (0.4 miles) upstream of the Halls Bayou confluence (AU 1006_03); Patrick Bayou Tidal-from the confluence with the Houston Ship Channel to 100 meters (m) (328 feet) upstream of the railroad bridge (AU 1006_04); Goodyear Creek-from confluence with Greens Bayou Tidal to Granada Street in Harris County (AU 1006_05); Tucker Bayou-from the Houston Ship Channel confluence to a point 2.7 km (1.7 miles) upstream (AU 1006_06); Carpenters Bayou-from the Houston Ship Channel confluence to the lower boundary of 1006B (2.3 m/ 1.4 miles) upstream from the Houston Ship Channel confluence) (AU 1006_07). In addition, the listing is also for toxicity in sediment in Patrick Bayou Tidal (AU1006_04).

***Bacteria*:** This facility is authorized to discharge treated sanitary wastewater at Outfalls 001, 009, and 011. The existing permit includes daily average and daily maximum Enterococci limits of 168 CFU or MPN per 100 mL and 500 CFU or MPN per 100 mL, respectively. There have been no violations of bacteria limits during the period reviewed, as discussed in Section VI of this Fact Sheet. This major amendment request does not increase bacteria limits nor increase the amount of sanitary wastewater discharged. The draft permit is not expected to contribute to the bacteria impairments of the receiving water.

***Dioxin*:** Dioxin is a pollutant associated with the bleached pulp mill waste stream, which is a waste stream not associated with the operation of this facility. The permittee

indicated in the application that there is no reason to believe dioxins are present in the effluent. Therefore, this permit action is not expected to contribute to the dioxin impairment in the receiving segment.

PCBs in edible tissue:
The application effluent sample data[1] indicate that PCB's are not present in the discharges from this facility. Therefore, this permit action is not expected to contribute to the PCBs impairment in Segment No. 1006.

***Toxicity in sediment*:** The impairment listing for toxicity in sediment includes only Patrick Bayou Tidal. Outfall 003 is the only outfall authorized in the draft permit that discharges to Patrick Bayou. This outfall is authorized to discharge utility wastewater (only during stormwater events), non-process area stormwater, hydrostatic test water from clean tankage, and stormwater from construction activity. The major amendment request does not include the addition of new wastestreams. The draft permit is a renewal of the contributing wastestreams authorized in the existing permit and is not expected to contribute to the toxicity in sediment impairment in the receiving segment.

Completed Total Maximum Daily Loads (TMDLs)
There are no completed TMDLs for Segment No. 1006.

C. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

1. GENERAL COMMENTS

Regulations in 40 CFR require that technology-based limitations be placed in wastewater discharge permits based on effluent limitations guidelines, where applicable, or on best professional judgment (BPJ) in the absence of guidelines.

The draft permit authorizes discharge of treated process wastewater, stormwater, treated utility wastewaters, sanitary wastewater, untreated utility wastewater, and stormwater from construction activity at a daily average flow not to exceed 8.4 MGD via Outfall 001; utility wastewater, non-process area stormwater, hydrostatic test water from clean tankage, and stormwater from construction activity via Outfalls 002, 003 and 004 on an intermittent and flow-variable basis; treated process wastewater (primarily when the diffuser sump pump capacity is exceeded at Outfall 001 or other emergency discharge situations occur), stormwater, treated utility wastewaters, sanitary wastewater, untreated utility wastewater, and stormwater from construction activity on an intermittent and flow-variable basis via Outfall 009; and treated process wastewater, stormwater, treated utility wastewaters, sanitary wastewater, untreated utility wastewater, and stormwater from construction activity at a daily average flow not to exceed 2.5 MGD via Outfall 011.

The discharge of treated process wastewater via Outfalls 001, 009, and 011 from this facility is subject to federal effluent limitation guidelines at 40 CFR Parts 414 and 415. A new source determination was performed, and the discharge is not a

[1] Rohm and Haas Texas Incorporated's TCEQ-10055 (05/10/2019) Industrial Wastewater Permit Application Technical Report 1.0, Worksheet 2.0, Pollutant Analyses Requirements.

new source as defined at 40 CFR §122.2. Therefore, new source performance standards (NSPS) are not required for this discharge.

The discharges of stormwater, treated utility wastewaters, and untreated utility wastewater via Outfall 001; utility wastewater, non-process area stormwater, and hydrostatic test water from clean tankage via Outfalls 002, 003 and 004; stormwater, treated utility wastewaters, and untreated utility wastewater via Outfall 009; and stormwater, treated utility wastewaters, and untreated utility wastewater via Outfall 011 are not subject to federal effluent limitation guidelines and any technology-based effluent limitations are based on best professional judgment.

The discharge of stormwater associated with construction activities via Outfalls 001, 002, 003, 004, 009, and 011 is not subject to federal effluent limitation guidelines, and any technology-based effluent limitations are based on BPJ and the Construction General Stormwater Permit (TXR150000). Effluent limitations for the discharge of treated sanitary wastewater via Outfalls 001, 009, and 011 are based on BPJ, 30 TAC Chapter 309, and water quality screening.

The two wastewater systems at this facility are the West Wastewater Treatment Plant (WWTP; via Outfall 001 and 009) and East Wastewater Treatment Plant (EWTP; via Outfall 011). The WWTP consist of primary separation (including an organics/oily water separator), neutralization, equalization, secondary separation, activated sludge aeration, clarification, and sludge dewatering via belt filter press. The EWTP consists of separation (specifically for HT-2 solvent stripper process wastewaters), equalization, activated sludge aeration, clarification, and discharge down an aeration ladder. Solids generated are gravity thickened before being pumped to the WWTP and routed to the belt filter press.

2. CALCULATIONS

See Appendix A of this fact sheet for calculations and further discussion of TBELs proposed in the draft permit.

TBELs for pH at all outfalls; TOC and oil and grease at Outfalls 002, 003, and 004 are continued from the existing permit.

Technology-based effluent limitations for total copper, total nickel, and pH at Outfall 001; total zinc at Outfall 009; BOD_5, TSS, COD, total cyanide, acenaphthene, acenaphthylene, acrylonitrile, anthracene, benzene, 3,4-benzofluoranthene, benzo(*k*)fluoranthene, bis(2-ethylhexyl) phthalate, carbon tetrachloride, chlorobenzene, chloroethane, chloroform, 2-chlorophenol, chrysene, di-*n*-butyl phthalate, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 1,1-dichloroethane, 1,2-dichloroethane, 1,1-dichloroethylene, 1,2-trans dichloroethylene, 2,4-dichlorophenol, 1,2-dichloropropane, 1,3-dichloropropylene, diethyl phthalate, 2,4-dimethylphenol, dimethyl phthalate, 4,6-dinitro-o-cresol, 2,4-dinitrophenol, 2,4-dinitrotoluene, 2,6-dinitrotoluene, ethylbenzene, fluoranthene, fluorene, hexachlorobutadiene, hexachloroethane, methyl chloride, methylene chloride, naphthalene, nitrobenzene, 2-nitrophenol,

4-nitrophenol, phenanthrene, phenol, pyrene, tetrachloroethylene, toluene, 1,2,4-trichlorobenzene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethylene, and vinyl chloride at Outfall 010; and COD at Outfall 011 are applied in the draft permit.

The following technology-based effluent limitations are proposed in the draft permit, revised limits are in bold:

Outfall	Pollutant	Daily Average, *lbs/day*	Daily Maximum, *lbs/day*
001	Copper, total	**9.68**	**22.6**
	Nickel, total	**11.3**	**26.6**
	pH in SU	6.0-9.0	
002, 003, 004	TOC	N/A	75 mg/L
	Oil and grease	N/A	15 mg/L
	pH in SU	6.0-9.0	
009	Total Zinc	N/A	**17.4**
	pH in SU	6.0-9.0	
010	BOD_5	**1,575**	**3,928**
	TSS	**5,698**	**17,036**
	COD	**14,020**	**28,040**
	Total Cyanide	**207**	**584**
	Acenaphthene	**0.565**	**1.52**
	Acenaphthylene	**0.565**	**1.52**
	Acrylonitrile	**2.47**	**6.22**
	Anthracene	**0.565**	**1.52**
	Benzene	**0.951**	**3.50**
	3,4-Benzofluoranthene	**0.591**	**1.57**
	Benzo(*k*)fluoranthene	**0.565**	**1.52**
	Bis(2-Ethylhexyl) Phthalate	**2.65**	**7.17**
	Carbon Tetrachloride	**0.463**	**0.977**
	Chlorobenzene	**0.386**	**0.720**
	Chloroethane	**2.67**	**6.89**
	Chloroform	**0.540**	**1.18**
	2-Chlorophenol	**0.797**	**2.52**
	Chrysene	**0.565**	**1.52**
	Di-n-Butyl Phthalate	**0.694**	**1.47**
	1,2-Dichlorobenzene	**1.98**	**4.19**
	1,3-Dichlorobenzene	**0.797**	**1.13**
	1,4-Dichlorobenzene	**0.386**	**0.720**
	1,1-Dichloroethane	**0.565**	**1.52**
	1,2-Dichloroethane	**1.75**	**5.42**
010	1,1-Dichloroethylene	**0.411**	**0.643**
	1,2-trans-Dichloroethylene	**0.540**	**1.39**
	2,4-Dichlorophenol	**1.00**	**2.88**
	1,2-Dichloropropane	**3.93**	**5.91**
	1,3-Dichloropropylene	**0.745**	**1.13**
	Diethyl Phthalate	**2.08**	**5.22**

Outfall	Pollutant	Daily Average, *lbs/day*	Daily Maximum, *lbs/day*
	2,4-Dimethylphenol	**0.463**	**0.925**
	Dimethyl Phthalate	**0.488**	**1.21**
	4,6-Dinitro-o-Cresol	**2.01**	**7.12**
	2,4-Dinitrophenol	**1.83**	**3.16**
	2,4-Dinitrotoluene	**2.90**	**7.33**
	2,6-Dinitrotoluene	**6.55**	**16.5**
	Ethylbenzene	**0.822**	**2.78**
	Fluoranthene	**0.643**	**1.75**
	Fluorene	**0.565**	**1.52**
	Hexachlorobutadiene	**0.514**	**1.26**
	Hexachloroethane	**0.540**	**1.39**
	Methyl Chloride	**2.21**	**4.88**
	Methylene Chloride	**1.03**	**2.29**
	Naphthalene	**0.565**	**1.52**
	Nitrobenzene	**0.694**	**1.75**
	2-Nitrophenol	**1.05**	**1.77**
	4-Nitrophenol	**1.85**	**3.19**
	Phenanthrene	**0.565**	**1.52**
	Phenol	**0.386**	**0.668**
	Pyrene	**0.643**	**1.72**
	Tetrachloroethylene	**0.565**	**1.44**
	Toluene	**0.668**	**2.06**
	1,2,4-Trichlorobenzene	**1.75**	**3.60**
	1,1,1-Trichloroethane	**0.540**	**1.39**
	1,1,2-Trichloroethane	**0.540**	**1.39**
	Trichloroethylene	**0.540**	**1.39**
	Vinyl Chloride	**2.67**	**6.89**
	pH in SU	6.0-9.0	
011	COD	**2,983**	**5,988**
	pH in SU	6.0-9.0	

3. 316(B) COOLING WATER INTAKE STRUCTURES

a. SCREENING

The facility obtains water from a public water system (PWS No. TX1010013), for cooling purposes. The use of water obtained from a public water system for cooling purposes does not constitute the use of a cooling water intake structure; therefore, the facility is not subject to Section 316(b) of the CWA or 40 CFR Part 125, Subpart J.

b. PERMIT ACTION

Other Requirement No. 8 has been revised to require the permittee to notify the TCEQ of any changes in the method by which cooling water is

obtained. Upon receipt of such notification, the TCEQ may reopen the permit to include additional terms and conditions as necessary.

D. WATER QUALITY-BASED EFFLUENT LIMITATIONS/CONDITIONS

1. GENERAL COMMENTS

The *Texas Surface Water Quality Standards* found at 30 TAC Chapter 307 state that surface waters will not be toxic to man from ingestion of water, consumption of aquatic organisms, or contact with the skin, or to terrestrial or aquatic life. The methodology outlined in the TCEQ guidance document *Procedures to Implement the Texas Surface Water Quality Standards* (IPs) is designed to ensure compliance with 30 TAC Chapter 307. Specifically, the methodology is designed to ensure that no source will be allowed to discharge any wastewater that (1) results in instream aquatic toxicity; (2) causes a violation of an applicable narrative or numerical state water quality standard; (3) results in the endangerment of a drinking water supply; or (4) results in aquatic bioaccumulation that threatens human health. Calculated water quality-based effluent limits can be found in Appendix B of this fact sheet.

TPDES permits contain technology-based effluent limits reflecting the best controls available. Where these technology-based permit limits do not protect water quality or the designated uses, additional water quality-based effluent limitations or conditions are included. State narrative and numerical water quality standards are used in conjunction with EPA criteria and other toxicity databases to determine the adequacy of technology-based permit limits and the need for additional water quality-based controls. A comparison of technology-based effluent limits and calculated water quality-based effluent limits can be found in Appendix D of this fact sheet.

2. AQUATIC LIFE CRITERIA

a. SCREENING

Water quality-based effluent limitations (WQBELs) are calculated from saltwater aquatic life criteria found in Table 1 of the *Texas Surface Water Quality Standards* (30 TAC Chapter 307).

Outfall 001

The applicant is replacing the existing single-port diffuser at Outfall 001 with a multiport diffuser. A mixing analysis of the discharge from Outfall 001 into the Houston Ship Channel Tidal (Segment No. 1006) was conducted using the CORMIX 11.0GTD (Version 11.0.1.0) modeling software, consistent with current standardized TCEQ procedures for these evaluations.

Upon its reconfiguration, Outfall 001 will consist of a submerged four-port diffuser with all ports on the downstream side of the existing diffuser barrel. The diffuser will be located approximately 160 meters from the shoreline with an orientation perpendicular to the channel centerline. The diffuser will sit approximately 1.5 meters above the channel bottom. The

diffuser ports will each have a diameter of 120 millimeters and be spaced at 2.67-meter intervals for a total diffuser length of 8 meters. The diffuser ports will discharge at a vertical angle of 0° to the bottom (i.e., horizontal). The model was used to evaluate the permitted effluent flow rate of 8.4 MGD and the two-year median flowrate of 4.7 MGD.

Acute saltwater criteria are applied at the edge of the zone of initial dilution (ZID), and chronic saltwater criteria are applied at the edge of the aquatic life mixing zone. The ZID for this discharge is defined as a volume within a 139-foot by 56-foot rectangle that is centered on the diffuser barrel. This area is approximately equal to the area of a 50-foot radius circle. The chronic aquatic life mixing zone is defined as a volume within a 515-foot (measured parallel to the direction the ports point) by 244-foot (measured perpendicular to the direction the ports point) rectangle that is centered on the diffuser barrel. This area is approximately equal to the area of a 200-foot radius circle. Chronic toxic criteria apply at the edge of the chronic aquatic life mixing zone.

Based on this analysis, the following critical effluent percentages are:

Acute Effluent %	4.3%	Chronic Effluent %	3.5%

Outfall 002:

Acute saltwater criteria are applied at the edge of the ZID, and chronic saltwater criteria are applied at the edge of the aquatic life mixing zone. The width of Tucker Bayou at the point of discharge is approximately 10 feet. The ZID for this discharge is defined as a volume within a radius of 1.25 feet from the point where the discharge enters the Tucker Bayou portion of the Houston Ship Channel Tidal. The chronic aquatic life mixing zone for this discharge is defined as a volume within a radius of 5 feet from the point where the discharge enters Tucker Bayou.

TCEQ uses the EPA horizontal jet plume model to estimate dilution at the edges of the ZID and aquatic life mixing zone for discharges greater than 10 MGD into bays, estuaries, or wide tidal rivers or discharges into sections of bays, estuaries, and wide tidal rivers that are less than 400 feet wide. General assumptions used in the horizontal jet plume model are a non-buoyant discharge, a submersed pipe, and no cross flow. Based on this analysis, the following critical effluent percentages are calculated based on the two-year maximum monthly average flow of >10 MGD:

Acute Effluent %	100%	Chronic Effluent %	100%

Outfall 003:

There is no mixing zone or ZID for this discharge directly to East Fork Patrick Bayou, an intermittent stream; acute freshwater criteria apply at

the end of pipe. Acute and chronic saltwater criteria are applied in the bay, estuary, or wide tidal river.

For the intermittent stream, the percent effluent for acute protection of aquatic life is 100% because the seven-day, two-year low-flow (7Q2) of the intermittent stream is 0.0 cfs. TCEQ uses the EPA horizontal jet plume model to estimate dilution for discharges into sections of bays, estuaries, and wide tidal rivers that are less than 400 feet wide. The width of Patrick Bayou at the point the discharge enters it is approximately 130 feet. General assumptions used in the horizontal jet plume model are a non-buoyant discharge, a submersed pipe, and no cross flow. Based on this analysis the following critical effluent percentages are calculated based on the two-year maximum monthly average flow of <10 MGD:

Acute Effluent % (stream)	100 %
Acute Effluent % (bay, estuary, or wide tidal river)	92 %
Chronic Effluent % (bay, estuary, or wide tidal river)	23 %

Outfall 004

Acute saltwater criteria are applied at the edge of the ZID, and chronic saltwater criteria are applied at the edge of the aquatic life mixing zone. The width of Tucker Bayou at the point of discharge is approximately 10 feet. The ZID for this discharge is defined as a volume within a radius of 3.75 feet from the point where the discharge enters Tucker Bayou. The chronic aquatic life mixing zone for this discharge is defined as a volume within a radius of 15 feet from the point where the discharge enters Tucker Bayou.

TCEQ uses the EPA horizontal jet plume model to estimate dilution at the edges of the ZID and aquatic life mixing zone for discharges into sections of bays, estuaries, and wide tidal rivers that are less than 400 feet wide. General assumptions used in the horizontal jet plume model are a non-buoyant discharge, a submersed pipe, and no cross flow. Based on this analysis, the following critical effluent percentages are calculated based on the two-year maximum monthly average flow of <10 MGD:

Acute Effluent %	100%	Chronic Effluent %	99%

Outfall 009:

Acute saltwater criteria are applied at the edge of the ZID, and chronic saltwater criteria are applied at the edge of the aquatic life mixing zone. The width of the Houston Ship Channel at the point of discharge is greater than or equal to 400 feet. The ZID is defined as a volume within a radius of 50 feet from the point where the discharge enters Houston Ship Channel Tidal. The chronic aquatic life mixing zone for this discharge is defined as a volume within a radius of 200 feet from the point where the discharge enters Houston Ship Channel Tidal.

TCEQ practice is to establish minimum estimated effluent percentages at the edges of the ZID and aquatic life mixing zone for discharges that are 10 MGD or less into bays, estuaries, or wide tidal rivers that are at least 400 feet wide. These critical effluent percentages are as follows:

Acute Effluent %	30%	Chronic Effluent %	8%

Outfall 011:

Acute saltwater criteria are applied at the edge of the ZID and chronic saltwater criteria are applied at the edge of the aquatic life mixing zone. The width of the Houston Ship Channel Tidal at the point of discharge is greater than or equal to 400 feet. The ZID is defined as a volume within a radius of 50 feet from the point where the discharge enters Houston Ship Channel Tidal. The chronic aquatic life mixing zone for this discharge is defined as a volume within a radius of 200 feet from the point where the discharge enters Houston Ship Channel Tidal.

TCEQ practice is to establish minimum estimated effluent percentages at the edges of the ZID and aquatic life mixing zone for discharges that are 10 MGD or less into bays, estuaries, or wide tidal rivers that are at least 400 feet wide. These critical effluent percentages are as follows:

Acute Effluent %	30%	Chronic Effluent %	8%

General Screening Procedures

Wasteload allocations (WLAs) are calculated using the above estimated effluent percentages, criteria outlined in the *Texas Surface Water Quality Standards*, and partitioning coefficients for metals (when appropriate and designated in the implementation procedures). The WLA is the end-of-pipe effluent concentration that can be discharged when, after mixing in the receiving stream, the instream numerical criteria will not be exceeded.

From the WLA, a long-term average (LTA) is calculated using a lognormal probability distribution, a given coefficient of variation (0.6), and a 99th percentile confidence level. The LTA is the long-term average effluent concentration for which the WLA will never be exceeded using a selected percentile confidence level.

The lower of the two LTAs (acute and chronic) is used to calculate a daily average and daily maximum effluent limitation for the protection of aquatic life using the same statistical considerations with the 99th percentile confidence level and a standard number of monthly effluent samples collected (12).

Assumptions used in deriving the effluent limitations include the segment-specific value for TSS according to the *IPs*. The segment value is 10 mg/L for TSS. The discharge from Outfall 003 is into a freshwater body that flows into a saltwater segment. Therefore, data from a representative freshwater segment was used for screening the freshwater portion of the discharge route. The segment values for

Segment No. 1016 were applied and are 12 mg/L for TSS, 7.5 standard units for pH, 40 mg/L for hardness (as calcium carbonate, $CaCO_3$), and 82 mg/L for chloride. For additional details on the calculation of water quality-based effluent limitations, refer to the *IPs*.

TCEQ practice for determining significant potential is to compare the reported analytical data against percentages of the calculated daily average water quality-based effluent limitation. Permit limitations are required when analytical data reported in the application equals or exceeds 85 percent of the calculated daily average water quality-based effluent limitation. Monitoring and reporting is required when analytical data reported in the application equals or exceeds 70 percent of the calculated daily average water quality-based effluent limitation.

b. PERMIT ACTION

Analytical data reported in the application was screened against calculated water quality-based effluent limitations for the protection of aquatic life. Reported analytical data does not exceed 70 percent of the calculated daily average water quality-based effluent limitation for aquatic life protection. No additional limits or monitoring and reporting requirements have been added to the draft permit.

A site-specific water-effect-ratio of 1.8 was used for total copper based on 30 TAC § 307.10(5), Appendix E of the TSWQS.

The limits in the existing permit were compared to the calculated WQBELs to determine whether the existing limits are still protective. The WQBEL for free cyanide at Outfall 001 was more stringent than the TBEL re-calculated per the major amendment request, however, it is less stringent than the existing permit limit. The WQBEL for free cyanide at Outfall 011 is more stringent than the existing limit, but this is likely due to a rounding discrepancy. The draft permit includes the WQBELs for free cyanide and total zinc calculated for aquatic life protection at Outfall 001, total zinc at Outfall 009, and free cyanide at Outfall 011, but a compliance period is not offered. The WQBELs for total copper and total nickel at Outfall 011 were more stringent than the technology-based effluent limits and are applied in the draft permit.

An interim three-year compliance period is included in the draft permit for total copper and total nickel at Outfall 011 in accordance with 30 TAC § 307.2(f). The interim compliance period will give the applicant time to identify sources of the pollutants in the final effluent, explore source removal strategies and treatment options, implement appropriate mitigation efforts, and attain the final effluent limits.

3. WHOLE EFFLUENT TOXICITY (BIOMONITORING) CRITERIA (7-DAY CHRONIC)

a. SCREENING AND REASONABLE POTENTIAL ANALYSIS

The existing permit includes chronic marine biomonitoring requirements at Outfalls 001 and 011.

In the past three years, the permittee has performed forty-eight chronic tests, with zero demonstrations of significant toxicity (i.e., zero failures).

A reasonable potential (RP) determination was performed in accordance with 40 CFR §122.44(d)(1)(ii) to determine whether the discharge will reasonably be expected to cause or contribute to an exceedance of a state water quality standard or criterion within that standard. Each chronic test species is evaluated separately. The RP determination is based on representative data from the previous three years of chronic whole effluent toxicity (WET) testing. This determination was performed in accordance with the methodology outlined in the TCEQ letter to the EPA dated December 28, 2015, and approved by the EPA in a letter dated December 28, 2015.

With zero failures, a determination of no RP was made. The lethal WET limits for both test species at Outfall 011 are retained. Additional WET limits are not required and the permittee may be eligible for the testing frequency reduction after one year of quarterly testing.

b. PERMIT ACTION

The provisions of this section apply to Outfalls 001 and 011.

Based on information contained in the permit application, the TCEQ has determined that there may be pollutants present in the effluent(s) that may have the potential to cause toxic conditions in the receiving stream.

WET testing (biomonitoring) is the most direct measure of potential toxicity, which incorporates the effects of synergism of effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity. The biomonitoring procedures stipulated as a condition of this permit are as follows:

i) Chronic static renewal 7-day survival and growth test using the mysid shrimp (*Mysidopsis bahia*). The frequency of the testing shall be once per quarter.

ii) Chronic static renewal 7-day larval survival and growth test using the inland silverside (*Menidia beryllina*). The frequency of the testing shall be once per quarter.

Toxicity tests shall be performed in accordance with protocols described in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms,* Third Edition (EPA-821-R-02-014) or the latest revision. The stipulated test species are appropriate to measure the toxicity of the effluent consistent with the requirements of the state water quality standards. The biomonitoring frequency has been established to reflect the likelihood of ambient toxicity and to provide data representative of the toxic potential of the facility's discharge.

This permit may be reopened to require effluent limits, additional testing, or other appropriate actions to address toxicity if biomonitoring data show actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or water body.

If none of the first four consecutive quarterly tests demonstrates significant lethal or sublethal effects, the permittee may submit this information in writing and, upon approval, reduce the testing frequency to once per six months for the invertebrate test species and once per year for the vertebrate test species. If one or more of the first four consecutive quarterly tests demonstrates significant sublethal effects, the permittee is required by the permit to continue quarterly testing for that species until four consecutive quarterly tests demonstrate no significant sublethal effects. At that time, the permittee may apply for the appropriate testing frequency reduction for that species. If one or more of the first four consecutive quarterly tests demonstrates significant lethal effects, the permittee is required by the permit to continue quarterly testing for that species until the permit is reissued.

c. DILUTION SERIES

The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. At Outfall 001, these additional effluent concentrations shall be 1.5%, 2%, 2.5%, 3.5%, and 5%. The low-flow effluent concentration (critical dilution) is defined as 3.5% effluent. At Outfall 011, these additional effluent concentrations shall be 3%, 5%, 6%, 8%, and 11%. The low-flow effluent concentration (critical dilution) is defined as 8% effluent.

The dilution series outlined above was calculated using a 0.75 factor applied to the critical dilution. The critical dilution is the estimated effluent dilution at the edge of the aquatic life mixing zone, which is discussed in Section X.D.2.a. of this fact sheet.

4. AQUATIC ORGANISM TOXICITY CRITERIA (24-HOUR ACUTE)

a. SCREENING

The existing permit includes 24-hour acute marine biomonitoring requirements for Outfalls 001 and 011. In the past three years, the permittee has performed twenty 24-hour acute tests, with zero

demonstrations of significant lethality (i.e., zero failures). Minimum 24-hour acute marine biomonitoring requirements are proposed in the draft permit as outlined below.

b. PERMIT ACTION

Twenty-four-hour 100% acute biomonitoring tests are required at Outfalls 001 and 011 at a frequency of once per six months for the life of the permit.

The biomonitoring procedures stipulated as a condition of this permit are as follows:

i) Acute 24-hour static toxicity test using the mysid shrimp (*Mysidopsis bahia*). A minimum of five (5) replicates with eight (8) organisms per replicate shall be used for this test.

ii) Acute 24-hour static toxicity test using the inland silverside (*Menidia beryllina*). A minimum of five (5) replicates with eight (8) organisms per replicate shall be used for this test.

Toxicity tests shall be performed in accordance with protocols described in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition (EPA-821-R-02-012) or the latest revision.

5. AQUATIC ORGANISM BIOACCUMULATION CRITERIA

a. SCREENING

Water quality-based effluent limitations for the protection of human health are calculated using criteria for the consumption of fish tissue found in Table 2 of the *Texas Surface Water Quality Standards* (30 TAC Chapter 307).

Outfall 001:

The applicant is replacing the existing single-port diffuser at Outfall 001 with a multiport diffuser. A mixing analysis of the discharge from Outfall 001 into the Houston Ship Channel Tidal (Segment No. 1006) was conducted using the CORMIX 11.0GTD (Version 11.0.1.0) modeling software, consistent with current standardized TCEQ procedures for these evaluations.

Upon its reconfiguration, Outfall 001 will consist of a submerged four-port diffuser with all ports on the downstream side of the existing diffuser barrel. The diffuser will be located approximately 160 meters from the shoreline with an orientation perpendicular to the channel centerline. The diffuser will sit approximately 1.5 meters above the channel bottom. The diffuser ports will each have a diameter of 120 millimeters and be spaced at 2.67-meter intervals for a total diffuser length of 8 meters. The diffuser

ports will discharge at a vertical angle of 0° to the bottom (i.e., horizontal). The model was used to evaluate the permitted effluent flow rate of 8.4 MGD and the two-year median flowrate of 4.7 MGD.

Fish tissue bioaccumulation criteria are applied at the edge of the human health mixing zone for discharges into bays, estuaries and wide tidal rivers. The human health mixing zone for this discharge is defined as a volume within a radius of 1,016-foot by 495-foot rectangle that is centered on the diffuse barrel. This area is approximately equal to the area of a 400-foot radius circle. Based on this analysis, the following critical effluent percentage is calculated:

Human Health Effluent %: 3.1%

Outfall 002:

Fish tissue bioaccumulation criteria are applied at the edge of the human health mixing zone for discharges into bays, estuaries and wide tidal rivers. The human health mixing zone for this discharge is defined as a volume within a radius of 10 feet from the point where the discharge enters the Tucker Bayou portion of the Houston Ship Channel Tidal. TCEQ uses the EPA horizontal jet plume model to estimate dilution at the edge of the human health mixing zone for discharges greater than 10 MGD into a bay, estuary, or wide tidal river or discharges into sections of bays, estuaries, or wide tidal rivers that are less than 400 feet wide. General assumptions used in the horizontal jet plume model are a non-buoyant discharge, a submersed pipe, and no cross flow. Based on this analysis, the following critical effluent percentage is calculated based on the two-year average monthly average flow of >10 MGD:

Human Health Effluent %: 100%

Outfall 003:

Fish tissue bioaccumulation criteria are applied in the bay, estuary, or wide tidal river for a discharge to an intermittent stream that enters a bay, estuary, or wide tidal river within 3 miles downstream of the discharge point. The width of Patrick Bayou at the point the discharge enters it is approximately 130 feet. TCEQ uses the EPA horizontal jet plume model to estimate dilution for discharges into sections of bays, estuaries, or wide tidal rivers that are less than 400 feet wide. General assumptions used in the horizontal jet plume model are a non-buoyant discharge, a submersed pipe, and no cross flow. Based on this analysis, the following critical effluent percentage is calculated based on the two-year average monthly average flow of <10 MGD:

Human Health Effluent %: 11%

Outfall 004:

Fish tissue bioaccumulation criteria are applied at the edge of the human health mixing zone for discharges into bays, estuaries and wide tidal rivers. The human health mixing zone for this discharge is defined as a volume within a radius of 30 feet from the point where the discharge enters the Tucker Bayou portion of the Houston Ship Channel Tidal. TCEQ uses the EPA horizontal jet plume model to estimate dilution at the edge of the human health mixing zone for discharges into sections of bays, estuaries, or wide tidal rivers that are less than 400 feet wide. General assumptions used in the horizontal jet plume model are a non-buoyant discharge, a submersed pipe, and no cross flow. Based on this analysis, the following critical effluent percentage is calculated based on two-year average monthly average flow of <10 MGD:

Human Health Effluent %: 50%

Outfall 009:

Fish tissue bioaccumulation criteria are applied at the edge of the human health mixing zone for discharges into bays, estuaries and wide tidal rivers. To avoid an overlapping mixing zone with Outfall 001, the human health mixing zone for this discharge was reduced to a volume within a radius of 320 feet from the point where the discharge enters the Houston Ship Channel Tidal. TCEQ uses the EPA horizontal jet plume model to estimate dilution at the edge of the human health mixing zone for discharges into sections of bays, estuaries, or wide tidal rivers that are less than 400 feet wide. General assumptions used in the horizontal jet plume model are a non-buoyant discharge, a submersed pipe, and no cross flow. Based on this analysis, the following critical effluent percentage is calculated based on the two-year average monthly average flow of <10 MGD:

Human Health Effluent %: 5%

Outfall 011:

Fish tissue bioaccumulation criteria are applied at the edge of the human health mixing zone for discharges into bays, estuaries and wide tidal rivers. The human health mixing zone for this discharge is defined as a volume within a radius of 400 feet from the point where the discharge enters the Houston Ship Channel Tidal. TCEQ practice is to establish a minimum estimated effluent percentage at the edge of the human health mixing zone for discharges that are 10 MGD or less into bays, estuaries, and wide tidal rivers that are at least 400 feet wide. This critical effluent percentage is:

Human Health Effluent %: 4%

Water quality-based effluent limitations for human health protection against the consumption of fish tissue are calculated using the same

procedure as outlined for calculation of water quality-based effluent limitations for aquatic life protection. A 99th percentile confidence level in the long-term average calculation is used, with only one long-term average value being calculated.

Significant potential is again determined by comparing reported analytical data against 70 percent and 85 percent of the calculated daily average water quality-based effluent limitation.

b. PERMIT ACTION

Analytical data reported in the application was screened against calculated water quality-based effluent limitations for the protection of human health. Reported analytical data does not exceed 70 percent of the calculated daily average water quality-based effluent limitation for human health protection. No additional limits or monitoring and reporting requirements have been added to the draft permit.

The water quality-based effluent limits for the following pollutants were more stringent than the existing limits or re-calculated technology-based effluent limits and are applied in the draft permit: benzo(*a*)anthracene, benzo(*a*)pyrene, and hexachlorobenzene at Outfall 001; benzo(*a*)anthracene, benzo(*a*)pyrene, hexachlorobenzene, and hexachlorobutadiene via Outfall 009; and benzo(*a*)anthracene, benzo(*a*)pyrene, hexachlorobenzene, and hexachlorobutadiene via Outfall 011.

An interim three-year compliance period is being established for those pollutants listed above in accordance with 30 TAC §307.2(f). The interim compliance period will give the applicant time to identify sources of the pollutants in the final effluent, explore source removal strategies and treatment options, implement appropriate mitigation efforts, and attain the final effluent limits.

6. DRINKING WATER SUPPLY PROTECTION

a. SCREENING

Segment No. 1006, which receives the discharge from this facility, is not designated as a public water supply. Screening reported analytical data of the effluent against water quality-based effluent limitations calculated for the protection of a drinking water supply is not applicable.

b. PERMIT ACTION

None.

7. TOTAL DISSOLVED SOLIDS, CHLORIDE, AND SULFATE STANDARDS PROTECTION

a. SCREENING

Segment No. 1006, which receives the discharges from this facility, does not have criteria established for TDS, chloride, or sulfate in 30 TAC Chapter 307; therefore, no screening was performed for TDS, chloride, or sulfate in the effluent.

b. PERMIT ACTION

None.

8. PROTECTION OF pH STANDARDS

a. SCREENING

The existing permit includes pH limits of 6.0 – 9.0 standard units at Outfalls 002, 003, and 004 which discharge into unclassified water bodies. Consistent with the procedures for pH screening that were submitted to EPA with a letter dated May 28, 2014, and approved by EPA in a letter dated June 2, 2014, requiring a discharge to an unclassified water body to meet pH limits of 6.0 – 9.0 standard units reasonably ensures instream compliance with *Texas Surface Water Quality Standards* pH criteria.

The existing permit includes pH limits of 6.0 – 9.0 SU at Outfalls 001, 009, and 011, which discharge directly into the Houston Ship Channel Tidal, Segment No. 1006. Screening was performed to ensure that these existing pH limits would not cause a violation of the 6.0-9.0 SU pH criteria for Houston Ship Channel Tidal (see Appendix C).

b. PERMIT ACTION

The existing effluent limits of 6.0 – 9.0 SU are adequate to ensure that the discharge will not violate the pH criteria in Houston Ship Channel Tidal.

9. DISSOLVED OXYGEN PROTECTION

a. SCREENING

A dissolved oxygen analysis of the referenced discharge from Outfalls 001/009 and 011 was conducted using an updated version of the calibrated QUAL-TX model documented in the *Waste Load Evaluation WLE-1R for the Houston Ship Channel System (September 2006)*.

Based on model results, the technology-based limits of 1,575 lbs/day BOD_5 total for Outfalls 001 and 009 (i.e. reporting Outfall 010); 289 lbs/day BOD_5 for Outfall 011; and 1,116 lbs/day NH_3-N total for Outfalls 001, 009 and 011 (i.e. reporting Outfall 008) in the draft permit is

predicted to be adequate to maintain the dissolved oxygen criterion stipulated by the Standards Implementation Team for Houston Ship Channel Tidal (2.0 mg/L)

Due to the intermittent nature and limited oxygen demanding constituents from Outfalls 002, 003 and oo4, no significant dissolved oxygen depletion is anticipated in the receiving waters as a result of these discharges.

Coefficients and kinetics used in the model are a combination of site specific, standardized default, and estimated values. The results of this evaluation can be reexamined upon receipt of information that conflicts with the assumptions employed in this analysis.

b. PERMIT ACTION

Based on model results, the waste loading of 1,575 lbs/day BOD_5 for Outfalls 001 and 009; 289 lbs/day BOD_5 for Outfall 011; and 1,116 lbs/day NH_3-N total for Outfalls 001, 009, and 011 is predicted to be adequate to maintain the dissolved oxygen criterion stipulated by the Standards Implementation Team for Houston Ship Channel Tidal (2.0 mg/L).

Due to the intermittent nature and limited oxygen demanding constituents from Outfalls 002, 003 and oo4, these discharges are not expected to substantially affect the 2.0 mg/L dissolved oxygen criterion of the receiving waters.

10. BACTERIA STANDARDS PROTECTION

a. SCREENING

The draft permit continues the authorization to discharge sanitary wastewater at Outfalls 001, 009, and 011, which contributes bacteria to the receiving water bodies. Bacteria criteria (expressed as a geometric mean) for classified segments are specified in Appendix A of 30 TAC §307.10. The indicator bacteria for Segment No. 1006 is Enterococci with the segment criteria of a 30-day geometric mean of 168 CFU or MPN/100 mLs and a maximum of 500 CFU or MPN/100 mL.

b. PERMIT ACTION

The existing permit limits of 168 CFU or MPN/100 mL (daily average) and 500 CFU or MPN/100 mL (daily maximum) at Outfalls 001 and 011 are continued in the draft permit in accordance with antibacksliding regulations in 40 CFR §122.44(l).

XI. PRETREATMENT REQUIREMENTS

This facility is not defined as a publicly owned treatment works. Pretreatment requirements are not proposed in the draft permit.

XII. VARIANCE REQUESTS

No variance requests have been received.

XIII. PROCEDURES FOR FINAL DECISION

When an application is declared administratively complete, the chief clerk sends a letter to the applicant advising the applicant to publish the Notice of Receipt of Application and Intent to Obtain Permit in the newspaper. In addition, the chief clerk instructs the applicant to place a copy of the application in a public place for reviewing and copying in the county where the facility is or will be located. This application will be in a public place throughout the comment period. The chief clerk also mails this notice to any interested persons and, if required, to landowners identified in the permit application. This notice informs the public about the application and provides that an interested person may file comments on the application or request a contested case hearing or a public meeting.

Once a draft permit is completed, it is sent, along with the executive director's preliminary decision, as contained in the technical summary or fact sheet, to the chief clerk. At that time, the Notice of Application and Preliminary Decision will be mailed to the same people and published in the same newspaper as the prior notice. This notice sets a deadline for making public comments. The applicant must place a copy of the executive director's preliminary decision and draft permit in the public place with the application.

Any interested person may request a public meeting on the application until the deadline for filing public comments. A public meeting is intended for the taking of public comment and is not a contested case proceeding.

After the public comment deadline, the executive director prepares a response to all significant public comments on the application or the draft permit raised during the public comment period. The chief clerk then mails the executive director's response to comments and final decision to people who have filed comments, requested a contested case hearing, or requested to be on the mailing list. This notice provides that if a person is not satisfied with the executive director's response and decision, they can request a contested case hearing or file a request to reconsider the executive director's decision within 30 days after the notice is mailed.

The executive director will issue the permit unless a written hearing request or request for reconsideration is filed within 30 days after the executive director's response to comments and final decision is mailed. If a hearing request or request for reconsideration is filed, the executive director will not issue the permit and will forward the application and request to the TCEQ commissioners for their consideration at a scheduled commission meeting. If a contested case hearing is held, it will be a legal proceeding similar to a civil trial in state district court.

If the executive director calls a public meeting or the commission grants a contested case hearing as described above, the commission will give notice of the date, time, and place of the meeting or hearing. If a hearing request or request for reconsideration is made, the commission will consider all public comments in making its decision and shall either adopt the executive director's response to public comments or prepare its own response.

For additional information about this application, contact Sarah A. Johnson, Ph.D., at (512) 239-4649.

XIV. ADMINISTRATIVE RECORD

The following section is a list of the fact sheet citations to applicable statutory or regulatory provisions and appropriate supporting references.

A. PERMIT

TPDES Permit No. WQ0000458000 issued on January 19, 2018.

B. APPLICATION

TPDES wastewater permit application received on July 23, 2020 and additional information received on June 16, 2021 and August 24, 2021.

C. 40 CFR CITATION(S)

40 CFR Parts 414 and 415 (BPT, BCT, BAT).

D. LETTERS/MEMORANDA/RECORDS OF COMMUNICATION

Letter dated April 29, 2014, from L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ, to Bill Honker, Director, Water Quality Protection Division, EPA (TCEQ proposed development strategy for thermal evaluation procedures).

Letter dated May 12, 2014, from William K. Honker, P.E., Director, Water Quality Protection Division, EPA, to L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ (Approval of TCEQ proposed development strategy for thermal evaluation procedures).

Letter dated May 28, 2014, from L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ, to Bill Honker, Director, Water Quality Protection Division, EPA (TCEQ proposed development strategy for pH evaluation procedures).

Letter dated June 2, 2014, from William K. Honker, P.E., Director, Water Quality Protection Division, EPA, to L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ (Approval of TCEQ proposed development strategy for pH evaluation procedures).

Letter dated December 28, 2015, from L'Oreal Stepney, P.E., Deputy Director, Office of Water, TCEQ, to Bill Honker, Director, Water Quality Protection Division, EPA (TCEQ proposed development strategy for procedures to determine reasonable potential for whole effluent toxicity limitations).

Letter dated December 28, 2015, from William K. Honker, P.E., Director, Water Quality Protection Division, EPA, to L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ (Approval of TCEQ proposed development strategy for procedures to determine reasonable potential for whole effluent toxicity limitations).

TCEQ Interoffice Memorandum dated November 12, 2020, from Jeff Paull of the Standards Implementation Team, Water Quality Assessment Section, to the Industrial Permits Team, Wastewater Permitting Section (Standards Memo).

TCEQ Interoffice Memorandum dated May 3, 2021, from Josi Roberston of the Water Quality Assessment Team, Water Quality Assessment Section, to the Industrial Permits Team, Wastewater Permitting Section (Critical Conditions Memo).

TCEQ Interoffice Memoranda dated May 14 and September 3, 2021, from Xing Lu of the Water Quality Assessment Team, Water Quality Assessment Section, to the Industrial Permits Team, Wastewater Permitting Section (Modeling Memo).

TCEQ Interoffice Memorandum dated May 26, 2021, from Michael Pfeil of the Standards Implementation Team, Water Quality Assessment Section, to the Industrial Permits Team, Wastewater Permitting Section (Biomonitoring Memo).

E. MISCELLANEOUS

The *State of Texas 2014 Integrated Report* – Texas 303(d) List (Category 5), TCEQ, November 19, 2015.

Texas Surface Water Quality Standards, 30 TAC §§307.1 - 307.10, TCEQ, effective March 1, 2018, as approved by EPA Region 6.

Texas Surface Water Quality Standards, 30 TAC §§307.1 - 307.10, TCEQ, effective March 6, 2014, as approved by EPA Region 6, for portions of the 2018 standards not approved by EPA Region 6.

Texas Surface Water Quality Standards, 30 TAC §§307.1 - 307.10, TCEQ, effective July 22, 2010, as approved by EPA Region 6, for portions of the 2014 standards not yet approved by EPA Region 6.

Texas Surface Water Quality Standards, 30 TAC §§307.1 - 307.10, TCEQ, effective August 17, 2000, and Appendix E, effective February 27, 2002, for portions of the 2010 standards not yet approved by EPA Region 6.

Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third Edition (EPA-821-R-02-014).

Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition (EPA-821-R-02-012).

Procedures to Implement the Texas Surface Water Quality Standards, TCEQ, June 2010, as approved by EPA Region 6.

Procedures to Implement the Texas Surface Water Quality Standards, TCEQ, January 2003, for portions of the 2010 IPs not approved by EPA Region 6.

Guidance Document for Establishing Monitoring Frequencies for Domestic and Industrial Wastewater Discharge Permits, TCEQ Document No. 98-001.000-OWR-WQ, May 1998.

Appendix A
Calculated Technology-Based Effluent Limits

The discharge of process wastewater via Outfalls 001, 009, and 011 from this facility is subject to federal effluent limitation guidelines at 40 CFR Parts 414 (Organic Chemicals, Plastics, and Synthetic Fibers) and 415 (Inorganic Chemicals Manufacturing Point Source Category.) A new source determination was performed, and the discharge is not a new source as defined at 40 CFR §122.2. Therefore, new source performance standards (NSPS) are not required for this discharge.

The discharge of stormwater, treated utility wastewaters, sanitary wastewater, untreated utility wastewater, and stormwater from construction activity via Outfall 001; utility wastewater, non-process area stormwater, hydrostatic test water from clean tankage, and stormwater from construction activity via Outfalls 002, 003 and 004; stormwater, treated utility wastewaters, sanitary wastewater, untreated utility wastewater, and stormwater from construction activity via Outfall 009; and stormwater, treated utility wastewaters, sanitary wastewater, untreated utility wastewater, and stormwater from construction activity via Outfall 011 is not subject to federal effluent limitation guidelines and any technology-based effluent limitations are based on best professional judgment (BPJ), the Construction General Stormwater Permit (TXR150000), 30 TAC Chapter 309, and/or water quality screening, where appropriate.

OUTFALLS 001 and 009:

(Outfall 001 – due to the restricted diffuser flow via Outfall 001, overflow discharges are routed to Outfall 009, ***the technology-based effluent limitations shall be met at summation Outfall 010*** *while the more protective* ***water quality-based effluent limitations are required at the applicable physical Outfalls 001 or 009****).*

The applicant reports [1] that the following wastestream types are treated in the West WWTP and discharged via Outfall 001 and its overflow Outfall 009:

Contributing wastestream	Flow (MGD)
Part 414 Process wastewater	3.08
Part 415 Process wastewater	0.42
Utility wastewater	4.27
Sanitary wastewater	0.036
Non-process area stormwater [2]	2.624
Total:	10.43
Permitted flow:	*8.4* [3]

[1] Data taken from application received July 23, 2020: Worksheet 1.0 (production) and Attachment TR-2.b.
[2] Stormwater flow based on maximum flow from the past two years.
[3] Though the total flow indicated in the application received July 23, 2020 is 10.43 MGD (based on an increase in stormwater flows), the applicant did not request recalculation of the TBELs. Therefore, the permitted flow of 8.4 MGD was used in the calculations herein.

Process	Effluent Guideline, 40 CFR	Flow (gallons per day)
Oil additives composed of acryloids (aka Multi-Products (Oil Additives) Production)	414, Subpart D, Thermoplastic Resins [4]	431,200
HT2-Oxidation	414, Subpart F, Commodity	30,800
Methyl Methacrylate, Methacrylic Acid, Butyl Methacrylate, Specialty Amine Productions, Acetylene gas	414, Subpart G, Bulk; Nonmetal-bearing	1,022,400
Acrylic Acid/Oxidation of propylene via acrolein	414, Subpart G, Bulk; Copper [5]	400,000
Acrylic Acid/Oxidation of propylene via acrolein	414, Subpart G, Bulk; Nickel [5]	400,000
Acetone cyanohydrin/Acetone + Hydrogen cyanide	414, Subpart G, Bulk; Cyanide	580,000
Emulsions (Acrylic) Production	414, Subpart H, Specialty.	215,600
Hydrogen Cyanide	415, Subpart AP, Andrussow Process	420,000

Note: The applicant addressed process related stormwater and equipment/facility washdown in the process estimates detailed above. Also, the applicant reports that acetic acid is generated from the acrylic acid separation process and approximately 90% is burned as waste with the remaining sold. Acetic acid related wastewater is captured under acrylic acid and HT-2 solvent stripper flows.

40 CFR Part 414- Organic Chemicals, Plastics, and Synthetic Fibers (OCPSF) Subparts D, F, G, H

Effluent limitation guideline (ELG) concentrations are required to be production-proportioned in accordance with 40 CFR §414.11(i). The ELG production percentages provided by the permittee are used to calculate the concentrations that are subsequently used to calculate daily average and daily maximum mass loadings (in lbs/day). Best practicable control technology currently available (BPT) limits are applied for Subpart D (40 CFR §414.41), Subpart F (40 CFR §414.61), Subpart G (40 CFR §414.71), and Subpart H (40 CFR §414.81).

The ELGs are prorated based on these production values by the following formula:

(Subpart D ELG × fraction of total production) + (Subpart F ELG × fraction of total production) + (Subpart G ELG × fraction of total production) + (Subpart H ELG × fraction of total production) = Total Production ELG

Biochemical Oxygen Demand, 5-day (BOD_5)

Source	%	Daily Average Guideline	Daily Maximum Guideline
Subpart D	14.0	24 mg/L x 0.14= 3.36 mg/L	64 mg/L x 0.14= 8.96 mg/L
Subpart F	1.0	30 mg/L x 0.01 = 0.30 mg/L	80 mg/L x 0.01 =0.8 mg/L
Subpart G	78.0	34 mg/L x 0.78= 26.52 mg/L	92 mg/L x 0.78= 71.76 mg/L
Subpart H	7.0	45 mg/L x 0.07= 3.15 mg/L	120 mg/L x 0.07= 8.40 mg/L
Calculated Guideline		**33.33 mg/L**	**89.92 mg/L**

[4] This solution polymerization to coatings process does not use zinc or cyanide in the process.
[5] Oxidation of propylene via acrolein. The applicant reports copper and nickel are used in this process, but chromium is not.

Total Suspended Solids (TSS)

Source	%	Daily Average Guideline	Daily Maximum Guideline
Subpart D	14.0	40 mg/L x 0.14= 5.60 mg/L	130 mg/L x 0.14= 18.2 mg/L
Subpart F	1.0	46 mg/L x 0.01= 0.46 mg/L	149 mg/L x 0.01= 1.49 mg/L
Subpart G	78.0	49 mg/L x 0.78= 38.22 mg/L	159 mg/L x 0.78= 124.02 mg/L
Subpart H	7.0	57 mg/L x 0.07 = 3.99 mg/L	183 mg/L x 0.07= 12.81 mg/L
Calculated Guideline		**48.27 mg/L**	**156.52 mg/L**

The following technology-based effluent limitations are calculated by converting the above-calculated guideline concentrations to daily average and daily maximum mass loadings (in lbs/day) by multiplying the flow by a conversion factor of 8.345 and then multiplying that product by the concentrations (in mg/L).

The following formula is used to convert concentration to mass:

Allowable Mass (lbs/day) = [Allowable Concentration (mg/L)] × Flow (MGD) × 8.345

Daily Average BOD_5 = (33.33 mg/L) × (3.08 MGD) × (8.345) = 856.67 lbs/day

Daily mass loading allocations for utility wastewater and sanitary wastewater are included. Sources for the concentrations used to calculate the existing daily average and daily maximum allocations included BPJ for utility wastewater and 30 TAC Chapter 309 for sanitary wastewater, and are carried forward in the draft permit in accordance with antibacksliding regulations.

BOD_5 mass loading limits

Wastewater Source	Flow (MGD)	Conversion Factor	Daily Average Guideline (mg/L)	Daily Maximum Guideline (mg/L)	**Daily Average Limit (lbs/day)**	**Daily Maximum Limit (lbs/day)**
Process	3.08	8.345	33.33	89.92	856.67	2,311.18
Utility	4.27	8.345	20	45	712.66	1,603.49
Sanitary	0.036	8.345	20	45	6.01	13.52
				Total	**1,575**	**3,928**

TSS mass loading limits

Wastewater Source	Flow (MGD)	Conversion Factor	Daily Average Guideline (mg/L)	Daily Maximum Guideline (mg/L)	**Daily Average Limit (lbs/day)**	**Daily Maximum Limit (lbs/day)**
Process	3.08	8.345	48.27	156.52	1,240.7	4,023.0
Utility	4.27	8.345	45	150	1,603.5	5,345.0
Sanitary	0.036	8.345	20	45	6.01	13.52
				Total	**2,850**	**9,381**

40 CFR Part 414- Subpart I

Best available technology economically achievable (BAT) limits for pollutant parameters under 40 CFR §414.91 are presented below. Mass loading limits were calculated using process wastewater flows and the conversion factor of 8.345 used for calculated mass limitations. In the case of chromium, copper, lead, nickel, zinc, and total cyanide, the discharge quantity (mass) shall be determined by multiplying the concentrations listed for these pollutants times the flow from metal-bearing waste

streams for the metals and times the flow from cyanide bearing waste streams for total cyanide, in accordance with 40 CFR §414.91(b). The permittee reported no chromium, lead, or zinc-bearing wastewater flows.

[ELG concentration in µg/L/1,000] = mg/L
[ELG concentration in µg/L/1,000] x 8.345 x process wastewater flow = lbs/day

Single grab = [Daily Max. ELG in µg/L/1,000] x [process wastewater flow/total outfall flow] x 1.5

Total Flow from Outfall (MGD) =	8.4	
Process Wastewater Flow (MGD) =	3.08	
Metal Bearing Wastewater Flow (MGD) =		0.8
Copper-bearing wastewater (MGD) =		*0.4*
Nickel-bearing wastewater (MGD) =		*0.4*
Cyanide-bearing Wastewater Flow (MGD) =		0.58

Parameter	**Daily Avg (µg/L)**	**Daily Max (µg/L)**	**Daily Avg (lb/day)**	**Daily Max (lb/day)**	**Single Grab (mg/L)**
Chromium	1,110	2,770	N/A	N/A	N/A
Copper	1,450	3,380	9.68	22.6	0.483
Cyanide	420	1200	2.03	5.81	0.171
Lead	320	690	N/A	N/A	N/A
Nickel	1,690	3980	11.3	26.6	0.569
Zinc	1,050	2,610	N/A	N/A	N/A
Acenaphthene	22	59	0.565	1.52	0.0325
Acenaphthylene	22	59	0.565	1.52	0.0325
Acrylonitrile	96	242	2.47	6.22	0.133
Anthracene	22	59	0.565	1.52	0.0325
Benzene	37	136	0.951	3.50	0.0748
Benzo(*a*)anthracene	22	59	0.565	1.52	0.0325
3,4-Benzofluoranthene	23	61	0.591	1.57	0.0336
Benzo(*k*)fluoranthene	22	59	0.565	1.52	0.0325
Benzo(*a*)pyrene	23	61	0.591	1.57	0.0336
Bis(2-ethylhexyl) phthalate	103	279	2.65	7.17	0.154
Carbon Tetrachloride	18	38	0.463	0.977	0.0209
Chlorobenzene	15	28	0.386	0.720	0.0154
Chloroethane	104	268	2.67	6.89	0.147
Chloroform	21	46	0.540	1.18	0.0253
2-Chlorophenol	31	98	0.797	2.52	0.0539
Chrysene	22	59	0.565	1.52	0.0325
Di-*n*-butyl phthalate	27	57	0.694	1.47	0.0314
1,2-Dichlorobenzene	77	163	1.98	4.19	0.0897
1,3-Dichlorobenzene	31	44	0.797	1.13	0.0242
1,4-Dichlorobenzene	15	28	0.386	0.72	0.0154
1,1-Dichloroethane	22	59	0.565	1.52	0.0325
1,2-Dichloroethane	68	211	1.75	5.42	0.116
1,1-Dichloroethylene	16	25	0.411	0.643	0.0138
1,2-trans Dichloroethylene	21	54	0.540	1.39	0.0297
2,4-Dichlorophenol	39	112	1.00	2.88	0.0616
1,2-Dichloropropane	153	230	3.93	5.91	0.127

Parameter	Daily Avg (µg/L)	Daily Max (µg/L)	Daily Avg (lb/day)	Daily Max (lb/day)	Single Grab (mg/L)
1,3-Dichloropropylene	29	44	0.745	1.13	0.0242
Diethyl phthalate	81	203	2.08	5.22	0.112
2,4-Dimethylphenol	18	36	0.463	0.925	0.0198
Dimethyl phthalate	19	47	0.488	1.21	0.0259
4,6-Dinitro-o-cresol	78	277	2.01	7.12	0.152
2,4-Dinitrophenol	71	123	1.83	3.16	0.0677
2,4-Dinitrotoluene	113	285	2.90	7.33	0.157
2,6-Dinitrotoluene	255	641	6.55	16.5	0.353
Ethylbenzene	32	108	0.822	2.78	0.0594
Fluoranthene	25	68	0.643	1.75	0.0374
Fluorene	22	59	0.565	1.52	0.0325
Hexachlorobenzene	15	28	0.386	0.720	0.0154
Hexachlorobutadiene	20	49	0.514	1.26	0.0270
Hexachloroethane	21	54	0.540	1.39	0.0297
Methyl Chloride	86	190	2.21	4.88	0.105
Methylene Chloride	40	89	1.03	2.29	0.0490
Naphthalene	22	59	0.565	1.52	0.0325
Nitrobenzene	27	68	0.694	1.75	0.0374
2-Nitrophenol	41	69	1.05	1.77	0.0380
4-Nitrophenol	72	124	1.85	3.19	0.0682
Phenanthrene	22	59	0.565	1.52	0.0325
Phenol	15	26	0.386	0.668	0.0143
Pyrene	25	67	0.643	1.72	0.0369
Tetrachloroethylene	22	56	0.565	1.44	0.0308
Toluene	26	80	0.668	2.06	0.0440
1,2,4-Trichlorobenzene	68	140	1.75	3.60	0.0770
1,1,1-Trichloroethane	21	54	0.540	1.39	0.0297
1,1,2-Trichloroethane	21	54	0.540	1.39	0.0297
Trichloroethylene	21	54	0.540	1.39	0.0297
Vinyl Chloride	104	268	2.67	6.89	0.147

40 CFR Part 415- Inorganic Chemicals Manufacturing Point Source Category

ELGs in Subpart AP- Hydrogen Cyanide Production Subcategory apply. Limitations are production-based and the final mass loading limit is calculated as the ELG x production volume. The application indicated a production of 890,000 lbs/day.

Allowable mass loading =
Production vol. (1,000 pounds of product) × Effluent limitation (lbs/1,000 pounds of product)

40 CFR § 415.422 BPT effluent limits

Pollutant	Daily Max kg/kkg (or pounds per 1,000 lbs) of product	Daily Avg kg/kkg (or pounds per 1,000 lbs) of product	Daily Max lbs/day	Daily Avg lbs/day
TSS	8.6	3.2	7,654	2,848
Cyanide Amenable	0.1	0.021	89	18.69
Total Cyanide	0.65	0.23	578.5	204.7
pH	6.0- 10.5 SU			

40 CFR §415.423 BAT effluent limits

	Daily Max	Monthly Avg	Daily Max	Daily Avg
Pollutant	**kg/kkg (or pounds per 1,000 lbs) of product**		**lbs/day**	**lbs/day**
Cyanide Amenable	0.1	0.021	89	18.69
Total Cyanide	0.65	0.23	578.5	204.7
Total Residual Chlorine [6]	0.086	0.051	76.54	45.39

Total BOD_5, TSS, and Total Cyanide for Outfall 001

(Outfall 001 – due to the restricted diffuser flow via Outfall 001, overflow discharges are routed to Outfall 009, the technology-based effluent limitations shall be met at summation Outfall 010 while the more protective water quality-based effluent limitations are required at the applicable physical Outfalls 001 or 009).

	BOD_5		**TSS**		**Total Cyanide**	
	Daily Avg (lbs/day)	Daily Max (lbs/day)	Daily Avg (lbs/day)	Daily Max (lbs/day)	Daily Avg (lbs/day)	Daily Max (lbs/day)
40 CFR Part 414	856.67	2,311.18	1,240.7	4,023.0	2.03	5.81
40 CFR Part 415	N/A	N/A	2,848	7,654	204.7	578.5
Other Wastewaters	718.67	1,617.01	1,609.51	5,358.52	N/A	N/A
Total	**1,575**	**3,928**	**5,698**	**17,036**	**207**	**584**

Technology-based Part 414 and 415 Effluent Limits Summary

	Daily Avg	**Daily Max**
Pollutant	**lbs/day**	**lbs/day**
BOD_5	1,575	3,928
TSS	5,698	17,036
Cyanide Amenable (Free)	18.7	89.0
Total Cyanide	207	584
pH	6.0- 10.5 SU	

pH for Outfalls 001 (and overflow Outfall 009)

BPJ for pH (i.e., 6.0-9.0 SU) coincides with pH limitations established in the Part 414 guidelines yet are slightly more restrictive than pH limitations established at 40 CFR Part 415, Subpart AP (i.e., 6.0-10.5 SU). The technology-based pH limit of 6.0-9.0 SU at each outfall in the existing permit is carried forward in the draft permit in accordance with antibacksliding regulations in 40 CFR §122.44(l).

OUTFALLS 002, 003, and 004:

[6] *Total residual chlorine effluent limitations at Outfall 001 and 009 were removed via major amendment per the existing permit issued January 19, 2018.* The permittee stated the total residual chlorine effluent limitation at Outfall 001 was originally placed in the permit to address alkaline chlorination for cyanide destruction, which Rohm and Haas Texas Inc., does not use. Therefore, in accordance with the exception allowed under 40 CFR §122.44(l)(2)(i)(A), and based on the fact that Rohm and Haas Texas, Inc., does not use alkaline chlorination for cyanide destruction, the total residual chlorine effluent limitation was removed at Outfall 001, overflow Outfall 009, and summation Outfall 010. **The exclusion of total residual chlorine limits is continued in the draft permit.**

Existing limits are based on BPJ for stormwater driven Outfalls 002, 003 and 004 and are continued in the draft permit in accordance with antibacksliding regulations as follows:

Parameter	Daily Average (mg/L)	Daily Maximum (mg/L)
TOC	N/A	75
Oil and Grease	N/A	15
pH	6.0 - 9.0 SU	

OUTFALL 008:

Outfall 008 is a reporting outfall created for the purpose of regulating the sum of ammonia nitrogen discharged via Outfalls 001, 009, and 011. The existing and draft permits base the allowable NH_3-N loadings from Outfalls 001 (including overflow Outfall 009) and 011 on the determination by the Water Quality Assessment Team established by the Standards Team for the Houston Ship Channel Tidal (Segment No. 1006), which is consistent with the Waste Load Evaluation *WLE-1R for the Houston Ship Channel System in the San Jacinto River Basin* (September 2006). The existing permit limits the total NH_3-N loading at Outfall 008 as the sum of NH_3-N discharge at Outfalls 001, 009, and 011 to 1,116 lbs/day (daily average) and 2,224 lbs/day (daily maximum). The applicant has experienced no difficulty in complying with these limitations. Therefore, the limits from the existing permit are carried over to the draft permit in accordance with antibacksliding regulations.

OUTFALL 010 (summation of loadings discharged via Outfall 001 and 009):

See TBELs developed for Outfall 001 and overflow Outfall 009.

Chemical oxygen demand (COD) concentration values (i.e., 200 mg/L daily average and 400 mg/L daily maximum) for Outfall 010 are carried over from the existing permit in accordance with antibacksliding regulations in 40 CFR §122.44(l) and are applied as follows:

Mass (lb/day) = Concentration (mg/L) * Flow (MGD) * 8.345
Permitted flow = 8.4 MGD

All wastestreams	Daily Avg (mg/L)	Daily Max (mg/L)	Daily Avg (lbs/day)	Daily Max (lbs/day)
COD	200	400	~ 14,020	~28,040

Note: More protective water quality-based effluent limitations are applied at the physical discharge Outfalls 001 and 009 as needed.

OUTFALL 011

The applicant reports **1** the following wastestreams enter in the East Wastewater Treatment Plant (EWTP):

Contributing wastestream	Flow (MGD)
Part 414 Process wastewater	1.73
Utility wastewater	0.27
Sanitary wastewater	0.01
Non-process area stormwater **2**	4.45
Total:	6.46
Permitted flow:	*2.5* [7]

Process	Effluent Guideline, 40 CFR	Flow (gallons per day)
HT2-Oxidation	414, Subpart F, Commodity	190,300
Methyl Methacrylate, Methacrylic Acid, Butyl Methacrylate, Specialty Amine Productions, Acetylene gas	414, Subpart G, Bulk; Nonmetal-bearing	124,400
Acrylic Acid/Oxidation of propylene via acrolein	414, Subpart G, Bulk; Copper **5**	527,800
Acrylic Acid/Oxidation of propylene via acrolein	414, Subpart G, Bulk; Nickel **5**	455,000
Emulsions (Acrylic) Production	414, Subpart H, Specialty.	432,500

40 CFR Part 414- Organic Chemicals, Plastics, and Synthetic Fibers (OCPSF) Subparts F, G, H

ELG concentrations are required to be production-proportioned in accordance with 40 CFR §414.11(i). The ELG production percentages provided by the permittee are used to calculate the concentrations that are subsequently used to calculate daily average and daily maximum mass loadings (in lbs/day). BPT limits are applied for Subparts F, G, and H (40 CFR §§414.61, 414.71, 414.81, respectively).

The ELGs are prorated based on these production values by the following formula:

(Subpart D ELG × fraction of total production) + (Subpart F ELG × fraction of total production) + (Subpart G ELG × fraction of total production) + (Subpart H ELG × fraction of total production) = Total Production ELG

Biochemical Oxygen Demand, 5-day (BOD_5)

Source	%	Daily Average Guideline	Daily Maximum Guideline
Subpart F	11.0	30 mg/L x 0.11 = 3.3 mg/L	80 mg/L x 0.11 = 8.8 mg/L
Subpart G	64.0	34 mg/L x 0.64= 21.76 mg/L	92 mg/L x 0.64= 58.88 mg/L
Subpart H	25.0	45 mg/L x 0.25= 11.25 mg/L	120 mg/L x 0.25= 30.0 mg/L
Calculated Guideline		**36.31 mg/L**	**97.68 mg/L**

Total Suspended Solids (TSS)

[7] Though the total flow indicated in the application received July 23, 2020 is 6.46 MGD (based on an increase in stormwater flows), the applicant did not request recalculation of the TBELs. Therefore, the permitted flow of 2.5 MGD was used in the calculations herein.

Source	**%**	**Daily Average Guideline**	**Daily Maximum Guideline**
Subpart F	11.0	46 mg/L x 0.11= 5.06 mg/L	149 mg/L x 0.11= 16.39 mg/L
Subpart G	64.0	49 mg/L x 0.64= 31.36 mg/L	159 mg/L x 0.64= 101.76 mg/L
Subpart H	25.0	57 mg/L x 0.25 = 14.25 mg/L	183 mg/L x 0.25= 45.75 mg/L
Calculated Guideline		**50.67 mg/L**	**163.9 mg/L**

The following technology-based effluent limitations are calculated by converting the above-calculated guideline concentrations to daily average and daily maximum mass loadings (in lbs/day) by multiplying the flow by a conversion factor of 8.345 and then multiplying that product by the concentrations (in mg/L).

The following formula is used to convert concentration to mass:

Allowable Mass (lbs/day) = [Allowable Concentration (mg/L)] × Flow (MGD) × 8.345

Daily Average BOD_5 = (36.31 mg/L) × (1.73 MGD) × (8.345) = 524.20 lbs/day

Daily mass loading allocations for utility wastewater and sanitary wastewater are included. Sources for the concentrations used to calculate the existing daily average and daily maximum allocations included BPJ for utility wastewater and 30 TAC Chapter 309 for sanitary wastewater and are carried forward in the draft permit in accordance with antibacksliding regulations.

BOD_5 mass loading limits

Source	Flow	Conversion Factor	Daily Average Guideline (mg/L)	Daily Maximum Guideline (mg/L)	**Daily Average Limit (lbs/day)**	**Daily Maximum Limit (lbs/day)**
Process ww	1.73	8.345	36.31	97.68	524.20	1,410.19
Utility	0.27	8.345	10	20	22.53	45.06
Sanitary	0.01	8.345	20	45	1.67	3.76
				Total	**548**	**1,459**

TSS mass loading limits

Source	Flow	Conversion Factor	Daily Average Guideline (mg/L)	Daily Maximum Guideline (mg/L)	**Daily Average Limit (lbs/day)**	**Daily Maximum Limit (lbs/day)**
Process ww	1.73	8.345	50.67	163.9	731.5	2366.2
Utility	0.27	8.345	20	45	45.06	101.4
Sanitary	0.01	8.345	20	45	1.67	3.76
				Total	**778**	**2,471**

<u>40 CFR Part 414- Subpart I</u>

BAT limits for pollutant parameters under 40 CFR §414.91 are presented below. Mass loading limits were calculated using process wastewater flows and the conversion factor of 8.345 used for calculated mass limitations. In the case of chromium, copper, lead, nickel, zinc, and total cyanide, the discharge quantity (mass) shall be determined by multiplying the concentrations listed in the following table for these pollutants times the flow from metal-bearing waste streams for the metals and times the flow from cyanide bearing waste streams for total cyanide, in accordance with 40 CFR §414.91(b). The permittee reported no cyanide, chromium, lead, or zinc-bearing wastewater flows.

[ELG concentration in µg/L/1,000] = mg/L
[ELG concentration in µg/L/1,000] x 8.345 x process wastewater flow = lbs/day

Single grab = [ELG concentration in µg/L/1,000] x [process wastewater flow/total outfall flow] x 1.5

Total Flow from Outfall (MGD) = 2.5
Process Wastewater Flow (MGD) = 1.73
Metal Bearing Wastewater Flow (MGD) = 0.928
Copper-bearing wastewater (MGD) = 0.5278
Nickel-bearing wastewater (MGD) = 0.455
Cyanide-bearing Wastewater Flow (MGD) = 0

Parameter	Daily Avg (µg/L)	Daily Max (µg/L)	Daily Avg (lb/day)	Daily Max (lb/day)	Single Grab (mg/L)
Chromium	1,110	2,770	N/A	N/A	N/A
Copper	1,450	3,380	11.2	26.2	1.88
Cyanide	420	1,200	N/A	N/A	N/A
Lead	320	690	N/A	N/A	N/A
Nickel	1,690	3,980	13.1	30.8	2.22
Zinc	1,050	2,610	N/A	N/A	N/A
Acenaphthene	22	59	0.318	0.852	0.0612
Acenaphthylene	22	59	0.318	0.852	0.0612
Acrylonitrile	96	242	1.39	3.49	0.251
Anthracene	22	59	0.318	0.852	0.0612
Benzene	37	136	0.534	1.96	0.141
Benzo(*a*)anthracene	22	59	0.318	0.852	0.0612
3,4-Benzofluoranthene	23	61	0.332	0.881	0.0633
Benzo(*k*)fluoranthene	22	59	0.318	0.852	0.0612
Benzo(*a*)pyrene	23	61	0.332	0.881	0.0633
Bis(2-ethylhexyl) phthalate	103	279	1.49	4.03	0.290
Carbon Tetrachloride	18	38	0.260	0.549	0.0394
Chlorobenzene	15	28	0.217	0.404	0.0291
Chloroethane	104	268	1.50	3.87	0.278
Chloroform	21	46	0.303	0.664	0.0477
2-Chlorophenol	31	98	0.448	1.42	0.102
Chrysene	22	59	0.318	0.852	0.0612
Di-*n*-butyl phthalate	27	57	0.390	0.823	0.0592
1,2-Dichlorobenzene	77	163	1.11	2.35	0.169
1,3-Dichlorobenzene	31	44	0.448	0.635	0.0457
1,4-Dichlorobenzene	15	28	0.217	0.404	0.0291
1,1-Dichloroethane	22	59	0.318	0.852	0.0612
1,2-Dichloroethane	68	211	0.982	3.046	0.219
1,1-Dichloroethylene	16	25	0.231	0.361	0.0260
1,2-trans Dichloroethylene	21	54	0.303	0.780	0.0561
2,4-Dichlorophenol	39	112	0.563	1.617	0.116
1,2-Dichloropropane	153	230	2.21	3.32	0.239
1,3-Dichloropropylene	29	44	0.419	0.635	0.0457
Parameter	**Daily Avg (µg/L)**	**Daily Max (µg/L)**	**Daily Avg (lb/day)**	**Daily Max (lb/day)**	**Single Grab (mg/L)**

Diethyl phthalate	81	203	1.17	2.93	0.211
2,4-Dimethylphenol	18	36	0.260	0.520	0.0374
Dimethyl phthalate	19	47	0.274	0.679	0.0488
4,6-Dinitro-o-cresol	78	277	1.13	3.99	0.286
2,4-Dinitrophenol	71	123	1.03	1.78	0.128
2,4-Dinitrotoluene	113	285	1.63	4.12	0.296
2,6-Dinitrotoluene	255	641	3.68	9.25	0.665
Ethylbenzene	32	108	0.462	1.56	0.112
Fluoranthene	25	68	0.361	0.982	0.071
Fluorene	22	59	0.318	0.852	0.0612
Hexachlorobenzene	15	28	0.217	0.404	0.0291
Hexachlorobutadiene	20	49	0.289	0.707	0.0509
Hexachloroethane	21	54	0.303	0.780	0.0561
Methyl Chloride	86	190	1.24	2.74	0.197
Methylene Chloride	40	89	0.577	1.29	0.0924
Naphthalene	22	59	0.318	0.852	0.0612
Nitrobenzene	27	68	0.390	0.982	0.0706
2-Nitrophenol	41	69	0.592	0.996	0.0716
4-Nitrophenol	72	124	1.04	1.79	0.129
Phenanthrene	22	59	0.318	0.852	0.0612
Phenol	15	26	0.217	0.375	0.0270
Pyrene	25	67	0.361	0.967	0.0695
Tetrachloroethylene	22	56	0.318	0.808	0.0581
Toluene	26	80	0.375	1.16	0.083
1,2,4-Trichlorobenzene	68	140	0.982	2.02	0.145
1,1,1-Trichloroethane	21	54	0.303	0.780	0.0561
1,1,2-Trichloroethane	21	54	0.303	0.780	0.0561
Trichloroethylene	21	54	0.303	0.780	0.0561
Vinyl Chloride	104	268	1.50	3.87	0.278

Other Parameters for Outfall 011

The technology-based pH will be limited to 6.0-9.0 SU. The single grab value for oil and grease and the COD limitations from the existing permit are also carried over to the draft permit in accordance with antibacksliding regulations.

Mass (lb/day) = Concentration (mg/L) * Flow (MGD) * 8.345
Permitted flow = 2.5 MGD

All wastestreams	Daily Avg (mg/L)	Daily Max (mg/L)	Daily Avg (lbs/day)	Daily Max (lbs/day)
COD	143	287	~ 2,983	~5,988

Appendix B
Calculated Water Quality-Based Effluent Limits

TEXTOX MENU #5 - BAY OR WIDE TIDAL RIVER

The water quality-based effluent limitations developed below are calculated using:

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Saltwater Aquatic Life
Table 2, 2018 Texas Surface Water Quality Standards for Human Health
"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

PERMIT INFORMATION

Permittee Name:	Rohm and Haas Texas Incorporated
TPDES Permit No:	WQ0000458000
Outfall No:	001
Prepared by:	S. Johnson
Date:	16 June 2021

DISCHARGE INFORMATION

Receiving Waterbody:	Houston Ship Channel Tidal
Segment No:	1006
TSS (mg/L):	10
Effluent Flow for Aquatic Life (MGD)	N/A
% Effluent for Chronic Aquatic Life (Mixing Zone):	3.5
% Effluent for Acute Aquatic Life (ZID):	4.3
Oyster Waters?	**No**
Effluent Flow for Human Health (MGD):	N/A
% Effluent for Human Health:	3.1

CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):

Estuarine Metal	*Intercept (b)*	*Slope (m)*	*Partition Coefficient (Kp)*	*Dissolved Fraction (Cd/Ct)*	*Source*	*Water Effect Ratio (WER)*	*Source*
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Cadmium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (total)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (trivalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (hexavalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	4.85	-0.72	13489.63	0.881		**1.80**	**TSWQS**
Lead	6.06	-0.85	162181.01	0.381		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	5.86	-0.74	131825.67	0.431		1.00	Assumed
Zinc	5.36	-0.52	69183.10	0.591		1.00	Assumed

AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	*SW Acute Criterion (µg/L)*	*SW Chronic Criterion (µg/L)*	*WLAa (µg/L)*	*WLAc (µg/L)*	*LTAa (µg/L)*	*LTAc (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Acrolein	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aldrin	1.3	N/A	30.2	N/A	9.67	N/A	14.2	30.0
Aluminum	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arsenic	149	78	3465	2229	1109	1359	1629	3448
Cadmium	40.0	8.75	930	250	298	153	224	474

Parameter	*SW Acute Criterion (µg/L)*	*SW Chronic Criterion (µg/L)*	*WLAa (µg/L)*	*WLAc (µg/L)*	*LTAa (µg/L)*	*LTAc (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Carbaryl	613	N/A	14256	N/A	4562	N/A	6705	14187
Chlordane	0.09	0.004	2.09	0.114	0.670	0.0697	0.102	0.216
Chlorpyrifos	0.011	0.006	0.256	0.171	0.0819	0.105	0.120	0.254
Chromium (trivalent)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium (hexavalent)	1090	49.6	25349	1417	8112	864	1270	2688
Copper	24.3	6.48	641	210	205	128	188	398
Copper (oyster waters)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cyanide (free)	5.6	5.6	130	160	41.7	97.6	61.2	129
4,4'-DDT	0.13	0.001	3.02	0.0286	0.967	0.0174	0.0256	0.0542
Demeton	N/A	0.1	N/A	2.86	N/A	1.74	2.56	5.42
Diazinon	0.819	0.819	19.0	23.4	6.09	14.3	8.95	18.9
Dicofol [Kelthane]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dieldrin	0.71	0.002	16.5	0.0571	5.28	0.0349	0.0512	0.108
Diuron	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endosulfan I (*alpha*)	0.034	0.009	0.791	0.257	0.253	0.157	0.230	0.487
Endosulfan II (*beta*)	0.034	0.009	0.791	0.257	0.253	0.157	0.230	0.487
Endosulfan sulfate	0.034	0.009	0.791	0.257	0.253	0.157	0.230	0.487
Endrin	0.037	0.002	0.860	0.0571	0.275	0.0349	0.0512	0.108
Guthion [Azinphos Methyl]	N/A	0.01	N/A	0.286	N/A	0.174	0.256	0.542
Heptachlor	0.053	0.004	1.23	0.114	0.394	0.0697	0.102	0.216
Hexachlorocyclohexane (*gamma*) [Lindane]	0.16	N/A	3.72	N/A	1.19	N/A	1.75	3.70
Lead	133	5.3	8109	397	2595	242	356	753
Malathion	N/A	0.01	N/A	0.286	N/A	0.174	0.256	0.542
Mercury	2.1	1.1	48.8	31.4	15.6	19.2	22.9	48.6
Methoxychlor	N/A	0.03	N/A	0.857	N/A	0.523	0.768	1.62
Mirex	N/A	0.001	N/A	0.0286	N/A	0.0174	0.0256	0.0542
Nickel	118	13.1	2744	374	878	228	335	710
Nonylphenol	7	1.7	163	48.6	52.1	29.6	43.5	92.1
Parathion (ethyl)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pentachlorophenol	15.1	9.6	351	274	112	167	165	349
Phenanthrene	7.7	4.6	179	131	57.3	80.2	84.2	178
Polychlorinated Biphenyls [PCBs]	10	0.03	233	0.857	74.4	0.523	0.768	1.62
Selenium	564	136	13116	3886	4197	2370	3484	7371
Silver	2	N/A	108	N/A	34.5	N/A	50.7	107
Toxaphene	0.21	0.0002	4.88	0.00571	1.56	0.00349	0.00512	0.0108
Tributyltin [TBT]	0.24	0.0074	5.58	0.211	1.79	0.129	0.189	0.401
2,4,5 Trichlorophenol	259	12	6023	343	1927	209	307	650
Zinc	92.7	84.2	3647	4070	1167	2483	1715	3629

HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	*Fish Only Criterion (µg/L)*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Acrylonitrile	115	3710	3450	5071	10729
Aldrin	1.147E-05	0.000370	0.000344	0.000505	0.00107
Anthracene	1317	42484	39510	58079	122876
Antimony	1071	34548	32130	47231	99924
Arsenic	N/A	N/A	N/A	N/A	N/A
Barium	N/A	N/A	N/A	N/A	N/A
Benzene	581	18742	17430	25622	54207
Benzidine	0.107	3.45	3.21	4.71	9.98
Benzo(*a*)anthracene	0.025	0.806	0.750	1.10	2.33

Parameter	*Fish Only Criterion (µg/L)*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Benzo(*a*)pyrene	0.0025	0.0806	0.0750	0.110	0.233
Bis(chloromethyl)ether	0.2745	8.85	8.24	12.1	25.6
Bis(2-chloroethyl)ether	42.83	1382	1285	1888	3996
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	7.55	244	227	332	704
Bromodichloromethane [Dichlorobromomethane]	275	8871	8250	12127	25657
Bromoform [Tribromomethane]	1060	34194	31800	46746	98898
Cadmium	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	46	1484	1380	2028	4291
Chlordane	0.0025	0.0806	0.0750	0.110	0.233
Chlorobenzene	2737	88290	82110	120701	255362
Chlorodibromomethane [Dibromochloromethane]	183	5903	5490	8070	17073
Chloroform [Trichloromethane]	7697	248290	230910	339437	718130
Chromium (hexavalent)	502	16194	15060	22138	46836
Chrysene	2.52	81.3	75.6	111	235
Cresols [Methylphenols]	9301	300032	279030	410174	867783
Cyanide (free)	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.002	0.0645	0.0600	0.0882	0.186
4,4'-DDE	0.00013	0.00419	0.00390	0.00573	0.0121
4,4'-DDT	0.0004	0.0129	0.0120	0.0176	0.0373
2,4'-D	N/A	N/A	N/A	N/A	N/A
Danitol [Fenpropathrin]	473	15258	14190	20859	44130
1,2-Dibromoethane [Ethylene Dibromide]	4.24	137	127	186	395
m-Dichlorobenzene [1,3-Dichlorobenzene]	595	19194	17850	26239	55513
o-Dichlorobenzene [1,2-Dichlorobenzene]	3299	106419	98970	145485	307796
p-Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	2.24	72.3	67.2	98.7	208
1,2-Dichloroethane	364	11742	10920	16052	33961
1,1-Dichloroethylene [1,1-Dichloroethene]	55114	1777871	1653420	2430527	5142136
Dichloromethane [Methylene Chloride]	13333	430097	399990	587985	1243968
1,2-Dichloropropane	259	8355	7770	11421	24164
1,3-Dichloropropene [1,3-Dichloropropylene]	119	3839	3570	5247	11102
Dicofol [Kelthane]	0.30	9.68	9.00	13.2	27.9
Dieldrin	2.0E-05	0.000645	0.000600	0.000882	0.00186
2,4-Dimethylphenol	8436	272129	253080	372027	787078
Di-*n*-Butyl Phthalate	92.4	2981	2772	4074	8620
Dioxins/Furans [TCDD Equivalents]	7.97E-08	0.0000026	0.0000024	0.0000035	0.0000074
Endrin	0.02	0.645	0.600	0.882	1.86
Epichlorohydrin	2013	64935	60390	88773	187812
Ethylbenzene	1867	60226	56010	82334	174191
Ethylene Glycol	1.68E+07	541935484	504000000	740880000	1567440000
Fluoride	N/A	N/A	N/A	N/A	N/A
Heptachlor	0.0001	0.00323	0.00300	0.00441	0.00933
Heptachlor Epoxide	0.00029	0.00935	0.00870	0.0127	0.0270
Hexachlorobenzene	0.00068	0.0219	0.0204	0.0299	0.0634
Hexachlorobutadiene	0.22	7.10	6.60	9.70	20.5
Hexachlorocyclohexane (*alpha*)	0.0084	0.271	0.252	0.370	0.783
Hexachlorocyclohexane (*beta*)	0.26	8.39	7.80	11.4	24.2
Hexachlorocyclohexane (*gamma*) [Lindane]	0.341	11.0	10.2	15.0	31.8
Hexachlorocyclopentadiene	11.6	374	348	511	1082
Hexachloroethane	2.33	75.2	69.9	102	217
Hexachlorophene	2.90	93.5	87.0	127	270
4,4'-Isopropylidenediphenol [Bisphenol A]	15982	515548	479460	704806	1491120

Parameter	*Fish Only Criterion (µg/L)*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Lead	3.83	324	301	442	936
Mercury	0.0250	0.806	0.750	1.10	2.33
Methoxychlor	3.0	96.8	90.0	132	279
Methyl Ethyl Ketone	9.92E+05	32000000	29760000	43747200	92553600
Methyl *tert*-butyl ether [MTBE]	10482	338129	314460	462256	977970
Nickel	1140	36774	34200	50274	106362
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	1873	60419	56190	82599	174750
N-Nitrosodiethylamine	2.1	67.7	63.0	92.6	195
N-Nitroso-di-*n*-Butylamine	4.2	135	126	185	391
Pentachlorobenzene	0.355	11.5	10.7	15.6	33.1
Pentachlorophenol	0.29	9.35	8.70	12.7	27.0
Polychlorinated Biphenyls [PCBs]	6.4E-04	0.0206	0.0192	0.0282	0.0597
Pyridine	947	30548	28410	41762	88355
Selenium	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.24	7.74	7.20	10.5	22.3
1,1,2,2-Tetrachloroethane	26.35	850	791	1162	2458
Tetrachloroethylene [Tetrachloroethylene]	280	9032	8400	12348	26124
Thallium	0.23	7.42	6.90	10.1	21.4
Toluene	N/A	N/A	N/A	N/A	N/A
Toxaphene	0.011	0.355	0.330	0.485	1.02
2,4,5-TP [Silvex]	369	11903	11070	16272	34427
1,1,1-Trichloroethane	784354	25301742	23530620	34590011	73180228
1,1,2-Trichloroethane	166	5355	4980	7320	15487
Trichloroethylene [Trichloroethene]	71.9	2319	2157	3170	6708
2,4,5-Trichlorophenol	1867	60226	56010	82334	174191
TTHM [Sum of Total Trihalomethanes]	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	16.5	532	495	727	1539

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS:

Aquatic Life *Parameter*	*70% of Daily Avg. (µg/L)*	*85% of Daily Avg. (µg/L)*
Acrolein	N/A	N/A
Aldrin	9.95	12.0
Aluminum	N/A	N/A
Arsenic	1140	1385
Cadmium	156	190
Carbaryl	4694	5700
Chlordane	0.0717	0.0871
Chlorpyrifos	0.0842	0.102
Chromium (trivalent)	N/A	N/A
Chromium (hexavalent)	889	1080
Copper	131	160
Copper (oyster waters)	N/A	N/A
Cyanide (free)	42.8	52.0
4,4'-DDT	0.0179	0.0217
Demeton	1.79	2.17
Diazinon	6.27	7.61
Dicofol [Kelthane]	N/A	N/A
Dieldrin	0.0358	0.0435
Diuron	N/A	N/A
Endosulfan I (*alpha*)	0.161	0.195

Aquatic Life	***70% of Daily Avg.***	***85% of Daily Avg.***
Parameter	***(µg/L)***	***(µg/L)***
Endosulfan II (*beta*)	0.161	0.195
Endosulfan sulfate	0.161	0.195
Endrin	0.0358	0.0435
Guthion [Azinphos Methyl]	0.179	0.217
Heptachlor	0.0717	0.0871
Hexachlorocyclohexane (*gamma*) [Lindane]	1.22	1.48
Lead	249	302
Malathion	0.179	0.217
Mercury	16.0	19.5
Methoxychlor	0.538	0.653
Mirex	0.0179	0.0217
Nickel	234	285
Nonylphenol	30.4	37.0
Parathion (ethyl)	N/A	N/A
Pentachlorophenol	115	140
Phenanthrene	58.9	71.5
Polychlorinated Biphenyls [PCBs]	0.538	0.653
Selenium	2439	2961
Silver	35.5	43.1
Toxaphene	0.00358	0.00435
Tributyltin [TBT]	0.132	0.161
2,4,5 Trichlorophenol	215	261
Zinc	1200	1458

Human Health	***70% of Daily Avg.***	***85% of Daily Avg.***
Parameter	***(µg/L)***	***(µg/L)***
Acrylonitrile	3550	4310
Aldrin	0.000354	0.000429
Anthracene	40655	49367
Antimony	33061	40146
Arsenic	N/A	N/A
Barium	N/A	N/A
Benzene	17935	21778
Benzidine	3.30	4.01
Benzo(*a*)anthracene	0.771	0.937
Benzo(*a*)pyrene	0.0771	0.0937
Bis(chloromethyl)ether	8.47	10.2
Bis(2-chloroethyl)ether	1322	1605
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	233	283
Bromodichloromethane [Dichlorobromomethane]	8489	10308
Bromoform [Tribromomethane]	32722	39734
Cadmium	N/A	N/A
Carbon Tetrachloride	1420	1724
Chlordane	0.0771	0.0937
Chlorobenzene	84491	102596
Chlorodibromomethane [Dibromochloromethane]	5649	6859
Chloroform [Trichloromethane]	237606	288522
Chromium (hexavalent)	15496	18817
Chrysene	77.7	94.4
Cresols [Methylphenols]	287121	348647
Cyanide (free)	N/A	N/A
4,4'-DDD	0.0617	0.0749

Human Health	***70% of Daily Avg.***	***85% of Daily Avg.***
Parameter	***(µg/L)***	***(µg/L)***
4,4'-DDE	0.00401	0.00487
4,4'-DDT	0.0123	0.0149
2,4'-D	N/A	N/A
Danitol [Fenpropathrin]	14601	17730
1,2-Dibromoethane [Ethylene Dibromide]	130	158
m-Dichlorobenzene [1,3-Dichlorobenzene]	18367	22303
o-Dichlorobenzene [1,2-Dichlorobenzene]	101840	123663
p-Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A
3,3'-Dichlorobenzidine	69.1	83.9
1,2-Dichloroethane	11236	13644
1,1-Dichloroethylene [1,1-Dichloroethene]	1701369	2065948
Dichloromethane [Methylene Chloride]	411589	499787
1,2-Dichloropropane	7995	9708
1,3-Dichloropropene [1,3-Dichloropropylene]	3673	4460
Dicofol [Kelthane]	9.26	11.2
Dieldrin	0.000617	0.000749
2,4-Dimethylphenol	260419	316223
Di-*n*-Butyl Phthalate	2852	3463
Dioxins/Furans [TCDD Equivalents]	0.0000025	0.0000030
Endrin	0.617	0.749
Epichlorohydrin	62141	75457
Ethylbenzene	57634	69984
Ethylene Glycol	518616000	629748000
Fluoride	N/A	N/A
Heptachlor	0.00308	0.00374
Heptachlor Epoxide	0.00895	0.0108
Hexachlorobenzene	0.0209	0.0254
Hexachlorobutadiene	6.79	8.24
Hexachlorocyclohexane (*alpha*)	0.259	0.314
Hexachlorocyclohexane (*beta*)	8.02	9.74
Hexachlorocyclohexane (*gamma*) [Lindane]	10.5	12.7
Hexachlorocyclopentadiene	358	434
Hexachloroethane	71.9	87.3
Hexachlorophene	89.5	108
4,4'-Isopropylidenediphenol [Bisphenol A]	493364	599085
Lead	309	376
Mercury	0.771	0.937
Methoxychlor	92.6	112
Methyl Ethyl Ketone	30623040	37185120
Methyl *tert*-butyl ether [MTBE]	323579	392917
Nickel	35191	42732
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	57819	70209
N-Nitrosodiethylamine	64.8	78.7
N-Nitroso-di-*n*-Butylamine	129	157
Pentachlorobenzene	10.9	13.3
Pentachlorophenol	8.95	10.8
Polychlorinated Biphenyls [PCBs]	0.0197	0.0239
Pyridine	29233	35498
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	7.40	8.99
1,1,2,2-Tetrachloroethane	813	987
Tetrachloroethylene [Tetrachloroethylene]	8643	10495

Human Health *Parameter*	*70% of Daily Avg.* *(µg/L)*	*85% of Daily Avg.* *(µg/L)*
Thallium	7.10	8.62
Toluene	N/A	N/A
Toxaphene	0.339	0.412
2,4,5-TP [Silvex]	11391	13831
1,1,1-Trichloroethane	24213007	29401509
1,1,2-Trichloroethane	5124	6222
Trichloroethylene [Trichloroethene]	2219	2695
2,4,5-Trichlorophenol	57634	69984
TTHM [Sum of Total Trihalomethanes]	N/A	N/A
Vinyl Chloride	509	618

Pollutants with Water Quality Criteria and Federal Effluent Limit Guidelines

The following table includes the water-quality based mass loading limit for pollutants with criteria that are also regulated in 40 CFR Part 414. Mass loading is calculated as the concentration in mg/L times a conversion factor times the permitted flow in MGD.

Mass loading (lbs/day)= Concentration (µg/L)/1,000 x 8.345 (conversion factor) x flow (MGD)

Pollutant	Most Stringent Criteria [1]	Daily Average µg/L	Daily Max µg/L	Daily Average lbs/day	Daily Max lbs/day
Copper	AQ	188	398	13.2	27.9
Cyanide, free	AQ	61.2	129	4.29	9.04
Lead [2]	AQ	356	753	25.0	52.8
Nickel	AQ	335	710	23.5	49.8
Zinc [2]	AQ	1,715	3,629	120	254
Acrylonitrile	HH	5,071	10,729	355	752
Anthracene	HH	58,079	122,876	4,071	8,613
Benzene	HH	25,622	54,207	1,796	3,800
Benzo(a)anthracene	HH	1.10	2.33	0.0771	0.1633
Benzo(a)pyrene	HH	0.110	0.233	0.0077	0.0163
Bis(2-ethylhexyl) phthalate	HH	332	704	23.3	49.3
Carbon Tetrachloride	HH	2,028	4,291	142	301
Chlorobenzene	HH	120,701	255,362	8,461	17,900
Chloroform	HH	339,437	718,130	23,794	50,339
Chrysene	HH	111	235	7.78	16.47
Di-n-butyl phthalate	HH	4,074	8,620	286	604
1,2-Dichlorobenzene	HH	145,485	307,796	10,198	21,576
1,3-Dichlorobenzene	HH	26,239	55,513	1,839	3,891
1,4-Dichlorobenzene	HH	N/A	N/A	N/A	N/A
1,2-Dichloroethane	HH	16,052	33,961	1,125	2,381
1,1-Dichloroethylene	HH	2,430,527	5,142,136	170,375	360,453
1,2-Dichloropropane	HH	11,421	24,164	801	1,694
1,3-Dichloropropylene	HH	5,247	11,102	368	778

[1] AQ= Aquatic Life Protection HH= Human Health Protection
[2] This type of metal-bearing wastestream was not indicated in the application.

Pollutant	Most Stringent Criteria [1]	Daily Average µg/L	Daily Max µg/L	Daily Average lbs/day	Daily Max lbs/day
2,4-Dimethylphenol	HH	372,027	787,078	26,078	55,173
Ethylbenzene	HH	82,334	174,191	5,771	12,210
Hexachlorobenzene	HH	0.0299	0.0634	0.00210	0.00444
Hexachlorobutadiene	HH	9.70	20.5	0.680	1.44
Hexachloroethane	HH	102	217	7.15	15.2
Methylene Chloride	HH	587,985	1,243,968	41,217	87,200
Nitrobenzene	HH	82,599	174,750	5,790	12,250
Phenanthrene	AQ	84.2	178	5.90	12.5
Tetrachloroethylene	HH	12,348	26,124	866	1,831
Toluene	HH	N/A	N/A	N/A	N/A
1,1,1-Trichloroethane	HH	34,590,011	73,180,228	2,424,691	5,129,788
1,1,2-Trichloroethane	HH	7,320	15,487	513	1,086
Trichloroethylene	HH	3,170	6,708	222	470
Vinyl Chloride	HH	727	1,539	51.0	108

TEXTOX MENU #5 - BAY OR WIDE TIDAL RIVER

The water quality-based effluent limitations developed below are calculated using:

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Saltwater Aquatic Life
Table 2, 2018 Texas Surface Water Quality Standards for Human Health
"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

PERMIT INFORMATION

Permittee Name:	Rohm and Haas Texas Incorporated
TPDES Permit No:	WQ0000458000
Outfall No:	002
Prepared by:	S. Johnson
Date:	16 June 2021

DISCHARGE INFORMATION

Receiving Waterbody:	Tucker Bayou portion of the Houston Ship Channel Tidal
Segment No:	1006
TSS (mg/L):	10
Effluent Flow for Aquatic Life (MGD)	>10
% Effluent for Chronic Aquatic Life (Mixing Zone):	100
% Effluent for Acute Aquatic Life (ZID):	100
Oyster Waters?	**No**
Effluent Flow for Human Health (MGD):	>10
% Effluent for Human Health:	100

CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):

Estuarine Metal	*Intercept (b)*	*Slope (m)*	*Partition Coefficient (Kp)*	*Dissolved Fraction (Cd/Ct)*	*Source*	*Water Effect Ratio (WER)*	*Source*
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Cadmium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (total)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (trivalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (hexavalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	4.85	-0.72	13489.63	0.881		**1.80**	**TSWQS**
Lead	6.06	-0.85	162181.01	0.381		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	5.86	-0.74	131825.67	0.431		1.00	Assumed
Zinc	5.36	-0.52	69183.10	0.591		1.00	Assumed

AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	*SW Acute Criterion (µg/L)*	*SW Chronic Criterion (µg/L)*	*WLAa (µg/L)*	*WLAc (µg/L)*	*LTAa (µg/L)*	*LTAc (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Acrolein	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aldrin	1.3	N/A	1.30	N/A	0.416	N/A	0.611	1.29
Aluminum	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arsenic	149	78	149	78.0	47.7	47.6	69.9	147
Cadmium	40.0	8.75	40.0	8.75	12.8	5.34	7.84	16.5
Carbaryl	613	N/A	613	N/A	196	N/A	288	610
Chlordane	0.09	0.004	0.0900	0.00400	0.0288	0.00244	0.00358	0.00758

Parameter	*SW Acute Criterion (µg/L)*	*SW Chronic Criterion (µg/L)*	*WLAa (µg/L)*	*WLAc (µg/L)*	*LTAa (µg/L)*	*LTAc (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Chlorpyrifos	0.011	0.006	0.0110	0.00600	0.00352	0.00366	0.00517	0.0109
Chromium (trivalent)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium (hexavalent)	1090	49.6	1090	49.6	349	30.3	44.4	94.0
Copper	24.3	6.48	27.6	7.35	8.82	4.49	6.59	13.9
Copper (oyster waters)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cyanide (free)	5.6	5.6	5.60	5.60	1.79	3.42	2.63	5.57
4,4'-DDT	0.13	0.001	0.130	0.00100	0.0416	0.000610	0.000896	0.00189
Demeton	N/A	0.1	N/A	0.100	N/A	0.0610	0.0896	0.189
Diazinon	0.819	0.819	0.819	0.819	0.262	0.500	0.385	0.815
Dicofol [Kelthane]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dieldrin	0.71	0.002	0.710	0.00200	0.227	0.00122	0.00179	0.00379
Diuron	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endosulfan I (*alpha*)	0.034	0.009	0.0340	0.00900	0.0109	0.00549	0.00807	0.0170
Endosulfan II (*beta*)	0.034	0.009	0.0340	0.00900	0.0109	0.00549	0.00807	0.0170
Endosulfan sulfate	0.034	0.009	0.0340	0.00900	0.0109	0.00549	0.00807	0.0170
Endrin	0.037	0.002	0.0370	0.00200	0.0118	0.00122	0.00179	0.00379
Guthion [Azinphos Methyl]	N/A	0.01	N/A	0.0100	N/A	0.00610	0.00896	0.0189
Heptachlor	0.053	0.004	0.0530	0.00400	0.0170	0.00244	0.00358	0.00758
Hexachlorocyclohexane (*gamma*) [Lindane]	0.16	N/A	0.160	N/A	0.0512	N/A	0.0752	0.159
Lead	133	5.3	349	13.9	112	8.48	12.4	26.3
Malathion	N/A	0.01	N/A	0.0100	N/A	0.00610	0.00896	0.0189
Mercury	2.1	1.1	2.10	1.10	0.672	0.671	0.986	2.08
Methoxychlor	N/A	0.03	N/A	0.0300	N/A	0.0183	0.0269	0.0569
Mirex	N/A	0.001	N/A	0.00100	N/A	0.000610	0.000896	0.00189
Nickel	118	13.1	118	13.1	37.8	7.99	11.7	24.8
Nonylphenol	7	1.7	7.00	1.70	2.24	1.04	1.52	3.22
Parathion (ethyl)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pentachlorophenol	15.1	9.6	15.1	9.60	4.83	5.86	7.10	15.0
Phenanthrene	7.7	4.6	7.70	4.60	2.46	2.81	3.62	7.66
Polychlorinated Biphenyls [PCBs]	10	0.03	10.0	0.0300	3.20	0.0183	0.0269	0.0569
Selenium	564	136	564	136	180	83.0	121	258
Silver	2	N/A	4.64	N/A	1.48	N/A	2.18	4.61
Toxaphene	0.21	0.0002	0.210	0.000200	0.0672	0.000122	0.000179	0.000379
Tributyltin [TBT]	0.24	0.0074	0.240	0.00740	0.0768	0.00451	0.00663	0.0140
2,4,5 Trichlorophenol	259	12	259	12.0	82.9	7.32	10.7	22.7
Zinc	92.7	84.2	157	142	50.2	86.9	73.7	156

HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	*Fish Only Criterion (µg/L)*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Acrylonitrile	115	115	107	157	332
Aldrin	1.147E-05	0.0000115	0.0000107	0.0000156	0.0000331
Anthracene	1317	1317	1225	1800	3809
Antimony	1071	1071	996	1464	3097
Arsenic	N/A	N/A	N/A	N/A	N/A
Barium	N/A	N/A	N/A	N/A	N/A
Benzene	581	581	540	794	1680
Benzidine	0.107	0.107	0.0995	0.146	0.309
Benzo(*a*)anthracene	0.025	0.0250	0.0233	0.0341	0.0723
Benzo(*a*)pyrene	0.0025	0.00250	0.00233	0.00341	0.00723

Parameter	*Fish Only Criterion (µg/L)*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Bis(chloromethyl)ether	0.2745	0.275	0.255	0.375	0.793
Bis(2-chloroethyl)ether	42.83	42.8	39.8	58.5	123
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	7.55	7.55	7.02	10.3	21.8
Bromodichloromethane [Dichlorobromomethane]	275	275	256	375	795
Bromoform [Tribromomethane]	1060	1060	986	1449	3065
Cadmium	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	46	46.0	42.8	62.8	133
Chlordane	0.0025	0.00250	0.00233	0.00341	0.00723
Chlorobenzene	2737	2737	2545	3741	7916
Chlorodibromomethane [Dibromochloromethane]	183	183	170	250	529
Chloroform [Trichloromethane]	7697	7697	7158	10522	22262
Chromium (hexavalent)	502	502	467	686	1451
Chrysene	2.52	2.52	2.34	3.44	7.28
Cresols [Methylphenols]	9301	9301	8650	12715	26901
Cyanide (free)	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.002	0.00200	0.00186	0.00273	0.00578
4,4'-DDE	0.00013	0.000130	0.000121	0.000177	0.000375
4,4'-DDT	0.0004	0.000400	0.000372	0.000546	0.00115
2,4'-D	N/A	N/A	N/A	N/A	N/A
Danitol [Fenpropathrin]	473	473	440	646	1368
1,2-Dibromoethane [Ethylene Dibromide]	4.24	4.24	3.94	5.79	12.2
m-Dichlorobenzene [1,3-Dichlorobenzene]	595	595	553	813	1720
o-Dichlorobenzene [1,2-Dichlorobenzene]	3299	3299	3068	4510	9541
p-Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	2.24	2.24	2.08	3.06	6.47
1,2-Dichloroethane	364	364	339	497	1052
1,1-Dichloroethylene [1,1-Dichloroethene]	55114	55114	51256	75346	159406
Dichloromethane [Methylene Chloride]	13333	13333	12400	18227	38563
1,2-Dichloropropane	259	259	241	354	749
1,3-Dichloropropene [1,3-Dichloropropylene]	119	119	111	162	344
Dicofol [Kelthane]	0.30	0.300	0.279	0.410	0.867
Dieldrin	2.0E-05	0.0000200	0.0000186	0.0000273	0.0000578
2,4-Dimethylphenol	8436	8436	7845	11532	24399
Di-*n*-Butyl Phthalate	92.4	92.4	85.9	126	267
Dioxins/Furans [TCDD Equivalents]	7.97E-08	7.97E-08	7.41E-08	1.08E-07	2.30E-07
Endrin	0.02	0.0200	0.0186	0.0273	0.0578
Epichlorohydrin	2013	2013	1872	2751	5822
Ethylbenzene	1867	1867	1736	2552	5399
Ethylene Glycol	1.68E+07	16800000	15624000	22967280	48590640
Fluoride	N/A	N/A	N/A	N/A	N/A
Heptachlor	0.0001	0.000100	0.0000930	0.000136	0.000289
Heptachlor Epoxide	0.00029	0.000290	0.000270	0.000396	0.000838
Hexachlorobenzene	0.00068	0.000680	0.000632	0.000929	0.00196
Hexachlorobutadiene	0.22	0.220	0.205	0.300	0.636
Hexachlorocyclohexane (*alpha*)	0.0084	0.00840	0.00781	0.0114	0.0242
Hexachlorocyclohexane (*beta*)	0.26	0.260	0.242	0.355	0.751
Hexachlorocyclohexane (*gamma*) [Lindane]	0.341	0.341	0.317	0.466	0.986
Hexachlorocyclopentadiene	11.6	11.6	10.8	15.8	33.5
Hexachloroethane	2.33	2.33	2.17	3.18	6.73
Hexachlorophene	2.90	2.90	2.70	3.96	8.38
4,4'-Isopropylidenediphenol [Bisphenol A]	15982	15982	14863	21848	46224
Lead	3.83	10.0	9.34	13.7	29.0
Mercury	0.0250	0.0250	0.0233	0.0341	0.0723

Parameter	*Fish Only Criterion (µg/L)*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Methoxychlor	3.0	3.00	2.79	4.10	8.67
Methyl Ethyl Ketone	9.92E+05	992000	922560	1356163	2869161
Methyl *tert*-butyl ether [MTBE]	10482	10482	9748	14329	30317
Nickel	1140	1140	1060	1558	3297
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	1873	1873	1742	2560	5417
N-Nitrosodiethylamine	2.1	2.10	1.95	2.87	6.07
N-Nitroso-di-*n*-Butylamine	4.2	4.20	3.91	5.74	12.1
Pentachlorobenzene	0.355	0.355	0.330	0.485	1.02
Pentachlorophenol	0.29	0.290	0.270	0.396	0.838
Polychlorinated Biphenyls [PCBs]	6.4E-04	0.000640	0.000595	0.000874	0.00185
Pyridine	947	947	881	1294	2739
Selenium	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.24	0.240	0.223	0.328	0.694
1,1,2,2-Tetrachloroethane	26.35	26.4	24.5	36.0	76.2
Tetrachloroethylene [Tetrachloroethylene]	280	280	260	382	809
Thallium	0.23	0.230	0.214	0.314	0.665
Toluene	N/A	N/A	N/A	N/A	N/A
Toxaphene	0.011	0.0110	0.0102	0.0150	0.0318
2,4,5-TP [Silvex]	369	369	343	504	1067
1,1,1-Trichloroethane	784354	784354	729449	1072290	2268587
1,1,2-Trichloroethane	166	166	154	226	480
Trichloroethylene [Trichloroethene]	71.9	71.9	66.9	98.2	207
2,4,5-Trichlorophenol	1867	1867	1736	2552	5399
TTHM [Sum of Total Trihalomethanes]	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	16.5	16.5	15.3	22.5	47.7

Aquatic Life	*70% of Daily Avg.*	*85% of Daily Avg.*
Parameter	***(µg/L)***	***(µg/L)***
Acrolein	N/A	N/A
Aldrin	0.428	0.519
Aluminum	N/A	N/A
Arsenic	48.9	59.4
Cadmium	5.49	6.66
Carbaryl	201	245
Chlordane	0.00251	0.00304
Chlorpyrifos	0.00362	0.00439
Chromium (trivalent)	N/A	N/A
Chromium (hexavalent)	31.1	37.8
Copper	4.61	5.60
Copper (oyster waters)	N/A	N/A
Cyanide (free)	1.84	2.23
4,4'-DDT	0.000627	0.000762
Demeton	0.0627	0.0762
Diazinon	0.269	0.327
Dicofol [Kelthane]	N/A	N/A
Dieldrin	0.00125	0.00152
Diuron	N/A	N/A
Endosulfan I (*alpha*)	0.00564	0.00685
Endosulfan II (*beta*)	0.00564	0.00685
Endosulfan sulfate	0.00564	0.00685
Endrin	0.00125	0.00152

Aquatic Life	***70% of Daily Avg.***	***85% of Daily Avg.***
Parameter	***(µg/L)***	***(µg/L)***
Guthion [Azinphos Methyl]	0.00627	0.00762
Heptachlor	0.00251	0.00304
Hexachlorocyclohexane (*gamma*) [Lindane]	0.0526	0.0639
Lead	8.72	10.5
Malathion	0.00627	0.00762
Mercury	0.690	0.838
Methoxychlor	0.0188	0.0228
Mirex	0.000627	0.000762
Nickel	8.22	9.98
Nonylphenol	1.06	1.29
Parathion (ethyl)	N/A	N/A
Pentachlorophenol	4.97	6.03
Phenanthrene	2.53	3.07
Polychlorinated Biphenyls [PCBs]	0.0188	0.0228
Selenium	85.3	103
Silver	1.52	1.85
Toxaphene	0.000125	0.000152
Tributyltin [TBT]	0.00464	0.00564
2,4,5 Trichlorophenol	7.53	9.14
Zinc	51.6	62.7

Human Health	***70% of Daily Avg.***	***85% of Daily Avg.***
Parameter	***(µg/L)***	***(µg/L)***
Acrylonitrile	110	133
Aldrin	0.0000109	0.0000133
Anthracene	1260	1530
Antimony	1024	1244
Arsenic	N/A	N/A
Barium	N/A	N/A
Benzene	555	675
Benzidine	0.102	0.124
Benzo(*a*)anthracene	0.0239	0.0290
Benzo(*a*)pyrene	0.00239	0.00290
Bis(chloromethyl)ether	0.262	0.318
Bis(2-chloroethyl)ether	40.9	49.7
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	7.22	8.77
Bromodichloromethane [Dichlorobromomethane]	263	319
Bromoform [Tribromomethane]	1014	1231
Cadmium	N/A	N/A
Carbon Tetrachloride	44.0	53.4
Chlordane	0.00239	0.00290
Chlorobenzene	2619	3180
Chlorodibromomethane [Dibromochloromethane]	175	212
Chloroform [Trichloromethane]	7365	8944
Chromium (hexavalent)	480	583
Chrysene	2.41	2.92
Cresols [Methylphenols]	8900	10808
Cyanide (free)	N/A	N/A
4,4'-DDD	0.00191	0.00232
4,4'-DDE	0.000124	0.000151
4,4'-DDT	0.000382	0.000464
2,4'-D	N/A	N/A

Human Health	***70% of Daily Avg.***	***85% of Daily Avg.***
Parameter	***(µg/L)***	***(µg/L)***
Danitol [Fenpropathrin]	452	549
1,2-Dibromoethane [Ethylene Dibromide]	4.05	4.92
m-Dichlorobenzene [1,3-Dichlorobenzene]	569	691
o-Dichlorobenzene [1,2-Dichlorobenzene]	3157	3833
p-Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A
3,3'-Dichlorobenzidine	2.14	2.60
1,2-Dichloroethane	348	422
1,1-Dichloroethylene [1,1-Dichloroethene]	52742	64044
Dichloromethane [Methylene Chloride]	12759	15493
1,2-Dichloropropane	247	300
1,3-Dichloropropene [1,3-Dichloropropylene]	113	138
Dicofol [Kelthane]	0.287	0.348
Dieldrin	0.0000191	0.0000232
2,4-Dimethylphenol	8072	9802
Di-*n*-Butyl Phthalate	88.4	107
Dioxins/Furans [TCDD Equivalents]	7.62E-08	9.26E-08
Endrin	0.0191	0.0232
Epichlorohydrin	1926	2339
Ethylbenzene	1786	2169
Ethylene Glycol	16077096	19522188
Fluoride	N/A	N/A
Heptachlor	0.0000956	0.000116
Heptachlor Epoxide	0.000277	0.000336
Hexachlorobenzene	0.000650	0.000790
Hexachlorobutadiene	0.210	0.255
Hexachlorocyclohexane (*alpha*)	0.00803	0.00976
Hexachlorocyclohexane (*beta*)	0.248	0.302
Hexachlorocyclohexane (*gamma*) [Lindane]	0.326	0.396
Hexachlorocyclopentadiene	11.1	13.4
Hexachloroethane	2.22	2.70
Hexachlorophene	2.77	3.36
4,4'-Isopropylidenediphenol [Bisphenol A]	15294	18571
Lead	9.60	11.6
Mercury	0.0239	0.0290
Methoxychlor	2.87	3.48
Methyl Ethyl Ketone	949314	1152738
Methyl *tert*-butyl ether [MTBE]	10030	12180
Nickel	1090	1324
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	1792	2176
N-Nitrosodiethylamine	2.00	2.44
N-Nitroso-di-*n*-Butylamine	4.01	4.88
Pentachlorobenzene	0.339	0.412
Pentachlorophenol	0.277	0.336
Polychlorinated Biphenyls [PCBs]	0.000612	0.000743
Pyridine	906	1100
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.229	0.278
1,1,2,2-Tetrachloroethane	25.2	30.6
Tetrachloroethylene [Tetrachloroethylene]	267	325
Thallium	0.220	0.267
Toluene	N/A	N/A
Toxaphene	0.0105	0.0127

Human Health	***70% of Daily Avg.***	***85% of Daily Avg.***
Parameter	***(µg/L)***	***(µg/L)***
2,4,5-TP [Silvex]	353	428
1,1,1-Trichloroethane	750603	911446
1,1,2-Trichloroethane	158	192
Trichloroethylene [Trichloroethene]	68.8	83.5
2,4,5-Trichlorophenol	1786	2169
TTHM [Sum of Total Trihalomethanes]	N/A	N/A
Vinyl Chloride	15.7	19.1

TEXTOX MENU #10 - INTERMITTENT FRESHWATER STREAM WITHIN 3 MILES OF A BAY OR WIDE TIDAL RIVER

The water quality-based effluent limitations developed below are calculated using:

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Freshwater and Saltwater Aquatic Life
Table 2, 2018 Texas Surface Water Quality Standards for Human Health
"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

PERMIT INFORMATION

Permittee Name:	Rohm and Haas Texas Incorporated
TPDES Permit No:	WQ0000458000
Outfall No:	003
Prepared by:	S. Johnson
Date:	16 June 2021

DISCHARGE INFORMATION

Intermittent Receiving Waterbody:	East Patrick Bayou
Segment No. for Freshwater Ambient Data:	1016
TSS (mg/L) (Intermittent):	12
pH (Standard Units) (Intermittent):	7.5
Hardness (mg/L as $CaCO_3$) (Intermittent):	40
Chloride (mg/L) (Intermittent):	82
Effluent Flow for Aquatic Life (MGD):	<10
% Effluent for Acute Aquatic Life (Intermittent):	100
Saltwater Receiving Waterbody:	Patrick Bayou
Segment No.:	1006
TSS (mg/L) (Bay/Tidal River):	10
% Effluent for Chronic Aquatic Life (Bay/Tidal River):	23
% Effluent for Acute Aquatic Life (Bay/Tidal River):	92
Oyster Waters?	**No**
Effluent Flow for Human Health (MGD):	<10
% Effluent for Human Health (Bay/Tidal River):	11

CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):

Stream/River Metal	*Intercept (b)*	*Slope (m)*	*Partition Coefficient (Kp)*	*Dissolved Fraction (Cd/Ct)*	*Source*	*Water Effect Ratio (WER)*	*Source*
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	5.68	-0.73	78018.52	0.516		1.00	Assumed
Cadmium	6.60	-1.13	240173.56	0.258		1.00	Assumed
Chromium (total)	6.52	-0.93	328368.46	0.202		1.00	Assumed
Chromium (trivalent)	6.52	-0.93	328368.46	0.202		1.00	Assumed
Chromium (hexavalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	6.02	-0.74	166496.80	0.334		1.00	Assumed
Lead	6.45	-0.80	386060.17	0.178		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	5.69	-0.57	118813.75	0.412		1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	6.38	-1.03	185542.46	0.310		1.00	Assumed
Zinc	6.10	-0.70	221092.05	0.274		1.00	Assumed

Estuarine Metal	*Intercept (b)*	*Slope (m)*	*Partition Coefficient (Kp)*	*Dissolved Fraction (Cd/Ct)*	*Source*	*Water Effect Ratio (WER)*	*Source*
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Cadmium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed

Estuarine Metal	*Intercept (b)*	*Slope (m)*	*Partition Coefficient (Kp)*	*Dissolved Fraction (Cd/Ct)*	*Source*	*Water Effect Ratio (WER)*	*Source*
Chromium (total)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (trivalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (hexavalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	4.85	-0.72	13489.63	0.881		**1.80**	**TSWQS**
Lead	6.06	-0.85	162181.01	0.381		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	5.86	-0.74	131825.67	0.431		1.00	Assumed
Zinc	5.36	-0.52	69183.10	0.591		1.00	Assumed

AQUATIC LIFE
CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	*FW Acute Criterion (µg/L)*	*SW Acute Criterion (µg/L)*	*SW Chronic Criterion (µg/L)*	*FW WLAa (µg/L)*	*SW WLAa (µg/L)*	*SW WLAc (µg/L)*	*FW LTAa (µg/L)*	*SW LTAa (µg/L)*	*SW LTAc (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Aldrin	3.0	1.3	N/A	3.00	1.41	N/A	1.72	0.452	N/A	0.664	1.40
Aluminum	991	N/A	N/A	991	N/A	N/A	568	N/A	N/A	834	1765
Arsenic	340	149	78	658	162	339	377	51.8	207	76.1	161
Cadmium	3.5	40.0	8.75	13.7	43.5	38.0	7.83	13.9	23.2	11.5	24.3
Carbaryl	2.0	613	N/A	2.00	666	N/A	1.15	213	N/A	1.68	3.56
Chlordane	2.4	0.09	0.004	2.40	0.0978	0.0174	1.38	0.0313	0.0106	0.0155	0.0329
Chlorpyrifos	0.083	0.011	0.006	0.0830	0.0120	0.0261	0.0476	0.00383	0.0159	0.00562	0.0118
Chromium (trivalent)	269	N/A	N/A	1329	N/A	N/A	762	N/A	N/A	1119	2368
Chromium (hexavalent)	15.7	1090	49.6	15.7	1185	216	9.00	379	132	13.2	27.9
Copper	6.0	24.3	6.48	18.0	30.0	32.0	10.3	9.59	19.5	14.1	29.8
Copper (oyster waters)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cyanide (free)	45.8	5.6	5.6	45.8	6.09	24.3	26.2	1.95	14.9	2.86	6.05
4,4'-DDT	1.1	0.13	0.001	1.10	0.141	0.00435	0.630	0.0452	0.00265	0.00389	0.00824
Demeton	N/A	N/A	0.1	N/A	N/A	0.435	N/A	N/A	0.265	0.389	0.824
Diazinon	0.17	0.819	0.819	0.170	0.890	3.56	0.0974	0.285	2.17	0.143	0.302
Dicofol [Kelthane]	59.3	N/A	N/A	59.3	N/A	N/A	34.0	N/A	N/A	49.9	105
Dieldrin	0.24	0.71	0.002	0.240	0.772	0.00870	0.138	0.247	0.00530	0.00779	0.0164
Diuron	210	N/A	N/A	210	N/A	N/A	120	N/A	N/A	176	374
Endosulfan I (*alpha*)	0.22	0.034	0.009	0.220	0.0370	0.0391	0.126	0.0118	0.0239	0.0173	0.0367
Endosulfan II (*beta*)	0.22	0.034	0.009	0.220	0.0370	0.0391	0.126	0.0118	0.0239	0.0173	0.0367
Endosulfan sulfate	0.22	0.034	0.009	0.220	0.0370	0.0391	0.126	0.0118	0.0239	0.0173	0.0367
Endrin	0.086	0.037	0.002	0.0860	0.0402	0.00870	0.0493	0.0129	0.00530	0.00779	0.0164
Guthion [Azinphos Methyl]	N/A	N/A	0.01	N/A	N/A	0.0435	N/A	N/A	0.0265	0.0389	0.0824
Heptachlor	0.52	0.053	0.004	0.520	0.0576	0.0174	0.298	0.0184	0.0106	0.0155	0.0329
Hexachlorocyclohexane (*gamma*) [Lindane]	1.126	0.16	N/A	1.13	0.174	N/A	0.645	0.0557	N/A	0.0818	0.173
Lead	24	133	5.3	132	379	60.4	75.9	121	36.9	54.1	114
Malathion	N/A	N/A	0.01	N/A	N/A	0.0435	N/A	N/A	0.0265	0.0389	0.0824
Mercury	2.4	2.1	1.1	2.40	2.28	4.78	1.38	0.730	2.92	1.07	2.27
Methoxychlor	N/A	N/A	0.03	N/A	N/A	0.130	N/A	N/A	0.0796	0.116	0.247
Mirex	N/A	N/A	0.001	N/A	N/A	0.00435	N/A	N/A	0.00265	0.00389	0.00824
Nickel	216	118	13.1	523	128	57.0	300	41.0	34.7	51.0	108
Nonylphenol	28	7	1.7	28.0	7.61	7.39	16.0	2.43	4.51	3.57	7.57
Parathion (ethyl)	0.065	N/A	N/A	0.0650	N/A	N/A	0.0372	N/A	N/A	0.0547	0.115
Pentachlorophenol	14.4	15.1	9.6	14.4	16.4	41.7	8.26	5.25	25.5	7.72	16.3

Parameter	*FW Acute Criterion (µg/L)*	*SW Acute Criterion (µg/L)*	*SW Chronic Criterion (µg/L)*	*FW WLAa (µg/L)*	*SW WLAa (µg/L)*	*SW WLAc (µg/L)*	*FW LTAa (µg/L)*	*SW LTAa (µg/L)*	*SW LTAc (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Phenanthrene	30	7.7	4.6	30.0	8.37	20.0	17.2	2.68	12.2	3.93	8.32
Polychlorinated Biphenyls [PCBs]	2.0	10	0.03	2.00	10.9	0.130	1.15	3.48	0.0796	0.116	0.247
Selenium	20	564	136	20.0	613	591	11.5	196	361	16.8	35.6
Silver	0.8	2	N/A	17.8	5.04	N/A	10.2	1.61	N/A	2.37	5.01
Toxaphene	0.78	0.21	0.0002	0.780	0.228	0.000870	0.447	0.0730	0.000530	0.000779	0.00164
Tributyltin [TBT]	0.13	0.24	0.0074	0.130	0.261	0.0322	0.0745	0.0835	0.0196	0.0288	0.0610
2,4,5 Trichlorophenol	136	259	12	136	282	52.2	77.9	90.1	31.8	46.7	98.9
Zinc	54	92.7	84.2	197	170	619	113	54.6	378	80.1	169

HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	*Fish Only Criterion (µg/L)*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Acrylonitrile	115	1045	972	1429	3023
Aldrin	1.147E-05	0.000104	0.0000970	0.000142	0.000301
Anthracene	1317	11973	11135	16367	34628
Antimony	1071	9736	9055	13310	28160
Arsenic	N/A	N/A	N/A	N/A	N/A
Barium	N/A	N/A	N/A	N/A	N/A
Benzene	581	5282	4912	7220	15276
Benzidine	0.107	0.973	0.905	1.32	2.81
Benzo(*a*)anthracene	0.025	0.227	0.211	0.310	0.657
Benzo(*a*)pyrene	0.0025	0.0227	0.0211	0.0310	0.0657
Bis(chloromethyl)ether	0.2745	2.50	2.32	3.41	7.21
Bis(2-chloroethyl)ether	42.83	389	362	532	1126
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	7.55	68.6	63.8	93.8	198
Bromodichloromethane [Dichlorobromomethane]	275	2500	2325	3417	7230
Bromoform [Tribromomethane]	1060	9636	8962	13173	27871
Cadmium	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	46	418	389	571	1209
Chlordane	0.0025	0.0227	0.0211	0.0310	0.0657
Chlorobenzene	2737	24882	23140	34015	71965
Chlorodibromomethane [Dibromochloromethane]	183	1664	1547	2274	4811
Chloroform [Trichloromethane]	7697	69973	65075	95659	202382
Chromium (hexavalent)	502	4564	4244	6238	13199
Chrysene	2.52	22.9	21.3	31.3	66.2
Cresols [Methylphenols]	9301	84555	78636	115594	244557
Cyanide (free)	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.002	0.0182	0.0169	0.0248	0.0525
4,4'-DDE	0.00013	0.00118	0.00110	0.00161	0.00341
4,4'-DDT	0.0004	0.00364	0.00338	0.00497	0.0105
2,4'-D	N/A	N/A	N/A	N/A	N/A
Danitol [Fenpropathrin]	473	4300	3999	5878	12436
1,2-Dibromoethane [Ethylene Dibromide]	4.24	38.5	35.8	52.6	111
m-Dichlorobenzene [1,3-Dichlorobenzene]	595	5409	5030	7394	15644
o-Dichlorobenzene [1,2-Dichlorobenzene]	3299	29991	27892	41000	86742
p-Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	2.24	20.4	18.9	27.8	58.8
1,2-Dichloroethane	364	3309	3077	4523	9570
1,1-Dichloroethylene [1,1-Dichloroethene]	55114	501036	465964	684966	1449147

Parameter	*Fish Only Criterion (µg/L)*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Dichloromethane [Methylene Chloride]	13333	121209	112724	165704	350573
1,2-Dichloropropane	259	2355	2190	3218	6810
1,3-Dichloropropene [1,3-Dichloropropylene]	119	1082	1006	1478	3128
Dicofol [Kelthane]	0.30	2.73	2.54	3.72	7.88
Dieldrin	2.0E-05	0.000182	0.000169	0.000248	0.000525
2,4-Dimethylphenol	8436	76691	71323	104844	221813
Di-*n*-Butyl Phthalate	92.4	840	781	1148	2429
Dioxins/Furans [TCDD Equivalents]	7.97E-08	7.25E-07	6.74E-07	9.90E-07	0.0000021
Endrin	0.02	0.182	0.169	0.248	0.525
Epichlorohydrin	2013	18300	17019	25017	52929
Ethylbenzene	1867	16973	15785	23203	49090
Ethylene Glycol	1.68E+07	152727273	142036364	208793454	441733090
Fluoride	N/A	N/A	N/A	N/A	N/A
Heptachlor	0.0001	0.000909	0.000845	0.00124	0.00262
Heptachlor Epoxide	0.00029	0.00264	0.00245	0.00360	0.00762
Hexachlorobenzene	0.00068	0.00618	0.00575	0.00845	0.0178
Hexachlorobutadiene	0.22	2.00	1.86	2.73	5.78
Hexachlorocyclohexane (*alpha*)	0.0084	0.0764	0.0710	0.104	0.220
Hexachlorocyclohexane (*beta*)	0.26	2.36	2.20	3.23	6.83
Hexachlorocyclohexane (*gamma*) [Lindane]	0.341	3.10	2.88	4.23	8.96
Hexachlorocyclopentadiene	11.6	105	98.1	144	305
Hexachloroethane	2.33	21.2	19.7	28.9	61.2
Hexachlorophene	2.90	26.4	24.5	36.0	76.2
4,4'-Isopropylidenediphenol [Bisphenol A]	15982	145291	135121	198627	420224
Lead	3.83	91.3	84.9	124	264
Mercury	0.025	0.227	0.211	0.310	0.657
Methoxychlor	3.0	27.3	25.4	37.2	78.8
Methyl Ethyl Ketone	9.92E+05	9018182	8386909	12328756	26083287
Methyl *tert*-butyl ether [MTBE]	10482	95291	88621	130272	275609
Nickel	1140	10364	9638	14168	29974
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	1873	17027	15835	23277	49247
N-Nitrosodiethylamine	2.1	19.1	17.8	26.0	55.2
N-Nitroso-di-*n*-Butylamine	4.2	38.2	35.5	52.1	110
Pentachlorobenzene	0.355	3.23	3.00	4.41	9.33
Pentachlorophenol	0.29	2.64	2.45	3.60	7.62
Polychlorinated Biphenyls [PCBs]	6.4E-04	0.00582	0.00541	0.00795	0.0168
Pyridine	947	8609	8006	11769	24900
Selenium	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.24	2.18	2.03	2.98	6.31
1,1,2,2-Tetrachloroethane	26.35	240	223	327	692
Tetrachloroethylene [Tetrachloroethylene]	280	2545	2367	3479	7362
Thallium	0.23	2.09	1.94	2.85	6.04
Toluene	N/A	N/A	N/A	N/A	N/A
Toxaphene	0.011	0.1000	0.0930	0.136	0.289
2,4,5-TP [Silvex]	369	3355	3120	4585	9702
1,1,1-Trichloroethane	784354	7130491	6631357	9748094	20623518
1,1,2-Trichloroethane	166	1509	1403	2063	4364
Trichloroethylene [Trichloroethene]	71.9	654	608	893	1890
2,4,5-Trichlorophenol	1867	16973	15785	23203	49090
TTHM [Sum of Total Trihalomethanes]	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	16.5	150	140	205	433

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS:

Aquatic Life	***70% of Daily Avg.***	***85% of Daily Avg.***
Parameter	***(µg/L)***	***(µg/L)***
Aldrin	0.465	0.564
Aluminum	584	709
Arsenic	53.3	64.7
Cadmium	8.05	9.77
Carbaryl	1.17	1.43
Chlordane	0.0109	0.0132
Chlorpyrifos	0.00393	0.00478
Chromium (trivalent)	783	951
Chromium (hexavalent)	9.25	11.2
Copper	9.87	11.9
Copper (oyster waters)	N/A	N/A
Cyanide (free)	2.00	2.43
4,4'-DDT	0.00272	0.00331
Demeton	0.272	0.331
Diazinon	0.100	0.121
Dicofol [Kelthane]	34.9	42.4
Dieldrin	0.00545	0.00662
Diuron	123	150
Endosulfan I (*alpha*)	0.0121	0.0147
Endosulfan II (*beta*)	0.0121	0.0147
Endosulfan sulfate	0.0121	0.0147
Endrin	0.00545	0.00662
Guthion [Azinphos Methyl]	0.0272	0.0331
Heptachlor	0.0109	0.0132
Hexachlorocyclohexane (*gamma*) [Lindane]	0.0572	0.0695
Lead	37.9	46.0
Malathion	0.0272	0.0331
Mercury	0.751	0.912
Methoxychlor	0.0818	0.0994
Mirex	0.00272	0.00331
Nickel	35.7	43.4
Nonylphenol	2.50	3.04
Parathion (ethyl)	0.0383	0.0465
Pentachlorophenol	5.40	6.56
Phenanthrene	2.75	3.34
Polychlorinated Biphenyls [PCBs]	0.0818	0.0994
Selenium	11.7	14.3
Silver	1.65	2.01
Toxaphene	0.000545	0.000662
Tributyltin [TBT]	0.0201	0.0245
2,4,5 Trichlorophenol	32.7	39.7
Zinc	56.1	68.1

Human Health	***70% of Daily Avg.***	***85% of Daily Avg.***
Parameter	***(µg/L)***	***(µg/L)***
Acrylonitrile	1000	1214
Aldrin	0.0000997	0.000121
Anthracene	11457	13912
Antimony	9317	11313
Arsenic	N/A	N/A
Barium	N/A	N/A

Human Health	***70% of Daily Avg.***	***85% of Daily Avg.***
Parameter	***(µg/L)***	***(µg/L)***
Benzene	5054	6137
Benzidine	0.930	1.13
Benzo(*a*)anthracene	0.217	0.264
Benzo(*a*)pyrene	0.0217	0.0264
Bis(chloromethyl)ether	2.38	2.89
Bis(2-chloroethyl)ether	372	452
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	65.6	79.7
Bromodichloromethane [Dichlorobromomethane]	2392	2905
Bromoform [Tribromomethane]	9221	11197
Cadmium	N/A	N/A
Carbon Tetrachloride	400	485
Chlordane	0.0217	0.0264
Chlorobenzene	23811	28913
Chlorodibromomethane [Dibromochloromethane]	1592	1933
Chloroform [Trichloromethane]	66961	81310
Chromium (hexavalent)	4367	5303
Chrysene	21.9	26.6
Cresols [Methylphenols]	80916	98255
Cyanide (free)	N/A	N/A
4,4'-DDD	0.0173	0.0211
4,4'-DDE	0.00113	0.00137
4,4'-DDT	0.00347	0.00422
2,4'-D	N/A	N/A
Danitol [Fenpropathrin]	4114	4996
1,2-Dibromoethane [Ethylene Dibromide]	36.8	44.7
m-Dichlorobenzene [1,3-Dichlorobenzene]	5176	6285
o-Dichlorobenzene [1,2-Dichlorobenzene]	28700	34850
p-Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A
3,3'-Dichlorobenzidine	19.4	23.6
1,2-Dichloroethane	3166	3845
1,1-Dichloroethylene [1,1-Dichloroethene]	479476	582221
Dichloromethane [Methylene Chloride]	115993	140849
1,2-Dichloropropane	2253	2736
1,3-Dichloropropene [1,3-Dichloropropylene]	1035	1257
Dicofol [Kelthane]	2.60	3.16
Dieldrin	0.000173	0.000211
2,4-Dimethylphenol	73390	89117
Di-*n*-Butyl Phthalate	803	976
Dioxins/Furans [TCDD Equivalents]	6.93E-07	8.41E-07
Endrin	0.173	0.211
Epichlorohydrin	17512	21265
Ethylbenzene	16242	19722
Ethylene Glycol	146155418	177474436
Fluoride	N/A	N/A
Heptachlor	0.000869	0.00105
Heptachlor Epoxide	0.00252	0.00306
Hexachlorobenzene	0.00591	0.00718
Hexachlorobutadiene	1.91	2.32
Hexachlorocyclohexane (*alpha*)	0.0730	0.0887
Hexachlorocyclohexane (*beta*)	2.26	2.74
Hexachlorocyclohexane (*gamma*) [Lindane]	2.96	3.60
Hexachlorocyclopentadiene	100	122
Hexachloroethane	20.2	24.6

Human Health	***70% of Daily Avg.***	***85% of Daily Avg.***
Parameter	***(µg/L)***	***(µg/L)***
Hexachlorophene	25.2	30.6
4,4'-Isopropylidenediphenol [Bisphenol A]	139039	168833
Lead	87.3	106
Mercury	0.217	0.264
Methoxychlor	26.0	31.6
Methyl Ethyl Ketone	8630129	10479442
Methyl *tert*-butyl ether [MTBE]	91190	110731
Nickel	9917	12042
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	16294	19786
N-Nitrosodiethylamine	18.2	22.1
N-Nitroso-di-*n*-Butylamine	36.5	44.3
Pentachlorobenzene	3.08	3.75
Pentachlorophenol	2.52	3.06
Polychlorinated Biphenyls [PCBs]	0.00556	0.00676
Pyridine	8238	10004
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	2.08	2.53
1,1,2,2-Tetrachloroethane	229	278
Tetrachloroethylene [Tetrachloroethylene]	2435	2957
Thallium	2.00	2.42
Toluene	N/A	N/A
Toxaphene	0.0956	0.116
2,4,5-TP [Silvex]	3210	3898
1,1,1-Trichloroethane	6823665	8285880
1,1,2-Trichloroethane	1444	1753
Trichloroethylene [Trichloroethene]	625	759
2,4,5-Trichlorophenol	16242	19722
TTHM [Sum of Total Trihalomethanes]	N/A	N/A
Vinyl Chloride	143	174

TEXTOX MENU #5 - BAY OR WIDE TIDAL RIVER

The water quality-based effluent limitations developed below are calculated using:

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Saltwater Aquatic Life
Table 2, 2018 Texas Surface Water Quality Standards for Human Health
"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

PERMIT INFORMATION

Permittee Name:	Rohm and Haas Texas Incorporated
TPDES Permit No:	WQ0000458000
Outfall No:	004
Prepared by:	S. Johnson
Date:	16 June 2021

DISCHARGE INFORMATION

Receiving Waterbody:	Tucker Bayou portion of the Houston Ship Channel Tidal
Segment No:	1006
TSS (mg/L):	10
Effluent Flow for Aquatic Life (MGD)	<10
% Effluent for Chronic Aquatic Life (Mixing Zone):	99
% Effluent for Acute Aquatic Life (ZID):	100
Oyster Waters?	**No**
Effluent Flow for Human Health (MGD):	<10
% Effluent for Human Health:	50

CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):

Estuarine Metal	*Intercept (b)*	*Slope (m)*	*Partition Coefficient (Kp)*	*Dissolved Fraction (Cd/Ct)*	*Source*	*Water Effect Ratio (WER)*	*Source*
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Cadmium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (total)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (trivalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (hexavalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	4.85	-0.72	13489.63	0.881		**1.80**	**TSWQS**
Lead	6.06	-0.85	162181.01	0.381		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	5.86	-0.74	131825.67	0.431		1.00	Assumed
Zinc	5.36	-0.52	69183.10	0.591		1.00	Assumed

AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	*SW Acute Criterion (µg/L)*	*SW Chronic Criterion (µg/L)*	*WLAa (µg/L)*	*WLAc (µg/L)*	*LTAa (µg/L)*	*LTAc (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Acrolein	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aldrin	1.3	N/A	1.30	N/A	0.416	N/A	0.611	1.29
Aluminum	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arsenic	149	78	149	78.8	47.7	48.1	70.0	148
Cadmium	40.0	8.75	40.0	8.84	12.8	5.39	7.92	16.7
Carbaryl	613	N/A	613	N/A	196	N/A	288	610

Parameter	*SW Acute Criterion (µg/L)*	*SW Chronic Criterion (µg/L)*	*WLAa (µg/L)*	*WLAc (µg/L)*	*LTAa (µg/L)*	*LTAc (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Chlordane	0.09	0.004	0.0900	0.00404	0.0288	0.00246	0.00362	0.00766
Chlorpyrifos	0.011	0.006	0.0110	0.00606	0.00352	0.00370	0.00517	0.0109
Chromium (trivalent)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium (hexavalent)	1090	49.6	1090	50.1	349	30.6	44.9	95.0
Copper	24.3	6.48	27.6	7.43	8.82	4.53	6.66	14.0
Copper (oyster waters)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cyanide (free)	5.6	5.6	5.60	5.66	1.79	3.45	2.63	5.57
4,4'-DDT	0.13	0.001	0.130	0.00101	0.0416	0.000616	0.000905	0.00191
Demeton	N/A	0.1	N/A	0.101	N/A	0.0616	0.0905	0.191
Diazinon	0.819	0.819	0.819	0.827	0.262	0.505	0.385	0.815
Dicofol [Kelthane]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dieldrin	0.71	0.002	0.710	0.00202	0.227	0.00123	0.00181	0.00383
Diuron	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endosulfan I (*alpha*)	0.034	0.009	0.0340	0.00909	0.0109	0.00555	0.00815	0.0172
Endosulfan II (*beta*)	0.034	0.009	0.0340	0.00909	0.0109	0.00555	0.00815	0.0172
Endosulfan sulfate	0.034	0.009	0.0340	0.00909	0.0109	0.00555	0.00815	0.0172
Endrin	0.037	0.002	0.0370	0.00202	0.0118	0.00123	0.00181	0.00383
Guthion [Azinphos Methyl]	N/A	0.01	N/A	0.0101	N/A	0.00616	0.00905	0.0191
Heptachlor	0.053	0.004	0.0530	0.00404	0.0170	0.00246	0.00362	0.00766
Hexachlorocyclohexane (*gamma*) [Lindane]	0.16	N/A	0.160	N/A	0.0512	N/A	0.0752	0.159
Lead	133	5.3	349	14.0	112	8.56	12.5	26.6
Malathion	N/A	0.01	N/A	0.0101	N/A	0.00616	0.00905	0.0191
Mercury	2.1	1.1	2.10	1.11	0.672	0.678	0.987	2.08
Methoxychlor	N/A	0.03	N/A	0.0303	N/A	0.0185	0.0271	0.0574
Mirex	N/A	0.001	N/A	0.00101	N/A	0.000616	0.000905	0.00191
Nickel	118	13.1	118	13.2	37.8	8.07	11.8	25.1
Nonylphenol	7	1.7	7.00	1.72	2.24	1.05	1.53	3.25
Parathion (ethyl)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pentachlorophenol	15.1	9.6	15.1	9.70	4.83	5.92	7.10	15.0
Phenanthrene	7.7	4.6	7.70	4.65	2.46	2.83	3.62	7.66
Polychlorinated Biphenyls [PCBs]	10	0.03	10.0	0.0303	3.20	0.0185	0.0271	0.0574
Selenium	564	136	564	137	180	83.8	123	260
Silver	2	N/A	4.64	N/A	1.48	N/A	2.18	4.61
Toxaphene	0.21	0.0002	0.210	0.000202	0.0672	0.000123	0.000181	0.000383
Tributyltin [TBT]	0.24	0.0074	0.240	0.00747	0.0768	0.00456	0.00670	0.0141
2,4,5 Trichlorophenol	259	12	259	12.1	82.9	7.39	10.8	22.9
Zinc	92.7	84.2	157	144	50.2	87.8	73.7	156

HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	*Fish Only Criterion (µg/L)*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Acrylonitrile	115	230	214	314	665
Aldrin	1.147E-05	0.0000229	0.0000213	0.0000313	0.0000663
Anthracene	1317	2634	2450	3600	7618
Antimony	1071	2142	1992	2928	6195
Arsenic	N/A	N/A	N/A	N/A	N/A
Barium	N/A	N/A	N/A	N/A	N/A
Benzene	581	1162	1081	1588	3360
Benzidine	0.107	0.214	0.199	0.292	0.618
Benzo(*a*)anthracene	0.025	0.0500	0.0465	0.0683	0.144

Parameter	*Fish Only Criterion (µg/L)*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Benzo(*a*)pyrene	0.0025	0.00500	0.00465	0.00683	0.0144
Bis(chloromethyl)ether	0.2745	0.549	0.511	0.750	1.58
Bis(2-chloroethyl)ether	42.83	85.7	79.7	117	247
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	7.55	15.1	14.0	20.6	43.6
Bromodichloromethane [Dichlorobromomethane]	275	550	512	751	1590
Bromoform [Tribromomethane]	1060	2120	1972	2898	6131
Cadmium	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	46	92.0	85.6	125	266
Chlordane	0.0025	0.00500	0.00465	0.00683	0.0144
Chlorobenzene	2737	5474	5091	7483	15832
Chlorodibromomethane [Dibromochloromethane]	183	366	340	500	1058
Chloroform [Trichloromethane]	7697	15394	14316	21045	44524
Chromium (hexavalent)	502	1004	934	1372	2903
Chrysene	2.52	5.04	4.69	6.89	14.5
Cresols [Methylphenols]	9301	18602	17300	25430	53802
Cyanide (free)	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.002	0.00400	0.00372	0.00546	0.0115
4,4'-DDE	0.00013	0.000260	0.000242	0.000355	0.000751
4,4'-DDT	0.0004	0.000800	0.000744	0.00109	0.00231
2,4'-D	N/A	N/A	N/A	N/A	N/A
Danitol [Fenpropathrin]	473	946	880	1293	2736
1,2-Dibromoethane [Ethylene Dibromide]	4.24	8.48	7.89	11.5	24.5
m-Dichlorobenzene [1,3-Dichlorobenzene]	595	1190	1107	1626	3441
o-Dichlorobenzene [1,2-Dichlorobenzene]	3299	6598	6136	9020	19083
p-Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	2.24	4.48	4.17	6.12	12.9
1,2-Dichloroethane	364	728	677	995	2105
1,1-Dichloroethylene [1,1-Dichloroethene]	55114	110228	102512	150692	318812
Dichloromethane [Methylene Chloride]	13333	26666	24799	36455	77126
1,2-Dichloropropane	259	518	482	708	1498
1,3-Dichloropropene [1,3-Dichloropropylene]	119	238	221	325	688
Dicofol [Kelthane]	0.30	0.600	0.558	0.820	1.73
Dieldrin	2.0E-05	0.0000400	0.0000372	0.0000546	0.000115
2,4-Dimethylphenol	8436	16872	15691	23065	48798
Di-*n*-Butyl Phthalate	92.4	185	172	252	534
Dioxins/Furans [TCDD Equivalents]	7.97E-08	1.59E-07	1.48E-07	2.17E-07	4.61E-07
Endrin	0.02	0.0400	0.0372	0.0546	0.115
Epichlorohydrin	2013	4026	3744	5503	11644
Ethylbenzene	1867	3734	3473	5104	10799
Ethylene Glycol	1.68E+07	33600000	31248000	45934560	97181280
Fluoride	N/A	N/A	N/A	N/A	N/A
Heptachlor	0.0001	0.000200	0.000186	0.000273	0.000578
Heptachlor Epoxide	0.00029	0.000580	0.000539	0.000792	0.00167
Hexachlorobenzene	0.00068	0.00136	0.00126	0.00185	0.00393
Hexachlorobutadiene	0.22	0.440	0.409	0.601	1.27
Hexachlorocyclohexane (*alpha*)	0.0084	0.0168	0.0156	0.0229	0.0485
Hexachlorocyclohexane (*beta*)	0.26	0.520	0.484	0.710	1.50
Hexachlorocyclohexane (*gamma*) [Lindane]	0.341	0.682	0.634	0.932	1.97
Hexachlorocyclopentadiene	11.6	23.2	21.6	31.7	67.1
Hexachloroethane	2.33	4.66	4.33	6.37	13.4
Hexachlorophene	2.90	5.80	5.39	7.92	16.7
4,4'-Isopropylidenediphenol [Bisphenol A]	15982	31964	29727	43697	92449
Lead	3.83	20.1	18.7	27.4	58.0

Parameter	*Fish Only Criterion (µg/L)*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Mercury	0.0250	0.0500	0.0465	0.0683	0.144
Methoxychlor	3.0	6.00	5.58	8.20	17.3
Methyl Ethyl Ketone	9.92E+05	1984000	1845120	2712326	5738323
Methyl *tert*-butyl ether [MTBE]	10482	20964	19497	28659	60634
Nickel	1140	2280	2120	3116	6594
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	1873	3746	3484	5121	10834
N-Nitrosodiethylamine	2.1	4.20	3.91	5.74	12.1
N-Nitroso-di-*n*-Butylamine	4.2	8.40	7.81	11.4	24.2
Pentachlorobenzene	0.355	0.710	0.660	0.970	2.05
Pentachlorophenol	0.29	0.580	0.539	0.792	1.67
Polychlorinated Biphenyls [PCBs]	6.4E-04	0.00128	0.00119	0.00174	0.00370
Pyridine	947	1894	1761	2589	5478
Selenium	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.24	0.480	0.446	0.656	1.38
1,1,2,2-Tetrachloroethane	26.35	52.7	49.0	72.0	152
Tetrachloroethylene [Tetrachloroethylene]	280	560	521	765	1619
Thallium	0.23	0.460	0.428	0.628	1.33
Toluene	N/A	N/A	N/A	N/A	N/A
Toxaphene	0.011	0.0220	0.0205	0.0300	0.0636
2,4,5-TP [Silvex]	369	738	686	1008	2134
1,1,1-Trichloroethane	784354	1568708	1458898	2144580	4537174
1,1,2-Trichloroethane	166	332	309	453	960
Trichloroethylene [Trichloroethene]	71.9	144	134	196	415
2,4,5-Trichlorophenol	1867	3734	3473	5104	10799
TTHM [Sum of Total Trihalomethanes]	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	16.5	33.0	30.7	45.1	95.4

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS:

Aquatic Life *Parameter*	*70% of Daily Avg. (µg/L)*	*85% of Daily Avg. (µg/L)*
Acrolein	N/A	N/A
Aldrin	0.428	0.519
Aluminum	N/A	N/A
Arsenic	49.0	59.5
Cadmium	5.54	6.73
Carbaryl	201	245
Chlordane	0.00253	0.00307
Chlorpyrifos	0.00362	0.00439
Chromium (trivalent)	N/A	N/A
Chromium (hexavalent)	31.4	38.1
Copper	4.66	5.66
Copper (oyster waters)	N/A	N/A
Cyanide (free)	1.84	2.23
4,4'-DDT	0.000634	0.000769
Demeton	0.0634	0.0769
Diazinon	0.269	0.327
Dicofol [Kelthane]	N/A	N/A
Dieldrin	0.00126	0.00153
Diuron	N/A	N/A
Endosulfan I (*alpha*)	0.00570	0.00692
Endosulfan II (*beta*)	0.00570	0.00692

Aquatic Life	***70% of Daily Avg.***	***85% of Daily Avg.***
Parameter	***(µg/L)***	***(µg/L)***
Endosulfan sulfate	0.00570	0.00692
Endrin	0.00126	0.00153
Guthion [Azinphos Methyl]	0.00634	0.00769
Heptachlor	0.00253	0.00307
Hexachlorocyclohexane (*gamma*) [Lindane]	0.0526	0.0639
Lead	8.81	10.6
Malathion	0.00634	0.00769
Mercury	0.691	0.839
Methoxychlor	0.0190	0.0230
Mirex	0.000634	0.000769
Nickel	8.30	10.0
Nonylphenol	1.07	1.30
Parathion (ethyl)	N/A	N/A
Pentachlorophenol	4.97	6.03
Phenanthrene	2.53	3.07
Polychlorinated Biphenyls [PCBs]	0.0190	0.0230
Selenium	86.2	104
Silver	1.52	1.85
Toxaphene	0.000126	0.000153
Tributyltin [TBT]	0.00469	0.00569
2,4,5 Trichlorophenol	7.60	9.23
Zinc	51.6	62.7

Human Health	***70% of Daily Avg.***	***85% of Daily Avg.***
Parameter	***(µg/L)***	***(µg/L)***
Acrylonitrile	220	267
Aldrin	0.0000219	0.0000266
Anthracene	2520	3060
Antimony	2049	2489
Arsenic	N/A	N/A
Barium	N/A	N/A
Benzene	1111	1350
Benzidine	0.204	0.248
Benzo(*a*)anthracene	0.0478	0.0581
Benzo(*a*)pyrene	0.00478	0.00581
Bis(chloromethyl)ether	0.525	0.637
Bis(2-chloroethyl)ether	81.9	99.5
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	14.4	17.5
Bromodichloromethane [Dichlorobromomethane]	526	639
Bromoform [Tribromomethane]	2028	2463
Cadmium	N/A	N/A
Carbon Tetrachloride	88.0	106
Chlordane	0.00478	0.00581
Chlorobenzene	5238	6360
Chlorodibromomethane [Dibromochloromethane]	350	425
Chloroform [Trichloromethane]	14731	17888
Chromium (hexavalent)	960	1166
Chrysene	4.82	5.85
Cresols [Methylphenols]	17801	21616
Cyanide (free)	N/A	N/A
4,4'-DDD	0.00382	0.00464
4,4'-DDE	0.000248	0.000302

Human Health	***70% of Daily Avg.***	***85% of Daily Avg.***
Parameter	***(µg/L)***	***(µg/L)***
4,4'-DDT	0.000765	0.000929
2,4'-D	N/A	N/A
Danitol [Fenpropathrin]	905	1099
1,2-Dibromoethane [Ethylene Dibromide]	8.11	9.85
m-Dichlorobenzene [1,3-Dichlorobenzene]	1138	1382
o-Dichlorobenzene [1,2-Dichlorobenzene]	6314	7667
p-Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A
3,3'-Dichlorobenzidine	4.28	5.20
1,2-Dichloroethane	696	845
1,1-Dichloroethylene [1,1-Dichloroethene]	105484	128088
Dichloromethane [Methylene Chloride]	25518	30986
1,2-Dichloropropane	495	601
1,3-Dichloropropene [1,3-Dichloropropylene]	227	276
Dicofol [Kelthane]	0.574	0.697
Dieldrin	0.0000382	0.0000464
2,4-Dimethylphenol	16145	19605
Di-*n*-Butyl Phthalate	176	214
Dioxins/Furans [TCDD Equivalents]	1.52E-07	1.85E-07
Endrin	0.0382	0.0464
Epichlorohydrin	3852	4678
Ethylbenzene	3573	4339
Ethylene Glycol	32154192	39044376
Fluoride	N/A	N/A
Heptachlor	0.000191	0.000232
Heptachlor Epoxide	0.000555	0.000673
Hexachlorobenzene	0.00130	0.00158
Hexachlorobutadiene	0.421	0.511
Hexachlorocyclohexane (*alpha*)	0.0160	0.0195
Hexachlorocyclohexane (*beta*)	0.497	0.604
Hexachlorocyclohexane (*gamma*) [Lindane]	0.652	0.792
Hexachlorocyclopentadiene	22.2	26.9
Hexachloroethane	4.45	5.41
Hexachlorophene	5.55	6.73
4,4'-Isopropylidenediphenol [Bisphenol A]	30588	37143
Lead	19.2	23.3
Mercury	0.0478	0.0581
Methoxychlor	5.74	6.97
Methyl Ethyl Ketone	1898628	2305477
Methyl *tert*-butyl ether [MTBE]	20061	24360
Nickel	2181	2649
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	3584	4352
N-Nitrosodiethylamine	4.01	4.88
N-Nitroso-di-*n*-Butylamine	8.03	9.76
Pentachlorobenzene	0.679	0.825
Pentachlorophenol	0.555	0.673
Polychlorinated Biphenyls [PCBs]	0.00122	0.00148
Pyridine	1812	2200
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.459	0.557
1,1,2,2-Tetrachloroethane	50.4	61.2
Tetrachloroethylene [Tetrachloroethylene]	535	650
Thallium	0.440	0.534

Human Health	***70% of Daily Avg.***	***85% of Daily Avg.***
Parameter	***(µg/L)***	***(µg/L)***
Toluene	N/A	N/A
Toxaphene	0.0210	0.0255
2,4,5-TP [Silvex]	706	857
1,1,1-Trichloroethane	1501206	1822893
1,1,2-Trichloroethane	317	385
Trichloroethylene [Trichloroethene]	137	167
2,4,5-Trichlorophenol	3573	4339
TTHM [Sum of Total Trihalomethanes]	N/A	N/A
Vinyl Chloride	31.5	38.3

TEXTOX MENU #5 - BAY OR WIDE TIDAL RIVER

The water quality-based effluent limitations developed below are calculated using:

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Saltwater Aquatic Life
Table 2, 2018 Texas Surface Water Quality Standards for Human Health
"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

PERMIT INFORMATION

Permittee Name:	Rohm and Haas Texas Incorporated
TPDES Permit No:	WQ0000458000
Outfall No:	009
Prepared by:	S. Johnson
Date:	16 June 2021

DISCHARGE INFORMATION

Receiving Waterbody:	Houston Ship Channel Tidal
Segment No:	1006
TSS (mg/L):	10
Effluent Flow for Aquatic Life (MGD)	<10
% Effluent for Chronic Aquatic Life (Mixing Zone):	8
% Effluent for Acute Aquatic Life (ZID):	30
Oyster Waters?	**No**
Effluent Flow for Human Health (MGD):	<10
% Effluent for Human Health:	5

CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):

Estuarine Metal	*Intercept (b)*	*Slope (m)*	*Partition Coefficient (Kp)*	*Dissolved Fraction (Cd/Ct)*	*Source*	*Water Effect Ratio (WER)*	*Source*
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Cadmium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (total)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (trivalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (hexavalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	4.85	-0.72	13489.63	0.881		**1.80**	**TSWQS**
Lead	6.06	-0.85	162181.01	0.381		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	5.86	-0.74	131825.67	0.431		1.00	Assumed
Zinc	5.36	-0.52	69183.10	0.591		1.00	Assumed

AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	*SW Acute Criterion (µg/L)*	*SW Chronic Criterion (µg/L)*	*WLAa (µg/L)*	*WLAc (µg/L)*	*LTAa (µg/L)*	*LTAc (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Acrolein	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aldrin	1.3	N/A	4.33	N/A	1.39	N/A	2.03	4.31
Aluminum	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arsenic	149	78	497	975	159	595	233	494
Cadmium	40.0	8.75	133	109	42.7	66.7	62.7	132
Carbaryl	613	N/A	2043	N/A	654	N/A	961	2033
Chlordane	0.09	0.004	0.300	0.0500	0.0960	0.0305	0.0448	0.0948
Chlorpyrifos	0.011	0.006	0.0367	0.0750	0.0117	0.0458	0.0172	0.0364
Chromium (trivalent)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Parameter	*SW Acute Criterion (µg/L)*	*SW Chronic Criterion (µg/L)*	*WLAa (µg/L)*	*WLAc (µg/L)*	*LTAa (µg/L)*	*LTAc (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Chromium (hexavalent)	1090	49.6	3633	620	1163	378	555	1176
Copper	24.3	6.48	91.9	91.9	29.4	56.1	43.2	91.4
Copper (oyster waters)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cyanide (free)	5.6	5.6	18.7	70.0	5.97	42.7	8.78	18.5
4,4'-DDT	0.13	0.001	0.433	0.0125	0.139	0.00763	0.0112	0.0237
Demeton	N/A	0.1	N/A	1.25	N/A	0.763	1.12	2.37
Diazinon	0.819	0.819	2.73	10.2	0.874	6.24	1.28	2.71
Dicofol [Kelthane]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dieldrin	0.71	0.002	2.37	0.0250	0.757	0.0153	0.0224	0.0474
Diuron	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endosulfan I (*alpha*)	0.034	0.009	0.113	0.113	0.0363	0.0686	0.0533	0.112
Endosulfan II (*beta*)	0.034	0.009	0.113	0.113	0.0363	0.0686	0.0533	0.112
Endosulfan sulfate	0.034	0.009	0.113	0.113	0.0363	0.0686	0.0533	0.112
Endrin	0.037	0.002	0.123	0.0250	0.0395	0.0153	0.0224	0.0474
Guthion [Azinphos Methyl]	N/A	0.01	N/A	0.125	N/A	0.0763	0.112	0.237
Heptachlor	0.053	0.004	0.177	0.0500	0.0565	0.0305	0.0448	0.0948
Hexachlorocyclohexane (*gamma*) [Lindane]	0.16	N/A	0.533	N/A	0.171	N/A	0.250	0.530
Lead	133	5.3	1162	174	372	106	155	329
Malathion	N/A	0.01	N/A	0.125	N/A	0.0763	0.112	0.237
Mercury	2.1	1.1	7.00	13.8	2.24	8.39	3.29	6.96
Methoxychlor	N/A	0.03	N/A	0.375	N/A	0.229	0.336	0.711
Mirex	N/A	0.001	N/A	0.0125	N/A	0.00763	0.0112	0.0237
Nickel	118	13.1	393	164	126	99.9	146	310
Nonylphenol	7	1.7	23.3	21.3	7.47	13.0	10.9	23.2
Parathion (ethyl)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pentachlorophenol	15.1	9.6	50.3	120	16.1	73.2	23.6	50.0
Phenanthrene	7.7	4.6	25.7	57.5	8.21	35.1	12.0	25.5
Polychlorinated Biphenyls [PCBs]	10	0.03	33.3	0.375	10.7	0.229	0.336	0.711
Selenium	564	136	1880	1700	602	1037	884	1870
Silver	2	N/A	15.5	N/A	4.95	N/A	7.27	15.3
Toxaphene	0.21	0.0002	0.700	0.00250	0.224	0.00153	0.00224	0.00474
Tributyltin [TBT]	0.24	0.0074	0.800	0.0925	0.256	0.0564	0.0829	0.175
2,4,5 Trichlorophenol	259	12	863	150	276	91.5	134	284
Zinc	92.7	84.2	523	1781	167	1086	245	520

HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	*Fish Only Criterion (µg/L)*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Acrylonitrile	115	2300	2139	3144	6652
Aldrin	1.147E-05	0.000229	0.000213	0.000313	0.000663
Anthracene	1317	26340	24496	36009	76183
Antimony	1071	21420	19921	29283	61953
Arsenic	N/A	N/A	N/A	N/A	N/A
Barium	N/A	N/A	N/A	N/A	N/A
Benzene	581	11620	10807	15885	33608
Benzidine	0.107	2.14	1.99	2.92	6.18
Benzo(*a*)anthracene	0.025	0.500	0.465	0.683	1.44
Benzo(*a*)pyrene	0.0025	0.0500	0.0465	0.0683	0.144
Bis(chloromethyl)ether	0.2745	5.49	5.11	7.50	15.8
Bis(2-chloroethyl)ether	42.83	857	797	1171	2477

Parameter	*Fish Only Criterion (µg/L)*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	7.55	151	140	206	436
Bromodichloromethane [Dichlorobromomethane]	275	5500	5115	7519	15907
Bromoform [Tribromomethane]	1060	21200	19716	28982	61316
Cadmium	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	46	920	856	1257	2660
Chlordane	0.0025	0.0500	0.0465	0.0683	0.144
Chlorobenzene	2737	54740	50908	74835	158324
Chlorodibromomethane [Dibromochloromethane]	183	3660	3404	5003	10585
Chloroform [Trichloromethane]	7697	153940	143164	210451	445240
Chromium (hexavalent)	502	10040	9337	13725	29038
Chrysene	2.52	50.4	46.9	68.9	145
Cresols [Methylphenols]	9301	186020	172999	254307	538025
Cyanide (free)	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.002	0.0400	0.0372	0.0546	0.115
4,4'-DDE	0.00013	0.00260	0.00242	0.00355	0.00751
4,4'-DDT	0.0004	0.00800	0.00744	0.0109	0.0231
2,4'-D	N/A	N/A	N/A	N/A	N/A
Danitol [Fenpropathrin]	473	9460	8798	12932	27361
1,2-Dibromoethane [Ethylene Dibromide]	4.24	84.8	78.9	115	245
m-Dichlorobenzene [1,3-Dichlorobenzene]	595	11900	11067	16268	34418
o-Dichlorobenzene [1,2-Dichlorobenzene]	3299	65980	61361	90201	190833
p-Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	2.24	44.8	41.7	61.2	129
1,2-Dichloroethane	364	7280	6770	9952	21055
1,1-Dichloroethylene [1,1-Dichloroethene]	55114	1102280	1025120	1506926	3188124
Dichloromethane [Methylene Chloride]	13333	266660	247994	364550	771260
1,2-Dichloropropane	259	5180	4817	7081	14982
1,3-Dichloropropene [1,3-Dichloropropylene]	119	2380	2213	3253	6883
Dicofol [Kelthane]	0.30	6.00	5.58	8.20	17.3
Dieldrin	2.0E-05	0.000400	0.000372	0.000546	0.00115
2,4-Dimethylphenol	8436	168720	156910	230657	487988
Di-*n*-Butyl Phthalate	92.4	1848	1719	2526	5344
Dioxins/Furans [TCDD Equivalents]	7.97E-08	0.0000016	0.0000015	0.0000022	0.0000046
Endrin	0.02	0.400	0.372	0.546	1.15
Epichlorohydrin	2013	40260	37442	55039	116443
Ethylbenzene	1867	37340	34726	51047	107998
Ethylene Glycol	1.68E+07	336000000	312480000	459345600	971812800
Fluoride	N/A	N/A	N/A	N/A	N/A
Heptachlor	0.0001	0.00200	0.00186	0.00273	0.00578
Heptachlor Epoxide	0.00029	0.00580	0.00539	0.00792	0.0167
Hexachlorobenzene	0.00068	0.0136	0.0126	0.0185	0.0393
Hexachlorobutadiene	0.22	4.40	4.09	6.01	12.7
Hexachlorocyclohexane (*alpha*)	0.0084	0.168	0.156	0.229	0.485
Hexachlorocyclohexane (*beta*)	0.26	5.20	4.84	7.10	15.0
Hexachlorocyclohexane (*gamma*) [Lindane]	0.341	6.82	6.34	9.32	19.7
Hexachlorocyclopentadiene	11.6	232	216	317	671
Hexachloroethane	2.33	46.6	43.3	63.7	134
Hexachlorophene	2.90	58.0	53.9	79.2	167
4,4'-Isopropylidenediphenol [Bisphenol A]	15982	319640	297265	436979	924494
Lead	3.83	201	187	274	580
Mercury	0.0250	0.500	0.465	0.683	1.44
Methoxychlor	3.0	60.0	55.8	82.0	173
Methyl Ethyl Ketone	9.92E+05	19840000	18451200	27123264	57383232

Parameter	*Fish Only Criterion (µg/L)*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Methyl *tert*-butyl ether [MTBE]	10482	209640	194965	286598	606341
Nickel	1140	22800	21204	31169	65944
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	1873	37460	34838	51211	108345
N-Nitrosodiethylamine	2.1	42.0	39.1	57.4	121
N-Nitroso-di-*n*-Butylamine	4.2	84.0	78.1	114	242
Pentachlorobenzene	0.355	7.10	6.60	9.70	20.5
Pentachlorophenol	0.29	5.80	5.39	7.92	16.7
Polychlorinated Biphenyls [PCBs]	6.4E-04	0.0128	0.0119	0.0174	0.0370
Pyridine	947	18940	17614	25892	54780
Selenium	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.24	4.80	4.46	6.56	13.8
1,1,2,2-Tetrachloroethane	26.35	527	490	720	1524
Tetrachloroethylene [Tetrachloroethylene]	280	5600	5208	7655	16196
Thallium	0.23	4.60	4.28	6.28	13.3
Toluene	N/A	N/A	N/A	N/A	N/A
Toxaphene	0.011	0.220	0.205	0.300	0.636
2,4,5-TP [Silvex]	369	7380	6863	10089	21345
1,1,1-Trichloroethane	784354	15687080	14588984	21445807	45371741
1,1,2-Trichloroethane	166	3320	3088	4538	9602
Trichloroethylene [Trichloroethene]	71.9	1438	1337	1965	4159
2,4,5-Trichlorophenol	1867	37340	34726	51047	107998
TTHM [Sum of Total Trihalomethanes]	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	16.5	330	307	451	954

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS:

Aquatic Life *Parameter*	*70% of Daily Avg. (µg/L)*	*85% of Daily Avg. (µg/L)*
Acrolein	N/A	N/A
Aldrin	1.42	1.73
Aluminum	N/A	N/A
Arsenic	163	198
Cadmium	43.9	53.3
Carbaryl	672	817
Chlordane	0.0313	0.0381
Chlorpyrifos	0.0120	0.0146
Chromium (trivalent)	N/A	N/A
Chromium (hexavalent)	389	472
Copper	30.2	36.7
Copper (oyster waters)	N/A	N/A
Cyanide (free)	6.14	7.46
4,4'-DDT	0.00784	0.00952
Demeton	0.784	0.952
Diazinon	0.898	1.09
Dicofol [Kelthane]	N/A	N/A
Dieldrin	0.0156	0.0190
Diuron	N/A	N/A
Endosulfan I (*alpha*)	0.0373	0.0453
Endosulfan II (*beta*)	0.0373	0.0453
Endosulfan sulfate	0.0373	0.0453
Endrin	0.0156	0.0190
Guthion [Azinphos Methyl]	0.0784	0.0952

Aquatic Life	***70% of Daily Avg.***	***85% of Daily Avg.***
Parameter	***(µg/L)***	***(µg/L)***
Heptachlor	0.0313	0.0381
Hexachlorocyclohexane (*gamma*) [Lindane]	0.175	0.213
Lead	109	132
Malathion	0.0784	0.0952
Mercury	2.30	2.79
Methoxychlor	0.235	0.285
Mirex	0.00784	0.00952
Nickel	102	124
Nonylphenol	7.68	9.32
Parathion (ethyl)	N/A	N/A
Pentachlorophenol	16.5	20.1
Phenanthrene	8.45	10.2
Polychlorinated Biphenyls [PCBs]	0.235	0.285
Selenium	619	751
Silver	5.08	6.17
Toxaphene	0.00156	0.00190
Tributyltin [TBT]	0.0580	0.0705
2,4,5 Trichlorophenol	94.1	114
Zinc	172	209

Human Health	***70% of Daily Avg.***	***85% of Daily Avg.***
Parameter	***(µg/L)***	***(µg/L)***
Acrylonitrile	2201	2672
Aldrin	0.000219	0.000266
Anthracene	25206	30608
Antimony	20498	24890
Arsenic	N/A	N/A
Barium	N/A	N/A
Benzene	11119	13502
Benzidine	2.04	2.48
Benzo(*a*)anthracene	0.478	0.581
Benzo(*a*)pyrene	0.0478	0.0581
Bis(chloromethyl)ether	5.25	6.37
Bis(2-chloroethyl)ether	819	995
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	144	175
Bromodichloromethane [Dichlorobromomethane]	5263	6391
Bromoform [Tribromomethane]	20287	24635
Cadmium	N/A	N/A
Carbon Tetrachloride	880	1069
Chlordane	0.0478	0.0581
Chlorobenzene	52384	63609
Chlorodibromomethane [Dibromochloromethane]	3502	4253
Chloroform [Trichloromethane]	147315	178883
Chromium (hexavalent)	9607	11666
Chrysene	48.2	58.5
Cresols [Methylphenols]	178015	216161
Cyanide (free)	N/A	N/A
4,4'-DDD	0.0382	0.0464
4,4'-DDE	0.00248	0.00302
4,4'-DDT	0.00765	0.00929
2,4'-D	N/A	N/A
Danitol [Fenpropathrin]	9052	10992

Human Health	***70% of Daily Avg.***	***85% of Daily Avg.***
Parameter	***(µg/L)***	***(µg/L)***
1,2-Dibromoethane [Ethylene Dibromide]	81.1	98.5
m-Dichlorobenzene [1,3-Dichlorobenzene]	11387	13828
o-Dichlorobenzene [1,2-Dichlorobenzene]	63140	76671
p-Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A
3,3'-Dichlorobenzidine	42.8	52.0
1,2-Dichloroethane	6966	8459
1,1-Dichloroethylene [1,1-Dichloroethene]	1054848	1280887
Dichloromethane [Methylene Chloride]	255185	309868
1,2-Dichloropropane	4957	6019
1,3-Dichloropropene [1,3-Dichloropropylene]	2277	2765
Dicofol [Kelthane]	5.74	6.97
Dieldrin	0.000382	0.000464
2,4-Dimethylphenol	161459	196058
Di-*n*-Butyl Phthalate	1768	2147
Dioxins/Furans [TCDD Equivalents]	0.0000015	0.0000019
Endrin	0.382	0.464
Epichlorohydrin	38527	46783
Ethylbenzene	35733	43390
Ethylene Glycol	321541920	390443760
Fluoride	N/A	N/A
Heptachlor	0.00191	0.00232
Heptachlor Epoxide	0.00555	0.00673
Hexachlorobenzene	0.0130	0.0158
Hexachlorobutadiene	4.21	5.11
Hexachlorocyclohexane (*alpha*)	0.160	0.195
Hexachlorocyclohexane (*beta*)	4.97	6.04
Hexachlorocyclohexane (*gamma*) [Lindane]	6.52	7.92
Hexachlorocyclopentadiene	222	269
Hexachloroethane	44.5	54.1
Hexachlorophene	55.5	67.3
4,4'-Isopropylidenediphenol [Bisphenol A]	305885	371432
Lead	192	233
Mercury	0.478	0.581
Methoxychlor	57.4	69.7
Methyl Ethyl Ketone	18986284	23054774
Methyl *tert*-butyl ether [MTBE]	200619	243609
Nickel	21818	26494
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	35848	43529
N-Nitrosodiethylamine	40.1	48.8
N-Nitroso-di-*n*-Butylamine	80.3	97.6
Pentachlorobenzene	6.79	8.25
Pentachlorophenol	5.55	6.73
Polychlorinated Biphenyls [PCBs]	0.0122	0.0148
Pyridine	18125	22008
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	4.59	5.57
1,1,2,2-Tetrachloroethane	504	612
Tetrachloroethylene [Tetrachloroethylene]	5359	6507
Thallium	4.40	5.34
Toluene	N/A	N/A
Toxaphene	0.210	0.255
2,4,5-TP [Silvex]	7062	8575

Human Health *Parameter*	*70% of Daily Avg. (µg/L)*	*85% of Daily Avg. (µg/L)*
1,1,1-Trichloroethane	15012064	18228936
1,1,2-Trichloroethane	3177	3857
Trichloroethylene [Trichloroethene]	1376	1671
2,4,5-Trichlorophenol	35733	43390
TTHM [Sum of Total Trihalomethanes]	N/A	N/A
Vinyl Chloride	315	383

Pollutants with Water Quality Criteria and Federal Effluent Limit Guidelines

The following table includes the water-quality based mass loading limit for pollutants with criteria that are also regulated in 40 CFR Part 414. Mass loading is calculated as the concentration in mg/L times a conversion factor times the flow used in determining the waste load allocation.

Mass loading (lbs/day) = Concentration (µg/L)/1,000 x 8.345 (conversion factor) x 10 (MGD)

Pollutant	Most Stringent Criteria [1]	Daily Average µg/L	Daily Max µg/L	Daily Average lbs/day	Daily Max lbs/day
Copper	AQ	43.2	91.4	3.61	7.63
Cyanide, free	AQ	8.78	18.5	0.733	1.54
Lead [2]	AQ	155	329	12.9	27.5
Nickel	AQ	146	310	12.2	25.9
Zinc [2]	AQ	245	520	20.4	43.4
Acrylonitrile	HH	3,144	6,652	262	555
Anthracene	HH	36,009	76,183	3,005	6,357
Benzene	HH	15,885	33,608	1,326	2,805
Benzo(a)anthracene	HH	0.683	1.44	0.057	0.120
Benzo(a)pyrene	HH	0.068	0.144	0.0057	0.0120
Bis(2-ethylhexyl) phthalate	HH	206	436	17.2	36.4
Carbon Tetrachloride	HH	1,257	2,660	105	222
Chlorobenzene	HH	74,835	158,324	6,245	13,212
Chloroform	HH	210,451	445,240	17,562	37,155
Chrysene	HH	69	145	5.75	12.1
Di-n-butyl phthalate	HH	2,526	5,344	211	446
1,2-Dichlorobenzene	HH	90,201	190,833	7,527	15,925
1,3-Dichlorobenzene	HH	16,268	34,418	1,358	2,872
1,4-Dichlorobenzene	HH	N/A	N/A	N/A	N/A
1,2-Dichloroethane	HH	9,952	21,055	830	1,757
1,1-Dichloroethylene	HH	1,506,926	3,188,124	125,753	266,049
1,2-Dichloropropane	HH	7,081	14,982	591	1,250
1,3-Dichloropropylene	HH	3,253	6,883	271	574
2,4-Dimethylphenol	HH	230,657	487,988	19,248	40,723
Ethylbenzene	HH	51,047	107,998	4,260	9,012
Hexachlorobenzene	HH	0.0185	0.0393	0.0015	0.0033
Hexachlorobutadiene	HH	6.01	12.7	0.5015	1.06
Hexachloroethane	HH	63.7	134	5.32	11.2
Methylene Chloride	HH	364,550	771,260	30,422	64,362

Pollutant	Most Stringent Criteria [1]	Daily Average µg/L	Daily Max µg/L	Daily Average lbs/day	Daily Max lbs/day
Nitrobenzene	HH	51,211	108,345	4,274	9,041
Phenanthrene	AQ	12.0	25.5	1.00	2.13
Tetrachloroethylene	HH	7,655	16,196	639	1,352
Toluene	HH	N/A	N/A	N/A	N/A
1,1,1-Trichloroethane	HH	21,445,807	45,371,741	1,789,653	3,786,272
1,1,2-Trichloroethane	HH	4,538	9,602	379	801
Trichloroethylene	HH	1,965	4,159	164	347
Vinyl Chloride	HH	451	954	37.6	79.6

TEXTOX MENU #5 - BAY OR WIDE TIDAL RIVER

The water quality-based effluent limitations developed below are calculated using:

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Saltwater Aquatic Life
Table 2, 2018 Texas Surface Water Quality Standards for Human Health
"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

PERMIT INFORMATION

Permittee Name:	Rohm and Haas Texas Incorporated
TPDES Permit No:	WQ0000458000
Outfall No:	011
Prepared by:	S. Johnson
Date:	16 June 2021

DISCHARGE INFORMATION

Receiving Waterbody:	Houston Ship Channel Tidal
Segment No:	1006
TSS (mg/L):	10
Effluent Flow for Aquatic Life (MGD)	<10
% Effluent for Chronic Aquatic Life (Mixing Zone):	8
% Effluent for Acute Aquatic Life (ZID):	30
Oyster Waters?	**No**
Effluent Flow for Human Health (MGD):	<10
% Effluent for Human Health:	4

CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):

Estuarine Metal	*Intercept (b)*	*Slope (m)*	*Partition Coefficient (Kp)*	*Dissolved Fraction (Cd/Ct)*	*Source*	*Water Effect Ratio (WER)*	*Source*
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Cadmium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (total)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (trivalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (hexavalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	4.85	-0.72	13489.63	0.881		**1.80**	**TSWQS**
Lead	6.06	-0.85	162181.01	0.381		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	5.86	-0.74	131825.67	0.431		1.00	Assumed
Zinc	5.36	-0.52	69183.10	0.591		1.00	Assumed

AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	*SW Acute Criterion (µg/L)*	*SW Chronic Criterion (µg/L)*	*WLAa (µg/L)*	*WLAc (µg/L)*	*LTAa (µg/L)*	*LTAc (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Acrolein	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aldrin	1.3	N/A	4.33	N/A	1.39	N/A	2.03	4.31
Aluminum	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arsenic	149	78	497	975	159	595	233	494
Cadmium	40.0	8.75	133	109	42.7	66.7	62.7	132
Carbaryl	613	N/A	2043	N/A	654	N/A	961	2033
Chlordane	0.09	0.004	0.300	0.0500	0.0960	0.0305	0.0448	0.0948
Chlorpyrifos	0.011	0.006	0.0367	0.0750	0.0117	0.0458	0.0172	0.0364

Parameter	*SW Acute Criterion (µg/L)*	*SW Chronic Criterion (µg/L)*	*WLAa (µg/L)*	*WLAc (µg/L)*	*LTAa (µg/L)*	*LTAc (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Chromium (trivalent)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium (hexavalent)	1090	49.6	3633	620	1163	378	555	1176
Copper	24.3	6.48	91.9	91.9	29.4	56.1	43.2	91.4
Copper (oyster waters)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cyanide (free)	5.6	5.6	18.7	70.0	5.97	42.7	8.78	18.5
4,4'-DDT	0.13	0.001	0.433	0.0125	0.139	0.00763	0.0112	0.0237
Demeton	N/A	0.1	N/A	1.25	N/A	0.763	1.12	2.37
Diazinon	0.819	0.819	2.73	10.2	0.874	6.24	1.28	2.71
Dicofol [Kelthane]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dieldrin	0.71	0.002	2.37	0.0250	0.757	0.0153	0.0224	0.0474
Diuron	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endosulfan I (*alpha*)	0.034	0.009	0.113	0.113	0.0363	0.0686	0.0533	0.112
Endosulfan II (*beta*)	0.034	0.009	0.113	0.113	0.0363	0.0686	0.0533	0.112
Endosulfan sulfate	0.034	0.009	0.113	0.113	0.0363	0.0686	0.0533	0.112
Endrin	0.037	0.002	0.123	0.0250	0.0395	0.0153	0.0224	0.0474
Guthion [Azinphos Methyl]	N/A	0.01	N/A	0.125	N/A	0.0763	0.112	0.237
Heptachlor	0.053	0.004	0.177	0.0500	0.0565	0.0305	0.0448	0.0948
Hexachlorocyclohexane (*gamma*) [Lindane]	0.16	N/A	0.533	N/A	0.171	N/A	0.250	0.530
Lead	133	5.3	1162	174	372	106	155	329
Malathion	N/A	0.01	N/A	0.125	N/A	0.0763	0.112	0.237
Mercury	2.1	1.1	7.00	13.8	2.24	8.39	3.29	6.96
Methoxychlor	N/A	0.03	N/A	0.375	N/A	0.229	0.336	0.711
Mirex	N/A	0.001	N/A	0.0125	N/A	0.00763	0.0112	0.0237
Nickel	118	13.1	393	164	126	99.9	146	310
Nonylphenol	7	1.7	23.3	21.3	7.47	13.0	10.9	23.2
Parathion (ethyl)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pentachlorophenol	15.1	9.6	50.3	120	16.1	73.2	23.6	50.0
Phenanthrene	7.7	4.6	25.7	57.5	8.21	35.1	12.0	25.5
Polychlorinated Biphenyls [PCBs]	10	0.03	33.3	0.375	10.7	0.229	0.336	0.711
Selenium	564	136	1880	1700	602	1037	884	1870
Silver	2	N/A	15.5	N/A	4.95	N/A	7.27	15.3
Toxaphene	0.21	0.0002	0.700	0.00250	0.224	0.00153	0.00224	0.00474
Tributyltin [TBT]	0.24	0.0074	0.800	0.0925	0.256	0.0564	0.0829	0.175
2,4,5 Trichlorophenol	259	12	863	150	276	91.5	134	284
Zinc	92.7	84.2	523	1781	167	1086	245	520

HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	*Fish Only Criterion (µg/L)*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Acrylonitrile	115	2875	2674	3930	8315
Aldrin	1.147E-05	0.000287	0.000267	0.000392	0.000829
Anthracene	1317	32925	30620	45011	95228
Antimony	1071	26775	24901	36604	77441
Arsenic	N/A	N/A	N/A	N/A	N/A
Barium	N/A	N/A	N/A	N/A	N/A
Benzene	581	14525	13508	19857	42010
Benzidine	0.107	2.68	2.49	3.65	7.73
Benzo(*a*)anthracene	0.025	0.625	0.581	0.854	1.80
Benzo(*a*)pyrene	0.0025	0.0625	0.0581	0.0854	0.180
Bis(chloromethyl)ether	0.2745	6.86	6.38	9.38	19.8

Parameter	*Fish Only Criterion (µg/L)*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Bis(2-chloroethyl)ether	42.83	1071	996	1463	3096
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	7.55	189	176	258	545
Bromodichloromethane [Dichlorobromomethane]	275	6875	6394	9398	19884
Bromoform [Tribromomethane]	1060	26500	24645	36228	76645
Cadmium	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	46	1150	1070	1572	3326
Chlordane	0.0025	0.0625	0.0581	0.0854	0.180
Chlorobenzene	2737	68425	63635	93543	197905
Chlorodibromomethane [Dibromochloromethane]	183	4575	4255	6254	13232
Chloroform [Trichloromethane]	7697	192425	178955	263064	556550
Chromium (hexavalent)	502	12550	11672	17157	36298
Chrysene	2.52	63.0	58.6	86.1	182
Cresols [Methylphenols]	9301	232525	216248	317884	672532
Cyanide (free)	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.002	0.0500	0.0465	0.0683	0.144
4,4'-DDE	0.00013	0.00325	0.00302	0.00444	0.00939
4,4'-DDT	0.0004	0.0100	0.00930	0.0136	0.0289
2,4'-D	N/A	N/A	N/A	N/A	N/A
Danitol [Fenpropathrin]	473	11825	10997	16165	34201
1,2-Dibromoethane [Ethylene Dibromide]	4.24	106	98.6	144	306
m-Dichlorobenzene [1,3-Dichlorobenzene]	595	14875	13834	20335	43022
o-Dichlorobenzene [1,2-Dichlorobenzene]	3299	82475	76702	112751	238542
p-Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	2.24	56.0	52.1	76.5	161
1,2-Dichloroethane	364	9100	8463	12440	26319
1,1-Dichloroethylene [1,1-Dichloroethene]	55114	1377850	1281401	1883658	3985155
Dichloromethane [Methylene Chloride]	13333	333325	309992	455688	964075
1,2-Dichloropropane	259	6475	6022	8851	18727
1,3-Dichloropropene [1,3-Dichloropropylene]	119	2975	2767	4067	8604
Dicofol [Kelthane]	0.30	7.50	6.98	10.2	21.6
Dieldrin	2.0E-05	0.000500	0.000465	0.000683	0.00144
2,4-Dimethylphenol	8436	210900	196137	288321	609986
Di-*n*-Butyl Phthalate	92.4	2310	2148	3158	6681
Dioxins/Furans [TCDD Equivalents]	7.97E-08	0.0000020	0.0000019	0.0000027	0.0000058
Endrin	0.02	0.500	0.465	0.683	1.44
Epichlorohydrin	2013	50325	46802	68799	145554
Ethylbenzene	1867	46675	43408	63809	134998
Ethylene Glycol	1.68E+07	420000000	390600000	574182000	1214766000
Fluoride	N/A	N/A	N/A	N/A	N/A
Heptachlor	0.0001	0.00250	0.00233	0.00341	0.00723
Heptachlor Epoxide	0.00029	0.00725	0.00674	0.00991	0.0209
Hexachlorobenzene	0.00068	0.0170	0.0158	0.0232	0.0491
Hexachlorobutadiene	0.22	5.50	5.12	7.51	15.9
Hexachlorocyclohexane (*alpha*)	0.0084	0.210	0.195	0.287	0.607
Hexachlorocyclohexane (*beta*)	0.26	6.50	6.05	8.88	18.7
Hexachlorocyclohexane (*gamma*) [Lindane]	0.341	8.53	7.93	11.6	24.6
Hexachlorocyclopentadiene	11.6	290	270	396	838
Hexachloroethane	2.33	58.3	54.2	79.6	168
Hexachlorophene	2.90	72.5	67.4	99.1	209
4,4'-Isopropylidenediphenol [Bisphenol A]	15982	399550	371582	546224	1155618
Lead	3.83	251	233	343	726
Mercury	0.0250	0.625	0.581	0.854	1.80
Methoxychlor	3.0	75.0	69.8	102	216

Parameter	*Fish Only Criterion (µg/L)*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Methyl Ethyl Ketone	9.92E+05	24800000	23064000	33904080	71729040
Methyl *tert*-butyl ether [MTBE]	10482	262050	243707	358248	757927
Nickel	1140	28500	26505	38962	82430
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	1873	46825	43547	64014	135431
N-Nitrosodiethylamine	2.1	52.5	48.8	71.7	151
N-Nitroso-di-*n*-Butylamine	4.2	105	97.7	143	303
Pentachlorobenzene	0.355	8.88	8.25	12.1	25.6
Pentachlorophenol	0.29	7.25	6.74	9.91	20.9
Polychlorinated Biphenyls [PCBs]	6.4E-04	0.0160	0.0149	0.0218	0.0462
Pyridine	947	23675	22018	32366	68475
Selenium	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.24	6.00	5.58	8.20	17.3
1,1,2,2-Tetrachloroethane	26.35	659	613	900	1905
Tetrachloroethylene [Tetrachloroethylene]	280	7000	6510	9569	20246
Thallium	0.23	5.75	5.35	7.86	16.6
Toluene	N/A	N/A	N/A	N/A	N/A
Toxaphene	0.011	0.275	0.256	0.375	0.795
2,4,5-TP [Silvex]	369	9225	8579	12611	26681
1,1,1-Trichloroethane	784354	19608850	18236231	26807258	56714676
1,1,2-Trichloroethane	166	4150	3860	5673	12003
Trichloroethylene [Trichloroethene]	71.9	1798	1672	2457	5198
2,4,5-Trichlorophenol	1867	46675	43408	63809	134998
TTHM [Sum of Total Trihalomethanes]	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	16.5	413	384	563	1193

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS:

Aquatic Life *Parameter*	*70% of Daily Avg. (µg/L)*	*85% of Daily Avg. (µg/L)*
Acrolein	N/A	N/A
Aldrin	1.42	1.73
Aluminum	N/A	N/A
Arsenic	163	198
Cadmium	43.9	53.3
Carbaryl	672	817
Chlordane	0.0313	0.0381
Chlorpyrifos	0.0120	0.0146
Chromium (trivalent)	N/A	N/A
Chromium (hexavalent)	389	472
Copper	30.2	36.7
Copper (oyster waters)	N/A	N/A
Cyanide (free)	6.14	7.46
4,4'-DDT	0.00784	0.00952
Demeton	0.784	0.952
Diazinon	0.898	1.09
Dicofol [Kelthane]	N/A	N/A
Dieldrin	0.0156	0.0190
Diuron	N/A	N/A
Endosulfan I (*alpha*)	0.0373	0.0453
Endosulfan II (*beta*)	0.0373	0.0453
Endosulfan sulfate	0.0373	0.0453
Endrin	0.0156	0.0190

Aquatic Life	***70% of Daily Avg.***	***85% of Daily Avg.***
Parameter	***(µg/L)***	***(µg/L)***
Guthion [Azinphos Methyl]	0.0784	0.0952
Heptachlor	0.0313	0.0381
Hexachlorocyclohexane (*gamma*) [Lindane]	0.175	0.213
Lead	109	132
Malathion	0.0784	0.0952
Mercury	2.30	2.79
Methoxychlor	0.235	0.285
Mirex	0.00784	0.00952
Nickel	102	124
Nonylphenol	7.68	9.32
Parathion (ethyl)	N/A	N/A
Pentachlorophenol	16.5	20.1
Phenanthrene	8.45	10.2
Polychlorinated Biphenyls [PCBs]	0.235	0.285
Selenium	619	751
Silver	5.08	6.17
Toxaphene	0.00156	0.00190
Tributyltin [TBT]	0.0580	0.0705
2,4,5 Trichlorophenol	94.1	114
Zinc	172	209

Human Health	***70% of Daily Avg.***	***85% of Daily Avg.***
Parameter	***(µg/L)***	***(µg/L)***
Acrylonitrile	2751	3340
Aldrin	0.000274	0.000333
Anthracene	31508	38260
Antimony	25622	31113
Arsenic	N/A	N/A
Barium	N/A	N/A
Benzene	13899	16878
Benzidine	2.55	3.10
Benzo(*a*)anthracene	0.598	0.726
Benzo(*a*)pyrene	0.0598	0.0726
Bis(chloromethyl)ether	6.56	7.97
Bis(2-chloroethyl)ether	1024	1244
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	180	219
Bromodichloromethane [Dichlorobromomethane]	6579	7988
Bromoform [Tribromomethane]	25359	30793
Cadmium	N/A	N/A
Carbon Tetrachloride	1100	1336
Chlordane	0.0598	0.0726
Chlorobenzene	65480	79512
Chlorodibromomethane [Dibromochloromethane]	4378	5316
Chloroform [Trichloromethane]	184144	223604
Chromium (hexavalent)	12009	14583
Chrysene	60.2	73.2
Cresols [Methylphenols]	222519	270202
Cyanide (free)	N/A	N/A
4,4'-DDD	0.0478	0.0581
4,4'-DDE	0.00311	0.00377
4,4'-DDT	0.00956	0.0116
2,4'-D	N/A	N/A

Human Health	***70% of Daily Avg.***	***85% of Daily Avg.***
Parameter	***(µg/L)***	***(µg/L)***
Danitol [Fenpropathrin]	11316	13741
1,2-Dibromoethane [Ethylene Dibromide]	101	123
m-Dichlorobenzene [1,3-Dichlorobenzene]	14234	17285
o-Dichlorobenzene [1,2-Dichlorobenzene]	78926	95838
p-Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A
3,3'-Dichlorobenzidine	53.5	65.0
1,2-Dichloroethane	8708	10574
1,1-Dichloroethylene [1,1-Dichloroethene]	1318561	1601109
Dichloromethane [Methylene Chloride]	318982	387335
1,2-Dichloropropane	6196	7524
1,3-Dichloropropene [1,3-Dichloropropylene]	2846	3457
Dicofol [Kelthane]	7.17	8.71
Dieldrin	0.000478	0.000581
2,4-Dimethylphenol	201824	245073
Di-*n*-Butyl Phthalate	2210	2684
Dioxins/Furans [TCDD Equivalents]	0.0000019	0.0000023
Endrin	0.478	0.581
Epichlorohydrin	48159	58479
Ethylbenzene	44666	54237
Ethylene Glycol	401927400	488054700
Fluoride	N/A	N/A
Heptachlor	0.00239	0.00290
Heptachlor Epoxide	0.00693	0.00842
Hexachlorobenzene	0.0162	0.0197
Hexachlorobutadiene	5.26	6.39
Hexachlorocyclohexane (*alpha*)	0.200	0.244
Hexachlorocyclohexane (*beta*)	6.22	7.55
Hexachlorocyclohexane (*gamma*) [Lindane]	8.15	9.90
Hexachlorocyclopentadiene	277	336
Hexachloroethane	55.7	67.6
Hexachlorophene	69.3	84.2
4,4'-Isopropylidenediphenol [Bisphenol A]	382357	464291
Lead	240	291
Mercury	0.598	0.726
Methoxychlor	71.7	87.1
Methyl Ethyl Ketone	23732856	28818468
Methyl *tert*-butyl ether [MTBE]	250773	304511
Nickel	27273	33117
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	44810	54412
N-Nitrosodiethylamine	50.2	61.0
N-Nitroso-di-*n*-Butylamine	100	122
Pentachlorobenzene	8.49	10.3
Pentachlorophenol	6.93	8.42
Polychlorinated Biphenyls [PCBs]	0.0153	0.0185
Pyridine	22656	27511
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	5.74	6.97
1,1,2,2-Tetrachloroethane	630	765
Tetrachloroethylene [Tetrachloroethylene]	6698	8134
Thallium	5.50	6.68
Toluene	N/A	N/A
Toxaphene	0.263	0.319

Human Health	*70% of Daily Avg.*	*85% of Daily Avg.*
Parameter	***(µg/L)***	***(µg/L)***
2,4,5-TP [Silvex]	8828	10719
1,1,1-Trichloroethane	18765081	22786170
1,1,2-Trichloroethane	3971	4822
Trichloroethylene [Trichloroethene]	1720	2088
2,4,5-Trichlorophenol	44666	54237
TTHM [Sum of Total Trihalomethanes]	N/A	N/A
Vinyl Chloride	394	479

Pollutants with Water Quality Criteria and Federal Effluent Limit Guidelines

The following table includes the water-quality based mass loading limit for pollutants with criteria that are also regulated in 40 CFR Part 414. Mass loading is calculated as the concentration in mg/L times a conversion factor times the permitted flow in MGD.

Mass loading (lbs/day)= Concentration (µg/L)/1,000 x 8.345 (conversion factor) x 2.5 (MGD)

Pollutant	Most Stringent Criteria [1]	Daily Average µg/L	Daily Max µg/L	Daily Average lbs/day	Daily Max lbs/day
Copper	AQ	43.2	91.4	0.901	1.91
Cyanide, free [2]	AQ	8.78	18.50	0.183	0.386
Lead [2]	AQ	155	329	3.23	6.86
Nickel	AQ	146	310	3.05	6.47
Zinc [2]	AQ	245	520	5.11	10.8
Acrylonitrile	HH	3,930	8,315	82.0	173
Anthracene	HH	45,011	95,228	939	1,987
Benzene	HH	19,857	42,010	414	876
Benzo(a)anthracene	HH	0.854	1.80	0.0178	0.0376
Benzo(a)pyrene	HH	0.085	0.180	0.0018	0.0038
Bis(2-ethylhexyl) phthalate	HH	258	545	5.38	11.4
Carbon Tetrachloride	HH	1,572	3,326	32.8	69.4
Chlorobenzene	HH	93,543	197,905	1,952	4,129
Chloroform	HH	263,064	556,550	5,488	11,611
Chrysene	HH	86.1	182	1.80	3.80
Di-n-butyl phthalate	HH	3,158	6,681	65.9	139
1,2-Dichlorobenzene	HH	112,751	238,542	2,352	4,977
1,3-Dichlorobenzene	HH	20,335	43,022	424	898
1,4-Dichlorobenzene	HH	N/A	N/A	N/A	N/A
1,2-Dichloroethane	HH	12,440	26,319	260	549
1,1-Dichloroethylene	HH	1,883,658	3,985,155	39,298	83,140
1,2-Dichloropropane	HH	8,851	18,727	185	391
1,3-Dichloropropylene	HH	4,067	8,604	84.8	180
2,4-Dimethylphenol	HH	288,321	609,986	6,015	12,726
Ethylbenzene	HH	63,809	134,998	1,331	2,816
Hexachlorobenzene	HH	0.023	0.049	0.0005	0.0010
Hexachlorobutadiene	HH	7.51	15.9	0.157	0.332
Hexachloroethane	HH	79.6	168	1.66	3.50

Pollutant	Most Stringent Criteria [1]	Daily Average µg/L	Daily Max µg/L	Daily Average lbs/day	Daily Max lbs/day
Methylene Chloride	HH	455,688	964,075	9,507	20,113
Nitrobenzene	HH	64,014	135,431	1,335	2,825
Phenanthrene	AQ	12.0	25.5	0.250	0.532
Tetrachloroethylene	HH	9,569	20,246	200	422
Toluene	HH	26.0	80.0	0.542	1.67
1,1,1-Trichloroethane	HH	26,807,258	56,714,676	559,266	1,183,210
1,1,2-Trichloroethane	HH	5,673	12,003	118	250
Trichloroethylene	HH	2,457	5,198	51.3	108
Vinyl Chloride	HH	563	1,193	11.7	24.9

Appendix C
pH Screening

Calculation of pH of a mixture in seawater.			Rohm and Haas Texas Incorporated; Deer Park Plant
Based on the CO2SYS program (Lewis and Wallace, 1998)			00458-000, Segment 1006
http://cdiac.esd.ornl.gov/oceans/co2rprt.html			Outfall 001
INPUT			**Notes on Data Sources**
1. MIXING ZONE BOUNDARY CHARACTERISTICS			
Dilution factor at mixing zone boundary	28.571	28.571	Calculated from values in 2021 critical conditions memo: Effluent % at edge of mixing zone = 4.3%
Depth at plume trapping level (m)	2.000	2.000	Default value. Various depths tested.
2. BACKGROUND RECEIVING WATER CHARACTERISTICS			
Temperature (deg C):	20.00	35.00	Range of temperatures tested (5 to 35 degrees C)
pH:	7.20	7.20	Ambient pH for Segment 1006 from 2012 IPs.
Salinity (psu):	2.00	30.00	Range of salinities tested (2 to 30 psu)
Total alkalinity (meq/L)	8.23	8.23	Ambient hardness for Segment 1006 from 2010 IPs.
3. EFFLUENT CHARACTERISTICS			
Temperature (deg C):	5.00	20.00	Range of temperatures tested (5 to 35 degrees C)
pH:	6.00	9.00	Proposed permit limit. Sequentially modified until predicted pH met segment criteria (6.5 to 9.0).
Salinity (psu)	1.00	1.00	Minimum salinity assumed because discharge is freshwater. However, values up to 5 ppt tested.
Total alkalinity (meq/L):	0.40	5.00	For high pH scenario, calcuated and tested a range of values. For low pH scenarios, used default of 20 mg/L CaCO3 = 0.40 meq/L
4. CLICK THE 'calculate" BUTTON TO UPDATE OUTPUT RESULTS >>>			
OUTPUT			
CONDITIONS AT THE MIXING ZONE BOUNDARY			
Temperature (deg C):	19.48	34.48	
Salinity (psu)	1.97	28.99	
Density (kg/m^3)	999.82	1015.67	
Alkalinity (mmol/kg-SW):	7.96	7.99	
Total Inorganic Carbon (mmol/kg-SW):	8.55	8.05	
pH at Mixing Zone Boundary:	7.19	7.24	*Screening passed, segment criteria 6.5-9.0
Notes:			
To convert from units of mgCaCO3/L to meq/L divide by 50.044 mg/meq			
PSU refers to the Practical Salinity Scale (PSS) and is approximately equivalent to parts per thousand (ppt)			

Calculation of pH of a mixture in seawater.			Rohm and Haas Texas Incorporated; Deer Park Plant
Based on the CO2SYS program (Lewis and Wallace, 1998)			00458-000, Segment 1006
http://cdiac.esd.ornl.gov/oceans/co2rprt.html			**Outfall 009**
INPUT			**Notes on Data Sources**
1. MIXING ZONE BOUNDARY CHARACTERISTICS			
Dilution factor at mixing zone boundary	12.500	12.500	Calculated from values in 2021 critical conditions memo: Effluent % at edge of mixing zone = 30%
Depth at plume trapping level (m)	2.000	2.000	Default value. Various depths tested.
2. BACKGROUND RECEIVING WATER CHARACTERISTICS			
Temperature (deg C):	20.00	35.00	Range of temperatures tested (5 to 35 degrees C)
pH:	7.20	7.20	Ambient pH for Segment 1006 from 2012 IPs.
Salinity (psu):	2.00	30.00	Range of salinities tested (2 to 30 psu)
Total alkalinity (meq/L)	8.23	8.23	Ambient hardness for Segment 1006 from 2012 IPs.
3. EFFLUENT CHARACTERISTICS			
Temperature (deg C):	5.00	35.00	Range of temperatures tested (5 to 35 degrees C)
pH:	6.00	9.00	Proposed permit limit. Sequentially modified until predicted pH met segment criteria (6.5 to 9.0).
Salinity (psu)	1.00	1.00	Minimum salinity assumed because discharge is freshwater. However, values up to 5 ppt tested.
Total alkalinity (meq/L):	0.40	5.00	For high pH scenario, calcuated and tested a range of values. For low pH scenarios, used default of 20 mg/L CaCO3 = 0.40 meq/L
4. CLICK THE 'calculate" BUTTON TO UPDATE OUTPUT RESULTS >>>			
OUTPUT			
CONDITIONS AT THE MIXING ZONE BOUNDARY			
Temperature (deg C):	18.80	35.00	
Salinity (psu)	1.92	27.68	
Density (kg/m^3)	999.92	1014.50	
Alkalinity (mmol/kg-SW):	7.60	7.86	
Total Inorganic Carbon (mmol/kg-SW):	8.20	7.84	
pH at Mixing Zone Boundary:	7.18	7.32	*Screening passed, segment criteria 6.5-9.0
Notes:			
To convert from units of mgCaCO3/L to meq/L divide by 50.044 mg/meq			
PSU refers to the Practical Salinity Scale (PSS) and is approximately equivalent to parts per thousand (ppt)			

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

Calculation of pH of a mixture in seawater.			Rohm and Haas Texas Incorporated; Deer Park Plant
Based on the CO2SYS program (Lewis and Wallace, 1998)			00458-000, Segment 1006
http://cdiac.esd.ornl.gov/oceans/co2rprt.html			**Outfall 011**
INPUT			**Notes on Data Sources**
1. MIXING ZONE BOUNDARY CHARACTERISTICS			
Dilution factor at mixing zone boundary	12.500	12.500	Calculated from values in 2021 critical conditions memo: Effluent % at edge of mixing zone = 8%
Depth at plume trapping level (m)	2.000	2.000	Default value. Various depths tested.
2. BACKGROUND RECEIVING WATER CHARACTERISTICS			
Temperature (deg C):	20.00	35.00	Range of temperatures tested (5 to 35 degrees C)
pH:	7.20	7.20	Ambient pH for Segment 1006 from 2012 IPs.
Salinity (psu):	2.00	30.00	Range of salinities tested (2 to 30 psu)
Total alkalinity (meq/L)	8.23	8.23	Ambient hardness for Segment 1006 from 2012 IPs.
3. EFFLUENT CHARACTERISTICS			
Temperature (deg C):	5.00	35.00	Range of temperatures tested (5 to 35 degrees C)
pH:	6.00	9.00	Proposed permit limit. Sequentially modified until predicted pH met segment criteria (6.5 to 9.0).
Salinity (psu)	1.00	1.00	Minimum salinity assumed because discharge is freshwater. However, values up to 5 ppt tested.
Total alkalinity (meq/L):	0.40	5.00	For high pH scenario, calcuated and tested a range of values. For low pH scenarios, used default of 20 mg/L CaCO3 = 0.40 meq/L
4. CLICK THE 'calculate" BUTTON TO UPDATE OUTPUT RESULTS >>>			
OUTPUT			
CONDITIONS AT THE MIXING ZONE BOUNDARY			
Temperature (deg C):	18.80	35.00	
Salinity (psu)	1.92	27.68	
Density (kg/m^3)	999.92	1014.50	
Alkalinity (mmol/kg-SW):	7.60	7.86	
Total Inorganic Carbon (mmol/kg-SW):	8.20	7.84	
pH at Mixing Zone Boundary:	7.18	7.32	*Screening passed, segment criteria 6.5-9.0
Notes:			
To convert from units of mgCaCO3/L to meq/L divide by 50.044 mg/meq			
PSU refers to the Practical Salinity Scale (PSS) and is approximately equivalent to parts per thousand (ppt)			

Appendix D
Comparison of Technology-Based Effluent Limits and Water Quality-Based Effluent Limits

The following table is a summary of technology-based effluent limitations calculated/assessed in the draft permit (Technology-Based), calculated/assessed water quality-based effluent limitations (Water Quality-Based), and effluent limitations in the existing permit (Existing Permit). Effluent limitations appearing in bold are included in the draft permit and represent either the most stringent of the three or a revision per the permittee's major amendment request.

Outfall	*Pollutant*	*Technology-Based*		*Water Quality-Based*		*Existing Permit*	
		Daily Avg	*Daily Max*	*Daily Avg*	*Daily Max*	*Daily Avg*	*Daily Max*
		mg/L	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*
002, 003, 004	Flow	Report	Report	Report	Report	**N/A**	**Report**
	TOC	N/A	75	-	-	**N/A**	**75**
	Oil and grease	N/A	15	-	-	**N/A**	**15**
	pH	6.0 - 9.0 SU		6.0 - 9.0 SU		**6.0 - 9.0 SU**	

Outfall	*Pollutant*	*Technology-Based*		*Water Quality-Based*		*Existing Permit*	
		Daily Avg	*Daily Max*	*Daily Avg*	*Daily Max*	*Daily Avg*	*Daily Max*
		Lbs/day	*Lbs/day*	*Lbs/day*	*Lbs/day*	*Lbs/day*	*Lbs/day*
008	Ammonia as Nitrogen (NH_3-N)	Report	Report	1,116	2,224	**1,116**	**2,224**

Outfall	*Pollutant*	*Technology-Based*		*Water Quality-Based*				*Existing Permit*	
		Daily Avg	*Daily Max*	*Daily Avg*		*Daily Max*		*Daily Avg*	*Daily Max*
		lbs/day	*lbs/day*	*lbs/day*	*mg/L*	*lbs/day*	*mg/L*	*lbs/day*	*lbs/day*
001	Flow, MGD	8.4	Report	8.4		Report		**8.4**	**Report**
	Biochemical Oxygen Demand, 5-Day (BOD_5)	1,575	3,928	1,033				**Report**	**Report**
	Total Suspended Solids (TSS)	5,698	17,036	-	-	-	-	**Report**	**Report**
	Chemical Oxygen Demand (COD)	Report	Report	-	-	-	-	**Report**	**Report**
	Ammonia as Nitrogen (NH_3-N)	-	-					**Report**	**Report**
	Total Residual Chlorine [1]	45.4	76.5	-	-	-	-	**N/A**	**N/A**
	Total Cyanide	207	584	-	-	-	-	**Report**	**Report**
	Free Cyanide	18.7	89.0	**4.29**	*[0.0612]*	**9.04**	*[0.129]*	1.41	3.00
	Copper, total	**9.68**	**22.6**	13.2	*[0.188]*	27.9	*[0.398]*	6.99	14.7
	Nickel, total	**11.3**	**26.6**	23.5	*[0.335]*	49.8	*[0.710]*	13.7	29.0
	Zinc, total	N/A	N/A	**120**	*[1.72]*	**254**	*[3.63]*	39.7	84.1
	Acenaphthene	0.565	1.52	-	-	-	-	**N/A**	**Report**
	Acenaphthylene	0.565	1.52	-	-	-	-	**N/A**	**Report**
	Acrylonitrile	2.47	6.22	355	*[5.071]*	752	*[10.7]*	**N/A**	**Report**
	Anthracene	0.565	1.52	4,071	*[58.1]*	8,613	*[123]*	**N/A**	**Report**
	Benzene	0.951	3.50	1,796	*[25.6]*	3,800	*[54.2]*	**N/A**	**Report**
	Benzo(*a*)anthracene	0.565	1.52	0.0771	*[0.00110]*	**0.1633**	*[0.00233]*	**N/A**	**Report**
	Benzo(*a*)pyrene	0.591	1.57	0.0077	*[0.000110]*	**0.0163**	*[0.000233]*	N/A	1.33
	3,4-Benzofluoranthene	0.591	1.57	-	-	-	-	**N/A**	**Report**
	Benzo(*k*)fluoranthene	0.565	1.52	-	-	-	-	**N/A**	**Report**
	Bis(2-Ethylhexyl) Phthalate	2.65	7.17	23.3	*[0.332]*	49.3	*[0.704]*	**N/A**	**Report**
	Carbon Tetrachloride	0.463	0.977	142	*[2.03]*	301	*[4.29]*	**N/A**	**Report**
	Chlorobenzene	0.386	0.720	8,461	*[121]*	17,900	*[255]*	**N/A**	**Report**
	Chloroethane	2.67	6.89	-	-	-	-	**N/A**	**Report**
	Chloroform	0.540	1.18	23,794	*[339]*	50,339	*[718]*	**N/A**	**Report**
	2-Chlorophenol	0.797	2.52	-	-	-	-	**N/A**	**Report**
	Chrysene	0.565	1.52	7.78	*[0.111]*	16.5	*[0.235]*	**N/A**	**Report**
	Di-n-Butyl Phthalate	0.694	1.47	286	*[4.07]*	604	*[8.62]*	**N/A**	**Report**
Outfall	*Pollutant*	*Technology-Based*		*Water Quality-Based*				*Existing Permit*	

[1] *Total residual chlorine effluent limitations at Outfall 001 and 009 were removed via major amendment per the existing permit issued January 19, 2018. The exclusion of total residual chlorine limits is continued in the draft permit.*

		Daily Avg	*Daily Max*	*Daily Avg*		*Daily Max*		*Daily Avg*	*Daily Max*
		lbs/day	*lbs/day*	*lbs/day*	*mg/L*	*lbs/day*	*mg/L*	*lbs/day*	*lbs/day*
001	1,2-Dichlorobenzene	1.98	4.19	10,198	*[145]*	21,576	*[308]*	**N/A**	**Report**
	1,3-Dichlorobenzene	0.797	1.13	1,839	*[26.2]*	3,891	*[55.5]*	**N/A**	**Report**
	1,4-Dichlorobenzene	0.386	0.720	N/A	*N/A*	N/A	*N/A*	**N/A**	**Report**
	1,1-Dichloroethane	0.565	1.52	-	-	-	-	**N/A**	**Report**
	1,2-Dichloroethane	1.75	5.42	1,125	*[16.1]*	2,381	*[33.9]*	**N/A**	**Report**
	1,1-Dichloroethylene	0.411	0.643	170,375	*[2,431]*	360,453	*[5,142]*	**N/A**	**Report**
	1,2-trans-Dichloroethylene	0.540	1.39	-	-	-	-	**N/A**	**Report**
	2,4-Dichlorophenol	1.00	2.88	-	-	-	-	**N/A**	**Report**
	1,2-Dichloropropane	3.93	5.91	801	*[11.4]*	1,694	*[24.2]*	**N/A**	**Report**
	1,3-Dichloropropylene	0.745	1.13	368	*[5.25]*	778	*[11.1]*	**N/A**	**Report**
	Diethyl Phthalate	2.08	5.22	-	-	-	-	**N/A**	**Report**
	2,4-Dimethylphenol	0.463	0.925	26,078	*[372]*	55,173	*[787]*	**N/A**	**Report**
	Dimethyl Phthalate	0.488	1.21	-	-	-	-	**N/A**	**Report**
	4,6-Dinitro-o-Cresol	2.01	7.12	-	-	-	-	**N/A**	**Report**
	2,4-Dinitrophenol	1.83	3.16	-	-	-	-	**N/A**	**Report**
	2,4-Dinitrotoluene	2.90	7.33	-	-	-	-	**N/A**	**Report**
	2,6-Dinitrotoluene	6.55	16.5	-	-	-	-	**N/A**	**Report**
	Ethylbenzene	0.822	2.78	5,771	*[82.3]*	12,210	*[174]*	**N/A**	**Report**
	Fluoranthene	0.643	1.75	-	-	-	-	**N/A**	**Report**
	Fluorene	0.565	1.52	-	-	-	-	**N/A**	**Report**
	Hexachlorobenzene	0.386	0.720	**0.00210**	*[0.0000299]*	**0.00444**	*[0.0000634]*	0.0084	0.0182
	Hexachlorobutadiene	0.514	1.26	0.680	*[0.0097]*	1.44	*[0.0205]*	**N/A**	**Report**
	Hexachloroethane	0.540	1.39	7.15	*[0.102]*	15.2	*[0.217]*	**N/A**	**Report**
	Methyl Chloride	2.21	4.88	-	-	-	-	**N/A**	**Report**
	Methylene Chloride	1.03	2.29	41,217	*[588]*	87,200	*[1,244]*	**N/A**	**Report**
	Naphthalene	0.565	1.52	-	-	-	-	**N/A**	**Report**
	Nitrobenzene	0.694	1.75	5,790	*[82.6]*	12,250	*[175]*	**N/A**	**Report**
	2-Nitrophenol	1.05	1.77	-	-	-	-	**N/A**	**Report**
	4-Nitrophenol	1.85	3.19	-	-	-	-	**N/A**	**Report**
	Phenanthrene	0.565	1.52	5.90	*[0.0842]*	12.5	*[0.178]*	**N/A**	**Report**
	Phenol	0.386	0.668	-	-	-	-	**N/A**	**Report**
	Pyrene	0.643	1.72	-	-	-	-	**N/A**	**Report**
	Tetrachloroethylene	0.565	1.44	866	*[12.3]*	1,831	*[26.1]*	**N/A**	**Report**
	Pollutant	*Technology-Based*		*Water Quality-Based*				*Existing Permit*	

Outfall		*Daily Avg*	*Daily Max*	*Daily Avg*		*Daily Avg*		*Daily Max*	*Daily Avg*
		lbs/day	*lbs/day*	*lbs/day*	*lbs/day*	*lbs/day*	*lbs/day*	*lbs/day*	*lbs/day*
001	Toluene	0.668	2.06	N/A	*N/A*	N/A	*N/A*	**N/A**	**Report**
	1,2,4-Trichlorobenzene	1.75	3.60	-	-	-	-	**N/A**	**Report**
	1,1,1-Trichloroethane	0.540	1.39	2,424,691	*[34,590]*	5,129,788	*[73,180]*	**N/A**	**Report**
	1,1,2-Trichloroethane	0.540	1.39	513	*[7.32]*	1,086	*[15.5]*	**N/A**	**Report**
	Trichloroethylene	0.540	1.39	222	*[3.17]*	470	*[6.71]*	**N/A**	**Report**
	Vinyl Chloride	2.67	6.89	51.0	*[0.727]*	108	*[1.54]*	**N/A**	**Report**
	Enterococci (CFU or MPN/100 mL)	N/A	N/A	168		500		**168**	**500**
	pH range (SU)	6.0-10.5		6.0-9.0				**6.0-9.0**	

Outfall	*Pollutant*	*Technology-Based*		*Water Quality-Based*				*Existing Permit*	
		Daily Avg	*Daily Max*	*Daily Avg*		*Daily Max*		*Daily Avg*	*Daily Max*
		lbs/day	*lbs/day*	*lbs/day*	*mg/L*	*lbs/day*	*mg/L*	*lbs/day*	*lbs/day*
009	Flow, MGD	Report	Report	Report		Report		**Report**	**Report**
	BOD_5	1,575	3,928					**Report**	**Report**
	TSS	5,698	17,036	-	-	-	-	**Report**	**Report**
	COD	Report	Report	-	-	-	-	**Report**	**Report**
	NH_3-N	-	-					**Report**	**Report**
	Total Residual Chlorine [1]	45.4	76.5					**N/A**	**N/A**
	Total Cyanide	207	584	-	-	-	-	**Report**	**Report**
	Free Cyanide	18.7	89.0	0.733	0.00878	1.54	*0.0185*	**N/A**	**0.647 (Report mg/L)**
	Copper, total	9.68	22.6	3.61	*0.0432*	7.63	*0.0914*	**N/A**	**3.18 (Report mg/L)**
	Nickel, total	11.3	26.6	12.2	*0.146*	25.9	*0.310*	**N/A**	**10.8 (Report mg/L)**
	Zinc, total	7.01	**17.4**	20.4	*0.245*	43.4	*0.520*	**N/A**	18.1 **(Report mg/L)**
	Acenaphthene	0.565	1.52	-	-	-	-	**N/A**	**Report**
	Acenaphthylene	0.565	1.52	-	-	-	-	**N/A**	**Report**
	Acrylonitrile	2.47	6.22	262	*3.144*	555	*6.652*	**N/A**	**Report**
	Anthracene	0.565	1.52	3,005	*36.0*	6,357	*76.2*	**N/A**	**Report**
	Benzene	0.951	3.50	1,326	*15.9*	2,805	*33.6*	**N/A**	**Report**
009	Benzo(*a*)anthracene	0.565	1.52	0.057	*0.000683*	**0.120**	*0.00144*	**N/A**	1.36 **(Report mg/L)**

Outfall	*Pollutant*	*Technology-Based*		*Water Quality-Based*				*Existing Permit*	
		Daily Avg	*Daily Max*	*Daily Avg*		*Daily Max*		*Daily Avg*	*Daily Max*
		lbs/day	*lbs/day*	*lbs/day*	*mg/L*	*lbs/day*	*mg/L*	*lbs/day*	*lbs/day*
	Benzo(*a*)pyrene	0.591	1.57	0.0057	*0.0000683*	**0.0120**	*0.000144*	**N/A**	0.831 **(Report mg/L)**
	3,4-Benzofluoranthene	0.591	1.57	-	-	-	-	**N/A**	**Report**
	Benzo(*k*)fluoranthene	0.565	1.52	-	-	-	-	**N/A**	**Report**
	Bis(2-Ethylhexyl) Phthalate	2.65	7.17	17.2	*0.206*	36.4	*0.436*	**N/A**	**Report**
	Carbon Tetrachloride	0.463	0.977	105	*1.26*	222	*2.66*	**N/A**	**Report**
	Chlorobenzene	0.386	0.720	6,245	*75*	13,212	*158*	**N/A**	**Report**
	Chloroethane	2.67	6.89	-	-	-	-	**N/A**	**Report**
	Chloroform	0.540	1.18	17,562	*210*	37,155	*445*	**N/A**	**Report**
	2-Chlorophenol	0.797	2.52	-	-	-	-	**N/A**	**Report**
	Chrysene	0.565	1.52	5.75	*0.069*	12.1	*0.145*	**N/A**	**Report**
	Di-n-Butyl Phthalate	0.694	1.47	211	*2.53*	446	*5.34*	**N/A**	**Report**
	1,2-Dichlorobenzene	1.98	4.19	7,527	*90.2*	15,925	*191*	**N/A**	**Report**
	1,3-Dichlorobenzene	0.797	1.13	1,358	*16.3*	2,872	*34.4*	**N/A**	**Report**
	1,4-Dichlorobenzene	0.386	0.720	N/A	*N/A*	N/A	*N/A*	**N/A**	**Report**
	1,1-Dichloroethane	0.565	1.52	-	-	-	-	**N/A**	**Report**
	1,2-Dichloroethane	1.75	5.42	830	*9.52*	1,757	*21.1*	**N/A**	**Report**
	1,1-Dichloroethylene	0.411	0.643	125,753	*1,507*	266,049	*3,188*	**N/A**	**Report**
	1,2-trans-Dichloroethylene	0.540	1.39	-	-	-	-	**N/A**	**Report**
	2,4-Dichlorophenol	1.00	2.88	-	-	-	-	**N/A**	**Report**
	1,2-Dichloropropane	3.93	5.91	591	*7.08*	1,250	*14.9*	**N/A**	**Report**
	1,3-Dichloropropylene	0.745	1.13	271	*3.25*	574	*6.88*	**N/A**	**Report**
	Diethyl Phthalate	2.08	5.22	-	-	-	-	**N/A**	**Report**
	2,4-Dimethylphenol	0.463	0.925	19,248	*231*	40,723	*488*	**N/A**	**Report**
	Dimethyl Phthalate	0.488	1.21	-	-	-	-	**N/A**	**Report**
	4,6-Dinitro-o-Cresol	2.01	7.12	-	-	-	-	**N/A**	**Report**
	2,4-Dinitrophenol	1.83	3.16	-	-	-	-	**N/A**	**Report**
	2,4-Dinitrotoluene	2.90	7.33	-	-	-	-	**N/A**	**Report**
	2,6-Dinitrotoluene	6.55	16.5	-	-	-	-	**N/A**	**Report**
	Ethylbenzene	0.822	2.78	4,260	*51.0*	9,012	*108*	**N/A**	**Report**
	Fluoranthene	0.643	1.75	-	-	-	-	**N/A**	**Report**
009	Fluorene	0.565	1.52	-	-	-	-	**N/A**	**Report**

Outfall	*Pollutant*	*Technology-Based*		*Water Quality-Based*				*Existing Permit*	
		Daily Avg	*Daily Max*	*Daily Avg*		*Daily Max*		*Daily Avg*	*Daily Max*
		lbs/day	*lbs/day*	*lbs/day*	*mg/L*	*lbs/day*	*mg/L*	*lbs/day*	*lbs/day*
	Hexachlorobenzene	0.386	0.720	0.0015	*0.0185*	**0.0033**	*0.0393*	**N/A**	0.0113 (Report mg/L)
	Hexachlorobutadiene	0.514	1.26	0.5015	*6.01*	**1.06**	*0.0127*	**N/A**	**Report**
	Hexachloroethane	0.540	1.39	5.32	*63.7*	11.2	*134*	**N/A**	**Report**
	Methyl Chloride	2.21	4.88	-	-	-	-	**N/A**	**Report**
	Methylene Chloride	1.03	2.29	30,422	*365*	64,362	*771*	**N/A**	**Report**
	Naphthalene	0.565	1.52	-	-	-	-	**N/A**	**Report**
	Nitrobenzene	0.694	1.75	4,274	*51.2*	9,041	*108*	**N/A**	**Report**
	2-Nitrophenol	1.05	1.77	-	-	-	-	**N/A**	**Report**
	4-Nitrophenol	1.85	3.19	-	-	-	-	**N/A**	**Report**
	Phenanthrene	0.565	1.52	1.00	*0.012*	2.13	*0.026*	**N/A**	**0.890 (Report mg/L)**
	Phenol	0.386	0.668	-	-	-	-	**N/A**	**Report**
	Pyrene	0.643	1.72	-	-	-	-	**N/A**	**Report**
	Tetrachloroethylene	0.565	1.44	639	*7.66*	1,352	*16.2*	**N/A**	**Report**
	Toluene	0.668	2.06	N/A	*N/A*	N/A	*N/A*	**N/A**	**Report**
	1,2,4-Trichlorobenzene	1.75	3.60	-	-	-	-	**N/A**	**Report**
	1,1,1-Trichloroethane	0.540	1.39	1,789,653	*21,446*	3,786,272	*45,372*	**N/A**	**Report**
	1,1,2-Trichloroethane	0.540	1.39	379	*4.54*	801	*9.60*	**N/A**	**Report**
	Trichloroethylene	0.540	1.39	164	*1.97*	347	*4.16*	**N/A**	**Report**
	Vinyl Chloride	2.67	6.89	37.6	*0.451*	79.6	*0.954*	**N/A**	**Report**
	pH range (SU)	6.0-10.5		6.0-9.0				**6.0- 9.0**	

Outfall	*Pollutant*	*Technology-Based*		*Existing Permit*	
		Daily Avg	*Daily Max*	*Daily Avg*	*Daily Max*
		lbs/day	*lbs/day*	*lbs/day*	*lbs/day*
010	BOD_5	**1,575**	**3,928**	1,033	2,766
	TSS	**5,698**	**17,036**	4,577	13,690
	COD	**14,020**	**28,040**	14,000	28,000
	Total Cyanide	**207**	**584**	161	455
	Free Cyanide [1]	18.7	89.0	**N/A**	**N/A**
	Copper, total [1]	9.68	22.6	**N/A**	**N/A**
	Nickel, total [1]	11.3	26.6	**N/A**	**N/A**
	Zinc, total [1]	7.01	17.4	**N/A**	**N/A**
	Acenaphthene	**0.565**	**1.52**	0.581	1.55
	Acenaphthylene	**0.565**	**1.52**	0.581	1.55
	Acrylonitrile	**2.47**	**6.22**	2.53	6.39
	Anthracene	**0.565**	**1.52**	0.581	1.55
	Benzene	**0.951**	**3.50**	0.978	3.59
	Benzo(*a*)anthracene [1]	**N/A**	**N/A**	0.581	1.55
	Benzo(*a*)pyrene [1]	**N/A**	**N/A**	0.608	1.61
	3,4-Benzofluoranthene	**0.591**	**1.57**	0.608	1.61
	Benzo(*k*)fluoranthene	**0.565**	**1.52**	0.581	1.55
	Bis(2-Ethylhexyl) Phthalate	**2.65**	**7.17**	2.72	7.37
	Carbon Tetrachloride	**0.463**	**0.977**	0.476	1.00
	Chlorobenzene	**0.386**	**0.720**	0.396	0.740
	Chloroethane	**2.67**	**6.89**	2.74	7.08
	Chloroform	**0.540**	**1.18**	0.555	1.21
	2-Chlorophenol	**0.797**	**2.52**	0.819	2.58
	Chrysene	**0.565**	**1.52**	0.581	1.55
	Di-n-Butyl Phthalate	**0.694**	**1.47**	0.713	1.50
	1,2-Dichlorobenzene	**1.98**	**4.19**	2.03	4.30
	1,3-Dichlorobenzene	**0.797**	**1.13**	0.819	1.16
	1,4-Dichlorobenzene	**0.386**	**0.720**	0.396	0.740
	1,1-Dichloroethane	**0.565**	**1.52**	0.581	1.55

[1] This pollutant is not limited at summation Outfall 010 because the appropriate water quality-based effluent limit is applied at the physical discharge points via Outfalls 001 and 009.

Outfall	Pollutant	*Technology-Based*		*Existing Permit*	
		Daily Avg	*Daily Max*	*Daily Avg*	*Daily Max*
		lbs/day	*lbs/day*	*lbs/day*	*lbs/day*
010	1,2-Dichloroethane	**1.75**	**5.42**	1.79	5.57
	1,1-Dichloroethylene	**0.411**	**0.643**	0.423	0.661
	1,2-trans-Dichloroethylene	**0.540**	**1.39**	0.555	1.42
	2,4-Dichlorophenol	**1.00**	**2.88**	1.03	2.95
	1,2-Dichloropropane	**3.93**	**5.91**	4.04	6.07
	1,3-Dichloropropylene	**0.745**	**1.13**	0.766	1.16
	Diethyl Phthalate	**2.08**	**5.22**	2.14	5.36
	2,4-Dimethylphenol	**0.463**	**0.925**	0.476	0.951
	Dimethyl Phthalate	**0.488**	**1.21**	0.502	1.24
	4,6-Dinitro-o-Cresol	**2.01**	**7.12**	2.06	7.31
	2,4-Dinitrophenol	**1.83**	**3.16**	1.87	3.25
	2,4-Dinitrotoluene	**2.90**	**7.33**	2.98	7.53
	2,6-Dinitrotoluene	**6.55**	**16.5**	6.73	16.9
	Ethylbenzene	**0.822**	**2.78**	0.845	2.85
	Fluoranthene	**0.643**	**1.75**	0.661	1.79
	Fluorene	**0.565**	**1.52**	0.581	1.55
	Hexachlorobenzene [1]	**N/A**	**N/A**	0.528	1.29
	Hexachlorobutadiene	**0.514**	**1.26**	0.555	1.42
	Hexachloroethane	**0.540**	**1.39**	2.27	5.02
	Methyl Chloride	**2.21**	**4.88**	1.05	2.35
	Methylene Chloride	**1.03**	**2.29**	0.581	1.55
	Naphthalene	**0.565**	**1.52**	0.713	1.79
	Nitrobenzene	**0.694**	**1.75**	1.08	1.82
	2-Nitrophenol	**1.05**	**1.77**	1.79	5.57
	4-Nitrophenol	**1.85**	**3.19**	1.90	3.27
	Phenanthrene	**0.565**	**1.52**	0.581	1.55
	Phenol	**0.386**	**0.668**	0.396	0.687
	Pyrene	**0.643**	**1.72**	0.661	1.77
	Tetrachloroethylene	**0.565**	**1.44**	0.581	1.48
	Toluene	**0.668**	**2.06**	0.687	2.11
	1,2,4-Trichlorobenzene	**1.75**	**3.60**	1.79	3.69
	1,1,1-Trichloroethane	**0.540**	**1.39**	0.555	1.42
	1,1,2-Trichloroethane	**0.540**	**1.39**	0.555	1.42

Outfall	Pollutant	*Technology-Based*		*Existing Permit*	
		Daily Avg	*Daily Max*	*Daily Avg*	*Daily Max*
		lbs/day	*lbs/day*	*lbs/day*	*lbs/day*
010	Trichloroethylene	**0.540**	**1.39**	0.555	1.42
	Vinyl Chloride	**2.67**	**6.89**	2.74	7.08
	pH in SU	6.0 - 10.5		**6.0 - 9.0**	

Outfall	*Pollutant*	*Technology-Based*		*Water Quality-Based*				*Existing Permit*	
		Daily Avg	*Daily Max*	*Daily Avg*		*Daily Max*		*Daily Avg*	*Daily Max*
		lbs/day	*lbs/day*	*lbs/day*	*mg/L*	*lbs/day*	*mg/L*	*lbs/day*	*lbs/day*
011	Flow, MGD	Report	Report	Report		Report		**2.5**	**4.2**
	BOD_5	548	1,459	289	-	-	-	**289**	**752**
	TSS	778	2,471	-	-	-	-	**530**	**1,631**
	COD	**2,983**	**5,988**	-	-	-	-	3,000	6,000
	NH_3-N	-	-	-	-	-	-	**Report**	**Report**
	Oil and Grease	N/A	N/A	-	-	-	-	**N/A**	**Report**
	Free Cyanide	N/A	N/A	0.183	*[0.00878]*	**0.386**	*[0.0185]*	**0.183**	0.387
	Copper, total	11.2	26.2	**0.901**	*[0.0432]*	**1.91**	*[0.0914]*	N/A	N/A
	Nickel, total	13.1	30.8	**3.05**	*[0.146]*	**6.47**	*[0.310]*	N/A	N/A
	Acenaphthene	0.318	0.852	-	-	-	-	**0.198**	**0.531**
	Acenaphthylene	0.318	0.852	-	-	-	-	**0.198**	**0.531**
	Acrylonitrile	1.39	3.49	82.0	*[3.93]*	173	*[8.32]*	**0.865**	**2.18**
	Anthracene	0.318	0.852	939	*[45.0]*	1,987	*[95.2]*	**0.198**	**0.531**
	Benzene	0.534	1.96	414	*[19.9]*	876	*[42.0]*	**0.333**	**1.22**
	Benzo(*a*)anthracene	0.318	0.852	**0.0178**	*[0.000854]*	**0.0376**	*[0.00180]*	0.198	0.531
	Benzo(*a*)pyrene	0.332	0.881	**0.0018**	*[0.000085]*	**0.0038**	*[0.00018]*	0.207	0.497
	3,4-Benzofluoranthene	0.332	0.881	-	-	-	-	**0.207**	**0.549**
	Benzo(*k*)fluoranthene	0.318	0.852	-	-	-	-	**0.198**	**0.531**
	Bis(2-Ethylhexyl) Phthalate	1.49	4.03	5.38	*[0.258]*	11.4	*[0.545]*	**0.928**	**2.51**
	Carbon Tetrachloride	0.260	0.549	32.8	*[1.57]*	69.4	*[3.3]*	**0.162**	**0.342**
	Chlorobenzene	0.217	0.404	1,952	*[93.5]*	4,129	*[198]*	**0.135**	**0.252**
	Chloroethane	1.50	3.87	-	-	-	-	**0.937**	**2.41**
	Chloroform	0.303	0.664	5,488	*[263]*	11,611	*[557]*	**0.189**	**0.414**
	2-Chlorophenol	0.448	1.42	-	-	-	-	**0.279**	**0.883**
	Chrysene	0.318	0.852	1.80	*[0.086]*	3.80	*[0.182]*	**0.198**	**0.531**
	Di-n-Butyl Phthalate	0.390	0.823	65.9	*[3.16]*	139	*[6.68]*	**0.243**	**0.513**

Outfall	*Pollutant*	*Technology-Based*		*Water Quality-Based*				*Existing Permit*	
		Daily Avg	*Daily Max*	*Daily Avg*		*Daily Max*		*Daily Avg*	*Daily Max*
		lbs/day	*lbs/day*	*lbs/day*	*mg/L*	*lbs/day*	*mg/L*	*lbs/day*	*lbs/day*
011	1,2-Dichlorobenzene	1.11	2.35	2,352	*[113]*	4,977	*[239]*	**0.694**	**1.46**
	1,3-Dichlorobenzene	0.448	0.635	424	*[20.3]*	898	*[43.0]*	**0.279**	**0.396**
	1,4-Dichlorobenzene	0.217	0.404	N/A	*[N/A]*	N/A	*[N/A]*	**0.135**	**0.252**
	1,1-Dichloroethane	0.318	0.852	-	-	-	-	**0.198**	**0.531**
	1,2-Dichloroethane	0.982	3.046	260	*[12.4]*	549	*[26.3]*	**0.612**	**1.90**
	1,1-Dichloroethylene	0.231	0.361	39,298	*[1,884]*	83,140	*[3,985]*	**0.144**	**0.225**
	1,2-trans-Dichloroethylene	0.303	0.780	-	-	-	-	**0.189**	**0.486**
	2,4-Dichlorophenol	0.563	1.617	-	-	-	-	**0.351**	**1.00**
	1,2-Dichloropropane	2.21	3.32	185	*[8.85]*	391	*[18.7]*	**1.37**	**2.07**
	1,3-Dichloropropylene	0.419	0.635	84.8	*[4.07]*	180	*[8.60]*	**0.261**	**0.396**
	Diethyl Phthalate	1.17	2.93	-	-	-	-	**0.730**	**1.82**
	2,4-Dimethylphenol	0.260	0.520	6,015	*[288]*	12,726	*[610]*	**0.162**	**0.324**
	Dimethyl Phthalate	0.274	0.679	-	-	-	-	**0.171**	**0.423**
	4,6-Dinitro-o-Cresol	1.13	3.99	-	-	-	-	**0.703**	**2.49**
	2,4-Dinitrophenol	1.03	1.78	-	-	-	-	**0.640**	**1.10**
	2,4-Dinitrotoluene	1.63	4.12	-	-	-	-	**1.01**	**2.56**
	2,6-Dinitrotoluene	3.68	9.25	-	-	-	-	**2.29**	**5.77**
	Ethylbenzene	0.462	1.56	1,331	*[63.8]*	2,816	*[135]*	**0.288**	**0.973**
	Fluoranthene	0.361	0.982	-	-	-	-	**0.225**	**0.612**
	Fluorene	0.318	0.852	-	-	-	-	**0.198**	**0.531**
	Hexachlorobenzene	0.217	0.404	**0.0005**	*[0.000023]*	**0.0010**	*[0.000049]*	0.0032	0.0067
	Hexachlorobutadiene	0.289	0.707	**0.157**	*[0.00751]*	**0.332**	*[0.0159]*	0.180	0.441
	Hexachloroethane	0.303	0.780	1.66	*[0.0796]*	3.50	*[0.168]*	**0.189**	**0.486**
	Methyl Chloride	1.24	2.74	-	-	-	-	**0.775**	**1.71**
	Methylene Chloride	0.577	1.29	9,507	*[456]*	20,113	*[964]*	**0.360**	**0.802**
	Naphthalene	0.318	0.852	-	-	-	-	**0.198**	**0.531**
	Nitrobenzene	0.390	0.982	1,335	*[64.0]*	2,825	*[135]*	**0.243**	**0.612**
	2-Nitrophenol	0.592	0.996	-	-	-	-	**0.369**	**0.622**
	4-Nitrophenol	1.04	1.79	-	-	-	-	**0.649**	**1.11**
	Phenanthrene	0.318	0.852	0.250	*[0.012]*	0.532	*[0.026]*	**0.198**	**0.531**
	Phenol	0.217	0.375	-	-	-	-	**0.135**	**0.234**
	Pyrene	0.361	0.967	-	-	-	-	**0.225**	**0.603**
	Tetrachloroethylene	0.318	0.808	200	*[9.57]*	422	*[20.2]*	**0.198**	**0.504**
	Toluene	0.375	1.16	0.542	*[0.026]*	1.67	*[0.080]*	**0.234**	**0.721**

Outfall	*Pollutant*	*Technology-Based*		*Water Quality-Based*				*Existing Permit*	
		Daily Avg	*Daily Max*	*Daily Avg*		*Daily Max*		*Daily Avg*	*Daily Max*
		lbs/day	*lbs/day*	*lbs/day*	*mg/L*	*lbs/day*	*mg/L*	*lbs/day*	*lbs/day*
011	1,2,4-Trichlorobenzene	0.982	2.02	-	-	-	-	**0.612**	**1.26**
	1,1,1-Trichloroethane	0.303	0.780	559,266	*[26,807]*	1,183,210	*[56,715]*	**0.189**	**0.486**
	1,1,2-Trichloroethane	0.303	0.780	118	*[5.673]*	250	*[12.0]*	**0.189**	**0.486**
	Trichloroethylene	0.303	0.780	51.3	*2.46*	108	*[5.20]*	**0.189**	**0.486**
	Vinyl Chloride	1.50	3.87	11.7	*0.563*	24.9	*[1.19]*	**0.937**	**2.41**
	Enterococci (CFU or MPN/100 mL)	N/A	N/A	168		500		**(168)**	**(500)**
	pH range (SU)	6.0-10.5		6.0-9.0				**6.0- 9.0**	

Appendix E
Calculations of Single Grab Limits

The column labeled "Single Grab Method" in the table below refers to an explanation of how the single grab limit was calculated for each pollutant. The single grab limit included in the draft permit is shown in bold type. For pollutants with technology-based permit limits in accordance with 40 CFR Part 414, the calculated single grab limit is flow-weighted. For pollutants with water quality-based limits, the calculated single grab limit is the daily maximum concentration times a factor of two.

Note	Single grab limit =
A	$\frac{\text{Daily Avg (lbs/day)}}{\text{Flow MGD} \times 8.345} \times 3$ = Daily Avg (mg/L) × 3
B	$\frac{\text{Daily Max (lbs/day)}}{\text{Flow MGD} \times 8.345} \times 2$ = Daily Max (mg/L) × 2
C	$\frac{\text{Daily Max (lbs/day)}}{\text{Process flow MGD} \times 8.345} \times \frac{3.08 \text{ MGD}}{\text{Flow MGD}} \times 1.5$ = Daily Max (mg/L) × $\frac{\text{Process flow MGD}}{\text{Flow MGD}} \times 1.5$
D	$\frac{\text{Daily Max (lbs/day)}}{\text{Flow MGD} \times 8.345}$ = Daily Max (mg/L) [when sample type is grab]
E	Minimum analytical level (MAL)

Pollutant (Outfall 001)	Daily Average		Daily Maximum		Calculated Single Grab	Single Grab Method	Existing Single Grab	*MAL*
	lbs/day	*mg/L*	*lbs/day*	*mg/L*	*mg/L*		*mg/L*	*mg/L*
BOD_5	1,575	*22.5*	3,928	*56.0*	112		**77**	-
Ammonia Nitrogen	1,116	*12.3*	2,224	*24.5*	49		**44**	
TSS	5,698	*81.3*	17,036	*243*	486		**160**	-
COD	14,020	*200*	28,040	*400*	800		**600**	-
Copper, total	9.68	*0.138*	22.6	*0.322*	0.483	C	**0.422**	0.002
Cyanide, total	207	*2.953*	584	*8.33*	**8.33**	**D**	4.84	
Cyanide, free	4.29	*0.061*	9.04	*0.129*	**0.129**	**D**	0.0857	0.002
Nickel, Total	11.3	*0.161*	26.6	*0.379*	**0.569**	C	0.828	0.002
Zinc, total [1]	120	*1.72*	254	*3.63*	7.26	B	**2.40**	0.005
Acenaphthene	0.565	-	1.516	-	**0.0325**	C	0.0333	0.01
Acenaphthylene	0.565	-	1.516	-	**0.0325**	C	0.0330	0.01
Acrylonitrile	2.467	-	6.220	-	**0.133**	C	0.1370	0.05
Anthracene	0.565	-	1.516	-	**0.0325**	C	0.0333	0.01
Benzene	0.951	-	3.496	-	**0.0748**	C	0.7670	0.01
Benzo(*a*)anthracene [20]	0.077	0.0011	0.1633	0.0023	0.0046	E	0.0333	**0.005**

[20] Water quality-based daily maximum concentration was used in calculating the single grab limit.

Pollutant (Outfall 001)	**Daily Average**		**Daily Maximum**		**Calculated Single Grab**	**Single Grab Method**	**Existing Single Grab**	***MAL***
	lbs/day	***mg/L***	***lbs/day***	***mg/L***	***mg/L***		***mg/L***	***mg/L***
3,4-Benzofluoranthene	0.591		1.57		**0.0336**	C	0.0348	0.01
Benzo(*k*)fluoranthene	0.565		1.52		**0.0325**	C	0.0333	0.005
Benzo(*a*)pyrene [1]	0.0077	0.00011	0.0163	0.0002	0.0004	E	0.0287	**0.005**
Bis(2-ethylhexyl) phthalate	2.647	-	7.171	-	**0.153**	C	0.1570	0.01
Carbon Tetrachloride	0.463	-	0.977	-	**0.0209**	C	0.0213	0.002
Chlorobenzene	0.386	-	0.720	-	**0.0154**	C	0.0156	0.01
Chloroethane	2.673	-	6.888	-	**0.147**	C	0.1510	0.05
Chloroform	0.540	-	1.182	-	**0.0253**	C	0.0262	0.01
2-Chlorophenol	0.797	-	2.519	-	**0.0539**	C	0.0554	0.01
Chrysene	0.565	-	1.516	-	**0.0325**	C	0.0333	0.005
Di-*n*-butyl phthalate	0.694	-	1.465	-	**0.0314**	C	0.0319	0.01
1,2-Dichlorobenzene	1.979	-	4.190	-	**0.0897**	C	0.0923	0.01
1,3-Dichlorobenzene	0.797	-	1.131	-	**0.0242**	C	0.0248	0.01
1,4-Dichlorobenzene	0.386	-	0.720	-	**0.0154**	C	0.0156	0.01
1,1-Dichloroethane	0.565	-	1.516	-	**0.0325**	C	0.0333	0.01
1,2-Dichloroethane	1.748	-	5.423	-	**0.116**	C	0.1190	0.01
1,1-Dichloroethylene	0.411	-	0.643	-	**0.0138**	C	0.0142	0.01
1,2-*trans* Dichloroethylene	0.540	-	1.388	-	**0.0297**	C	0.0305	0.01
2,4-Dichlorophenol	1.002	-	2.879	-	**0.0616**	C	0.0632	0.01
1,2-Dichloropropane	3.932	-	5.912	-	**0.127**	C	0.1300	0.01
1,3-Dichloropropylene	0.745	-	1.131	-	**0.0242**	C	0.0248	0.01
Diethyl phthalate	2.082	-	5.218	-	0.112	C	**0.0115**	0.01
2,4-Dimethylphenol	0.463	-	0.925	-	**0.0198**	C	0.0206	0.01
Dimethyl phthalate	0.488	-	1.208	-	**0.0259**	C	0.0262	0.01
4,6-Dinitro-o-cresol	2.005	-	7.120	-	0.152	C	**0.152**	0.05
2,4-Dinitrophenol	1.825	-	3.161	-	**0.0677**	C	0.0696	0.05
2,4-Dinitrotoluene	2.904	-	7.325	-	**0.157**	C	0.161	0.01
2,6-Dinitrotoluene	6.554	-	16.475	-	**0.353**	C	0.362	0.01
Ethylbenzene	0.822	-	2.776	-	**0.0594**	C	0.0611	0.01
Fluoranthene	0.643	-	1.748	-	**0.0374**	C	0.0383	0.01
Fluorene	0.565	-	1.516	-	**0.0325**	C	0.0333	0.01
Hexachlorobenzene [1]	0.0021	2.99E-05	0.00444	6.34E-05	0.00013	E	0.0005	**0.005**
Hexachlorobutadiene	0.514	-	1.259	-	**0.0270**	C	0.0277	0.01
Hexachloroethane	0.540	-	1.388	-	**0.0297**	C	0.0305	0.02
Methyl Chloride	2.210	-	4.883	-	**0.105**	C	0.107	0.05
Methylene Chloride	1.028	-	2.288	-	**0.0490**	C	0.0504	0.02
Naphthalene	0.565	-	1.516	-	**0.0325**	C	0.0333	0.01
Nitrobenzene	0.694	-	1.748	-	**0.0374**	C	0.0383	0.01
2-Nitrophenol	1.054	-	1.773	-	**0.0380**	C	0.039	0.02
4-Nitrophenol	1.851	-	3.187	-	**0.0682**	C	0.0703	0.05

Pollutant (Outfall 001)	**Daily Average**		**Daily Maximum**		**Calculated Single Grab**	**Single Grab Method**	**Existing Single Grab**	***MAL***
	lbs/day	***mg/L***	***lbs/day***	***mg/L***	***mg/L***		***mg/L***	***mg/L***
Phenanthrene	0.565	-	1.516	-	**0.0325**	C	0.0333	0.01
Phenol	0.386	-	0.668	-	**0.0143**	C	0.0149	0.01
Pyrene	0.643	-	1.722	-	**0.0369**	C	0.0376	0.01
Tetrachloroethylene	0.565	-	1.439	-	**0.0308**	C	0.0319	0.01
Toluene	0.668	-	2.056	-	**0.0440**	C	0.0454	0.01
1,2,4-Trichlorobenzene	1.748	-	3.598	-	**0.0770**	C	0.0788	0.01
1,1,1-Trichloroethane	0.540	-	1.388	-	**0.0297**	C	0.0305	0.01
1,1,2-Trichloroethane	0.540	-	1.388	-	**0.0297**	C	0.0305	0.01
Trichloroethylene	0.540	-	1.388	-	**0.0297**	C	0.0305	0.01
Vinyl Chloride	2.673	-	6.888	-	**0.147**	C	0.151	0.01

Pollutant (Outfall 009)	**Daily Average**		**Daily Maximum**		**Calculated Single Grab**	**Single Grab Method**	**Existing Single Grab**	***MAL***
	lbs/day	***mg/L***	***lbs/day***	***mg/L***	***mg/L***		***mg/L***	***mg/L***
BOD_5	1,575	*22.5*	3,928	*56.0*	79		**77**	-
Ammonia Nitrogen	1,116	*12.3*	2,224	*24.5*	49		**44**	
TSS	5,698	*81.3*	17,036	*243*	244		**N/A**	-
COD	14,020	*200*	28,040	*400*	800		**600**	-
Copper, total	N/A	-	3.18	*0.0454*	**0.091**		0.182	0.002
Cyanide, total	207	*2.95*	584	*8.33*	**8.33**	**D**	9.73	
Cyanide, free	N/A	-	0.647	*0.009*	**0.009**	D	0.0371	0.002
Nickel, Total	N/A	-	10.8	*0.154*	**0.308**	B	0.621	0.002
Zinc, total	N/A	-	17.4	*0.248*	**0.496**	B	1.04	0.005
Acenaphthene	0.565	-	1.516	-	**0.0325**	C	0.0333	0.01
Acenaphthylene	0.565	-	1.516	-	**0.0325**	C	0.0330	0.01
Acrylonitrile	2.467	-	6.220	-	**0.133**	C	0.1370	0.05
Anthracene	0.565	-	1.516	-	**0.0325**	C	0.0333	0.01
Benzene	0.951	-	3.496	-	**0.0748**	C	0.7670	0.01
Benzo(*a*)anthracene [1]	N/A	-	0.12	0.0014	0.0029	E	0.0781	**0.005**
3,4-Benzofluoranthene	0.591		1.57		**0.0336**	C	0.0348	0.01
Benzo(*k*)fluoranthene	0.565		1.52		**0.0325**	C	0.0333	0.005
Benzo(*a*)pyrene [1]	N/A	-	0.012	0.00014	0.0003	E	0.0781	**0.005**
Bis(2-ethylhexyl) phthalate	2.65	-	7.171	-	**0.153**	C	0.1570	0.01
Carbon Tetrachloride	0.463	-	0.977	-	**0.0209**	C	0.0213	0.002
Chlorobenzene	0.386	-	0.720	-	**0.0154**	C	0.0156	0.01
Chloroethane	2.67	-	6.888	-	**0.147**	C	0.1510	0.05
Chloroform	0.540	-	1.182	-	**0.0253**	C	0.0262	0.01
2-Chlorophenol	0.797	-	2.519	-	**0.0539**	C	0.0554	0.01

Pollutant (Outfall 009)	Daily Average		Daily Maximum		Calculated Single Grab	Single Grab Method	Existing Single Grab	*MAL*
	lbs/day	*mg/L*	*lbs/day*	*mg/L*	*mg/L*		*mg/L*	*mg/L*
Chrysene	0.565	-	1.516	-	**0.0325**	C	0.0333	0.005
Di-n-butyl phthalate	0.694	-	1.465	-	**0.0314**	C	0.0319	0.01
1,2-Dichlorobenzene	1.98	-	4.190	-	**0.0897**	C	0.0923	0.01
1,3-Dichlorobenzene	0.797	-	1.131	-	**0.0242**	C	0.0248	0.01
1,4-Dichlorobenzene	0.386	-	0.720	-	**0.0154**	C	0.0156	0.01
1,1-Dichloroethane	0.565	-	1.516	-	**0.0325**	C	0.0333	0.01
1,2-Dichloroethane	1.75	-	5.42	-	**0.116**	C	0.1190	0.01
1,1-Dichloroethylene	0.411	-	0.643	-	**0.0138**	C	0.0142	0.01
1,2-trans Dichloroethylene	0.540	-	1.39	-	**0.0297**	C	0.0305	0.01
2,4-Dichlorophenol	1.00	-	2.88	-	**0.0616**	C	0.0632	0.01
1,2-Dichloropropane	3.93	-	5.91	-	**0.127**	C	0.1300	0.01
1,3-Dichloropropylene	0.745	-	1.13	-	**0.0242**	C	0.0248	0.01
Diethyl phthalate	2.08	-	5.22	-	0.112	D	**0.0115**	0.01
2,4-Dimethylphenol	0.463	-	0.925	-	**0.0198**	C	0.0206	0.01
Dimethyl phthalate	0.488	-	1.21	-	**0.0259**	C	0.0262	0.01
4,6-Dinitro-o-cresol	2.01	-	7.12	-	0.152	C	**0.152**	0.05
2,4-Dinitrophenol	1.83	-	3.16	-	**0.0677**	C	0.0696	0.05
2,4-Dinitrotoluene	2.90	-	7.33	-	**0.157**	C	0.161	0.01
2,6-Dinitrotoluene	6.55	-	16.5	-	**0.353**	C	0.362	0.01
Ethylbenzene	0.822	-	2.78	-	**0.0594**	C	0.0611	0.01
Fluoranthene	0.643	-	1.75	-	**0.0374**	C	0.0383	0.01
Fluorene	0.565	-	1.52	-	**0.0325**	C	0.0333	0.01
Hexachlorobenzene [1]	N/A	-	0.0033	0.0393	0.0786	E	0.0005	**0.005**
Hexachlorobutadiene [1]	N/A	-	1.06	0.0127	**0.0254**	C	0.0277	0.01
Hexachloroethane	0.540	-	1.39	-	**0.0297**	C	0.0305	0.02
Methyl Chloride	2.21	-	4.88	-	**0.105**	C	0.107	0.05
Methylene Chloride	1.03	-	2.29	-	**0.0490**	C	0.0504	0.02
Naphthalene	0.565	-	1.52	-	**0.0325**	C	0.0333	0.01
Nitrobenzene	0.694	-	1.75	-	**0.0374**	C	0.0383	0.01
2-Nitrophenol	1.05	-	1.77	-	**0.0380**	C	0.039	0.02
4-Nitrophenol	1.85	-	3.19	-	**0.0682**	C	0.0703	0.05
Phenanthrene	0.565	-	1.52	-	**0.0325**	C	0.051	0.01
Phenol	0.386	-	0.668	-	**0.0143**	C	0.0149	0.01
Pyrene	0.643	-	1.72	-	**0.0369**	C	0.0376	0.01
Tetrachloroethylene	0.565	-	1.44	-	**0.0308**	C	0.0319	0.01
Toluene	0.668	-	2.06	-	**0.0440**	C	0.0454	0.01
1,2,4-Trichlorobenzene	1.75	-	3.60	-	**0.0770**	C	0.0788	0.01
1,1,1-Trichloroethane	0.540	-	1.39	-	**0.0297**	C	0.0305	0.01
1,1,2-Trichloroethane	0.540	-	1.39	-	**0.0297**	C	0.0305	0.01
Trichloroethylene	0.540	-	1.39	-	**0.0297**	C	0.0305	0.01
Vinyl Chloride	2.67	-	6.89	-	**0.147**	C	0.151	0.01

Pollutant (Outfall 011)	**Daily Average**		**Daily Maximum**		**Calculated Single Grab**	**Single Grab Method**	**Existing Single Grab**	***MAL***
	lbs/day	***mg/L***	***lbs/day***	***mg/L***	***mg/L***		***mg/L***	***mg/L***
BOD_5	289	*13.9*	752	*36.0*	**72**	B	85	-
Ammonia Nitrogen	1,116	*53.5*	2,224	*106.6*	213	B	**59**	
TSS	530	*25.4*	1,631	*78*	156	B	**156**	-
COD	2,983	*143*	5,988	*287*	574	B	**431**	-
Copper, Total [1]	0.901	*0.043*	1.91	*0.0914*	**0.18**	B	-	0.002
Cyanide, Free [1]	0.183	*0.0088*	0.386	*0.0185*	**0.0185**	D	0.0371	
Nickel, Total [1]	3.05	*0.146*	6.47	*0.310*	**0.620**	B	-	0.002
Acenaphthene	0.318	-	0.852	-	0.0612	C	**0.038**	0.01
Acenaphthylene	0.318	-	0.852	-	0.0612	C	**0.038**	0.01
Acrylonitrile	1.386	-	3.494	-	0.2512	C	**0.156**	0.05
Anthracene	0.318	-	0.852	-	0.0612	C	**0.038**	0.01
Benzene	0.534	-	1.963	-	0.1412	C	**0.0882**	0.01
Benzo(a)anthracene [1]	0.018	0.00085	0.0376	0.0018	0.0612	C	**0.038**	0.005
3,4-Benzofluoranthene	0.332		0.881		0.0633	C	**0.0393**	0.01
Benzo(k)fluoranthene	0.318		0.852		0.0612	C	**0.0380**	0.005
Benzo(a)pyrene [1]	0.0018	0.000085	0.0038	0.00018	0.0633	C	**0.0356**	0.005
Bis(2-ethylhexyl) phthalate	1.487	-	4.028	-	0.2896	C	**0.180**	0.01
Carbon Tetrachloride	0.260	-	0.549	-	0.0394	C	**0.0244**	0.002
Chlorobenzene	0.217	-	0.404	-	0.0291	C	**0.018**	0.01
Chloroethane	1.501	-	3.869	-	0.2782	C	**0.173**	0.05
Chloroform	0.303	-	0.664	-	0.0477	C	**0.0296**	0.01
2-Chlorophenol	0.448	-	1.415	-	0.1017	C	**0.0637**	0.01
Chrysene	0.318	-	0.852	-	0.0612	C	**0.038**	0.005
Di-n-butyl phthalate	0.390	-	0.823	-	0.0592	C	**0.0367**	0.01
1,2-Dichlorobenzene	1.112	-	2.353	-	0.1692	C	**0.105**	0.01
1,3-Dichlorobenzene	0.448	-	0.635	-	0.0457	C	**0.0283**	0.01
1,4-Dichlorobenzene	0.217	-	0.404	-	0.0291	C	**0.018**	0.01
1,1-Dichloroethane	0.318	-	0.852	-	0.0612	C	**0.038**	0.01
1,2-Dichloroethane	0.982	-	3.046	-	0.2190	C	**0.0908**	0.01
1,1-Dichloroethylene	0.231	-	0.361	-	0.0260	C	**0.0161**	0.01
1,2-trans Dichloroethylene	0.303	-	0.780	-	0.0561	C	**0.0347**	0.01
2,4-Dichlorophenol	0.563	-	1.617	-	0.1163	C	**0.0728**	0.01
1,2-Dichloropropane	2.209	-	3.320	-	0.2387	C	**0.148**	0.01
1,3-Dichloropropylene	0.419	-	0.635	-	0.0457	C	**0.0283**	0.01
Diethyl phthalate	1.169	-	2.931	-	0.2107	C	**0.131**	0.01
2,4-Dimethylphenol	0.260	-	0.520	-	0.0374	C	**0.0231**	0.01

Pollutant (Outfall 011)	Daily Average		Daily Maximum		Calculated Single Grab	Single Grab Method	Existing Single Grab	*MAL*
	lbs/day	*mg/L*	*lbs/day*	*mg/L*	*mg/L*		*mg/L*	*mg/L*
Dimethyl phthalate	0.274	-	0.679	-	0.0488	C	**0.0302**	0.01
4,6-Dinitro-o-cresol	1.126	-	3.999	-	0.2875	C	**0.179**	0.05
2,4-Dinitrophenol	1.025	-	1.776	-	0.1277	C	**0.0799**	0.05
2,4-Dinitrotoluene	1.631	-	4.115	-	0.2958	C	**0.184**	0.01
2,6-Dinitrotoluene	3.681	-	9.254	-	0.6654	C	**0.414**	0.01
Ethylbenzene	0.462	-	1.559	-	**0.1121**	C	0.702	0.01
Fluoranthene	0.361	-	0.982	-	0.0706	C	**0.0438**	0.01
Fluorene	0.318	-	0.852	-	0.0612	C	**0.038**	0.01
Hexachlorobenzene [1]	0.0005	0.000023	0.001	0.000049	0.0291	C	**0.0086**	0.005
Hexachlorobutadiene [1]	0.157	0.00751	0.332	0.0159	0.0509	C	**0.0315**	0.01
Hexachloroethane	0.303	-	0.780	-	0.0561	C	**0.0347**	0.02
Methyl Chloride	1.242	-	2.743	-	0.1972	C	**0.123**	0.05
Methylene Chloride	0.577	-	1.285	-	0.0924	C	**0.0573**	0.02
Naphthalene	0.318	-	0.852	-	0.0612	C	**0.038**	0.01
Nitrobenzene	0.390	-	0.982	-	0.0706	C	**0.0438**	0.01
2-Nitrophenol	0.592	-	0.996	-	0.0716	C	**0.0444**	0.02
4-Nitrophenol	1.039	-	1.790	-	0.1287	C	**0.0805**	0.05
Phenanthrene	0.318	-	0.852	-	0.0612	C	**0.038**	0.01
Phenol	0.217	-	0.375	-	0.0270	C	**0.0167**	0.01
Pyrene	0.361	-	0.967	-	0.0695	C	**0.0431**	0.01
Tetrachloroethylene	0.318	-	0.808	-	0.0581	C	**0.036**	0.01
Toluene	0.375	-	1.155	-	0.0830	C	**0.0515**	0.01
1,2,4-Trichlorobenzene	0.982	-	2.021	-	0.1453	C	**0.0908**	0.01
1,1,1-Trichloroethane	0.303	-	0.780	-	0.0561	C	**0.0347**	0.01
1,1,2-Trichloroethane	0.303	-	0.780	-	0.0561	C	**0.0347**	0.01
Trichloroethylene	0.303	-	0.780	-	0.0561	C	**0.0347**	0.01
Vinyl Chloride	1.501	-	3.869	-	0.2782	C	**0.173**	0.01

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Compliance History Report

Compliance History Report for CN605605831, RN100223205, Rating Year 2022 which includes Compliance History (CH) components from September 1, 2017, through August 31, 2022.

Customer, Respondent, or Owner/Operator:	CN605605831, Rohm And Haas Texas Incorporated	**Classification:** SATISFACTORY	**Rating:** 1.39
Regulated Entity:	RN100223205, ROHM AND HAAS TEXAS DEER PARK PLANT	**Classification:** SATISFACTORY	**Rating:** 1.39
Complexity Points:	37	**Repeat Violator:** NO	
CH Group:	05 - Chemical Manufacturing		
Location:	1900 TIDAL RD DEER PARK, TX 77536-2416, HARRIS COUNTY		
TCEQ Region:	REGION 12 - HOUSTON		

ID Number(s):

AIR OPERATING PERMITS ACCOUNT NUMBER HG0632T
AIR OPERATING PERMITS PERMIT 1583
AIR OPERATING PERMITS PERMIT 2232
AIR OPERATING PERMITS PERMIT 2233
AIR OPERATING PERMITS PERMIT 2234
AIR OPERATING PERMITS PERMIT 2235
AIR OPERATING PERMITS PERMIT 2236
AIR OPERATING PERMITS PERMIT 2237
PUBLIC WATER SYSTEM/SUPPLY REGISTRATION 1011717
AIR NEW SOURCE PERMITS AFS NUM 4820100034
AIR NEW SOURCE PERMITS PERMIT 723
AIR NEW SOURCE PERMITS PERMIT 751
AIR NEW SOURCE PERMITS PERMIT 1257A
AIR NEW SOURCE PERMITS PERMIT 1957
AIR NEW SOURCE PERMITS PERMIT 2165
AIR NEW SOURCE PERMITS PERMIT 5051
AIR NEW SOURCE PERMITS PERMIT 5802
AIR NEW SOURCE PERMITS PERMIT 6233
AIR NEW SOURCE PERMITS PERMIT 6654
AIR NEW SOURCE PERMITS PERMIT 6894
AIR NEW SOURCE PERMITS PERMIT 7309
AIR NEW SOURCE PERMITS PERMIT 7648
AIR NEW SOURCE PERMITS PERMIT 8838
AIR NEW SOURCE PERMITS REGISTRATION 10715
AIR NEW SOURCE PERMITS REGISTRATION 11779
AIR NEW SOURCE PERMITS REGISTRATION 13804
AIR NEW SOURCE PERMITS PERMIT 17392
AIR NEW SOURCE PERMITS REGISTRATION 26728
AIR NEW SOURCE PERMITS REGISTRATION 28728
AIR NEW SOURCE PERMITS PERMIT 29010
AIR NEW SOURCE PERMITS REGISTRATION 28913
AIR NEW SOURCE PERMITS REGISTRATION 29705
AIR NEW SOURCE PERMITS REGISTRATION 30727
AIR NEW SOURCE PERMITS REGISTRATION 32671
AIR NEW SOURCE PERMITS REGISTRATION 33817
AIR NEW SOURCE PERMITS REGISTRATION 34654
AIR NEW SOURCE PERMITS REGISTRATION 35142
AIR NEW SOURCE PERMITS REGISTRATION 37086
AIR NEW SOURCE PERMITS REGISTRATION 38913
AIR NEW SOURCE PERMITS REGISTRATION 42737
AIR NEW SOURCE PERMITS REGISTRATION 42914
AIR NEW SOURCE PERMITS REGISTRATION 44595
AIR NEW SOURCE PERMITS PERMIT 27131
AIR NEW SOURCE PERMITS REGISTRATION 47480
AIR NEW SOURCE PERMITS EPA PERMIT N61
AIR NEW SOURCE PERMITS REGISTRATION 142365
AIR NEW SOURCE PERMITS REGISTRATION 54970
AIR NEW SOURCE PERMITS EPA PERMIT PSDTX828
AIR NEW SOURCE PERMITS EPA PERMIT PSDTX828M1
AIR NEW SOURCE PERMITS REGISTRATION 50454
AIR NEW SOURCE PERMITS EPA PERMIT PSDTX987
AIR NEW SOURCE PERMITS REGISTRATION 77253
AIR NEW SOURCE PERMITS REGISTRATION 54056
AIR NEW SOURCE PERMITS REGISTRATION 77200
AIR NEW SOURCE PERMITS ACCOUNT NUMBER HG0632T
AIR NEW SOURCE PERMITS REGISTRATION 80267
AIR NEW SOURCE PERMITS REGISTRATION 81342
AIR NEW SOURCE PERMITS REGISTRATION 83810
AIR NEW SOURCE PERMITS REGISTRATION 83418
AIR NEW SOURCE PERMITS REGISTRATION 87544
AIR NEW SOURCE PERMITS REGISTRATION 92062
AIR NEW SOURCE PERMITS REGISTRATION 93841
AIR NEW SOURCE PERMITS EPA PERMIT PSDTX987M1
AIR NEW SOURCE PERMITS REGISTRATION 105286
AIR NEW SOURCE PERMITS REGISTRATION 105302
AIR NEW SOURCE PERMITS REGISTRATION 111198
AIR NEW SOURCE PERMITS REGISTRATION 127377
AIR NEW SOURCE PERMITS REGISTRATION 105290
AIR NEW SOURCE PERMITS REGISTRATION 139799
AIR NEW SOURCE PERMITS REGISTRATION 119736
AIR NEW SOURCE PERMITS REGISTRATION 126177
AIR NEW SOURCE PERMITS REGISTRATION 126178
AIR NEW SOURCE PERMITS REGISTRATION 137720
AIR NEW SOURCE PERMITS REGISTRATION 105358
AIR NEW SOURCE PERMITS REGISTRATION 136484
AIR NEW SOURCE PERMITS REGISTRATION 105289
AIR NEW SOURCE PERMITS REGISTRATION 112813
AIR NEW SOURCE PERMITS REGISTRATION 111655
AIR NEW SOURCE PERMITS REGISTRATION 105361
AIR NEW SOURCE PERMITS REGISTRATION 105362

AIR NEW SOURCE PERMITS REGISTRATION 138137
AIR NEW SOURCE PERMITS REGISTRATION 105291
AIR NEW SOURCE PERMITS REGISTRATION 164531
AIR NEW SOURCE PERMITS REGISTRATION 166109
AIR NEW SOURCE PERMITS REGISTRATION 168411
AIR NEW SOURCE PERMITS REGISTRATION 167093
AIR NEW SOURCE PERMITS REGISTRATION 164566
AIR NEW SOURCE PERMITS REGISTRATION 164452
AIR NEW SOURCE PERMITS REGISTRATION 168416
AIR NEW SOURCE PERMITS REGISTRATION 165032
AIR NEW SOURCE PERMITS REGISTRATION 145125
AIR NEW SOURCE PERMITS REGISTRATION 145135
AIR NEW SOURCE PERMITS PERMIT AMOC56
AIR NEW SOURCE PERMITS REGISTRATION 150677
AIR NEW SOURCE PERMITS REGISTRATION 160798
AIR NEW SOURCE PERMITS REGISTRATION 156445
AIR NEW SOURCE PERMITS REGISTRATION 160785
AIR NEW SOURCE PERMITS REGISTRATION 160787
AIR NEW SOURCE PERMITS REGISTRATION 161251
AIR NEW SOURCE PERMITS REGISTRATION 162001
AIR NEW SOURCE PERMITS REGISTRATION 156315
AIR NEW SOURCE PERMITS PERMIT AMOC153
AIR NEW SOURCE PERMITS REGISTRATION 156311
AIR NEW SOURCE PERMITS REGISTRATION 168470
AIR NEW SOURCE PERMITS REGISTRATION 171729
AIR NEW SOURCE PERMITS REGISTRATION 168482
AIR NEW SOURCE PERMITS REGISTRATION 108131
AIR NEW SOURCE PERMITS REGISTRATION 105299
AIR NEW SOURCE PERMITS REGISTRATION 163731
AIR NEW SOURCE PERMITS REGISTRATION 169479
AIR NEW SOURCE PERMITS REGISTRATION 164537
AIR NEW SOURCE PERMITS REGISTRATION 168399
AIR NEW SOURCE PERMITS REGISTRATION 162074
AIR NEW SOURCE PERMITS REGISTRATION 169134
AIR NEW SOURCE PERMITS REGISTRATION 164533
AIR NEW SOURCE PERMITS REGISTRATION 165924
AIR NEW SOURCE PERMITS REGISTRATION 145119
AIR NEW SOURCE PERMITS EPA PERMIT PSDTX828M2
AIR NEW SOURCE PERMITS REGISTRATION 150676
AIR NEW SOURCE PERMITS PERMIT AMOC25
AIR NEW SOURCE PERMITS REGISTRATION 160778
AIR NEW SOURCE PERMITS REGISTRATION 160782
AIR NEW SOURCE PERMITS REGISTRATION 155970
AIR NEW SOURCE PERMITS REGISTRATION 156317
AIR NEW SOURCE PERMITS REGISTRATION 156313
AIR NEW SOURCE PERMITS PERMIT AMOC152
AIR NEW SOURCE PERMITS REGISTRATION 158468
AIR NEW SOURCE PERMITS REGISTRATION 160008
AIR NEW SOURCE PERMITS REGISTRATION 156309
AIR NEW SOURCE PERMITS REGISTRATION 168146
AIR NEW SOURCE PERMITS REGISTRATION 168462
IHW CORRECTIVE ACTION SOLID WASTE REGISTRATION # (SWR) 30041
WASTEWATER PERMIT WQ0000458000
WASTEWATER EPA ID TX0006084
AIR EMISSIONS INVENTORY ACCOUNT NUMBER HG0632T
POLLUTION PREVENTION PLANNING ID NUMBER P00587
INDUSTRIAL AND HAZARDOUS WASTE EPA ID TXD065096273
INDUSTRIAL AND HAZARDOUS WASTE SOLID WASTE REGISTRATION # (SWR) 30041
INDUSTRIAL AND HAZARDOUS WASTE PERMIT 50102
TAX RELIEF ID NUMBER 16036
TAX RELIEF ID NUMBER 16035

Compliance History Period: September 01, 2017 to August 31, 2022 **Rating Year:** 2022 **Rating Date:** 09/01/2022

Date Compliance History Report Prepared: February 21, 2023

Agency Decision Requiring Compliance History: Permit - Issuance, renewal, amendment, modification, denial, suspension, or revocation of a permit.

Component Period Selected: July 23, 2015 to February 21, 2023

TCEQ Staff Member to Contact for Additional Information Regarding This Compliance History.

Name: S. Johnson **Phone:** (512) 239-4649

Site and Owner/Operator History:

1) Has the site been in existence and/or operation for the full five year compliance period? YES
2) Has there been a (known) change in ownership/operator of the site during the compliance period? YES
3) Who is the current owner/operator? Rohm and Haas Texas Incorporated OWNER OPERATOR since 1/1/1800
Rohm And Haas Company OWNER since 1/1/1800
Rohm And Haas Chemicals LLC OWNER OPERATOR since 1/1/2006
Rohm Haas OWNER since 1/1/1800
Rohm Haas Texas Inc OWNER since 1/1/1800
Suez Wts Usa, Inc. OWNER OPERATOR since 8/2/2018
Rohm And Haas Texas Incorporated OWNER OPERATOR since 12/13/2018
4) Who was/were the prior owner(s)/operator(s)? Alamo Iron Works, Inc., OWNER OPERATOR, 1/1/1800 to 6/19/2019

Components (Multimedia) for the Site Are Listed in Sections A - J

A. Final Orders, court judgments, and consent decrees:

Compliance History Report for CN605605831, RN100223205, Rating Year 2022 which includes Compliance History (CH) components from July 23, 2015, through February 21, 2023.

1 Effective Date: 08/02/2016 ADMINORDER 2015-1730-AIR-E (1660 Order-Agreed Order With Denial)

Classification: Moderate

Citation: 30 TAC Chapter 122, SubChapter B 122.143(4)
30 TAC Chapter 122, SubChapter B 122.146(1)
30 TAC Chapter 122, SubChapter B 122.146(2)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: FOP General Terms & Conditions OP

Description: Failure to submit permit compliance certification report no later than 30 days after the end of the reporting period. [Category A12.i.7]

2 Effective Date: 03/01/2019 ADMINORDER 2017-1416-AIR-E (1660 Order-Agreed Order With Denial)

Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(b)(2)(F)
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: Special Condition 1 PERMIT
Special Terms and Conditions (ST&C) 8 OP

Description: Failure to comply with the maximum allowable emission rate (MAER) for NH3 and VOC. Category A Criterion 2.

3 Effective Date: 04/27/2020 ADMINORDER 2018-1364-AIR-E (1660 Order-Agreed Order With Denial)

Classification: Major

Citation: 30 TAC Chapter 116, SubChapter B 116.115(b)(2)(F)
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: General Condition 8 PERMIT
General Terms and Conditions OP
Special Condition 1 PERMIT
Special Terms and Conditions14 OP

Description: Failed to comply with the MAERs. Specifically, during a stack test conducted on September 13, 2017, the Respondent exceeded the acetone MAER of 0.01 lb/hr by 0.90 lb/hr, the VOC MAER of 0.38 lb/hr by 0.60 lb/hr, and the SO2 MAER of 0.08 lb/hr by 0.14 lb/hr for the Scrubber, EPN B-3-51, resulting in an estimated amount of 852 lbs of unauthorized acetone, 552 lbs of unauthorized VOC, and 129 lbs of unauthorized SO2.

Classification: Moderate

Citation: 30 TAC Chapter 101, SubChapter A 101.20(3)
30 TAC Chapter 116, SubChapter B 116.115(b)(2)(F)
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: General Terms and Conditions OP
Special Term and Condition 1 PA
Special Term and Condition 14 OP

Description: Failed to comply with the MAERs.

Classification: Moderate

Citation: 30 TAC Chapter 122, SubChapter B 122.143(4)
30 TAC Chapter 122, SubChapter B 122.145(2)(A)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: General Terms and Conditions OP

Description: Failed to report all instances of deviations. Specifically, the deviation reports for the October 1, 2016 through March 31, 2017 and April 1, 2017 through September 30, 2017 reporting periods did not include the deviations for the failure to comply with the NOx, VOC, and PM MAERs for EPN N-3.

Classification: Moderate

Citation: 30 TAC Chapter 101, SubChapter A 101.20(3)
30 TAC Chapter 116, SubChapter B 116.115(b)(2)(F)
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: GTC OP
SC 1 PERMIT
STC 14 OP

Description: Failed to comply with the maximum allowable emissions rate ("MAER"). Specifically, the Respondent exceeded the particulate matter ("PM") MAER of 1.37 tons per year ("tpy") based on a 12-month rolling period for the 12-month periods ending on May 2016 and from July 2016 through May 2017 for the HR-III Preheater, Emissions Point Number ("EPN") 38-HR-5, resulting in 0.09 ton of unauthorized PM.
Classification: Minor

Citation: 30 TAC Chapter 101, SubChapter A 101.20(3)
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: GTC OP
SC 17 PERMIT
STC 14 OP

Description: Failed to maintain records of the instrument type used to determine sulfur dioxide ("SO2") concentration during Maintenance, Startup, and Shutdown ("MSS") activities. Specifically, the Respondent did not record the type of instrument/detector used to measure SO2 concentrations during the MSS activities on May 3, 2016, June 7, 2016, and September 26, 2016.
Classification: Moderate

Citation: 30 TAC Chapter 101, SubChapter A 101.20(3)
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: GTC OP
SC 20 PERMIT
SC 22 PERMIT
STC 14 OP

Description: Failed to revalidate the estimated emissions from instrument maintenance annually. Specifically, the Respondent did not have records documenting that the estimated emissions from instrument maintenance were revalidated by October 28, 2015.
Classification: Minor

Citation: 30 TAC Chapter 122, SubChapter B 122.143(4)
30 TAC Chapter 122, SubChapter B 122.145(2)(A)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: GENERAL TERMS AND CONDITIONS OP

Description: Failed to report all instances of deviations. Specifically, the deviation report for the November 1, 2016 through April 30, 2017 reporting period did not include the deviations for the failure to maintain records of the instrument type used to determine SO2 concentration during MSS activities and the failure to revalidate the estimated emissions from instrument maintenance annually.
Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(b)(2)(F)
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: General Condition 8 PERMIT
General Terms and Conditions OP
Special Condition 1 PERMIT
Special Term and Condition 16 OP

Description: Failed to comply with the maximum allowable emissions rate ("MAER"). Specifically, during a required boiler tune-up conducted on December 20, 2017 from 12:40 p.m. to 2:40 p.m., the Respondent exceeded the carbon monoxide ("CO") MAER of 4.54 pounds per hour ("lbs/hr") by 5.24 lbs/hr for the C-Train Start-Up Heater, Emissions Point Number ("EPN") HT-9, resulting in 10.48 pounds of unauthorized CO.
Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(b)(2)(F)
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: General Condition 8 PERMIT
General Terms and Conditions OP
Special Condition 1 PERMIT
Special Term and Condition 16 OP

Description: Failed to comply with the MAER. Specifically, during a planned startup on February 10, 2018, the Respondent exceeded the CO MAER of 30.48 lbs/hr by 8.24 lbs/hr for one hour for the E-Train Thermal Oxidizer, EPN HT-46, resulting in 8.24 pounds of unauthorized CO.
Classification: Minor

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)

30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: General Terms and Conditions OP
Special Condition 12.B(2)(b) PERMIT
Special Terms and Conditions 16 OP

Description: Failed to conduct quarterly quality assurance for a continuous emission monitoring system ("CEMS"). Specifically, the Respondent did not conduct a cylinder gas audit of the CEMS for the HT-1 Thermal Oxidizer, EPN HT-3, during the first quarter of 2018.

4 Effective Date: 06/16/2020 ADMINORDER 2019-0874-AIR-E (1660 Order-Agreed Order With Denial)

Classification: Moderate

Citation: 30 TAC Chapter 101, SubChapter A 101.20(3)
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: O2233 GTC and STC No. 14 OP
Special Condition 1 PERMIT

Description: Failure to prevent unauthorized emissions.

Classification: Moderate

Citation: 30 TAC Chapter 101, SubChapter A 101.20(3)
30 TAC Chapter 116, SubChapter B 116.115(b)(2)(F)
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: Special Condition 1 PERMIT
Special Term & Condition 14 OP

Description: Failed to comply with the MAERs.

Classification: Minor

Citation: 30 TAC Chapter 101, SubChapter F 101.201(b)(1)(G)
30 TAC Chapter 101, SubChapter F 101.201(b)(1)(H)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: O2233 GTC and STC No. 2.F OP

Description: Failure to identify all required information on the final record for a reportable emissions event.

5 Effective Date: 08/24/2021 ADMINORDER 2020-0942-AIR-E (1660 Order-Agreed Order With Denial)

Classification: Moderate

Citation: 30 TAC Chapter 101, SubChapter A 101.20(3)
30 TAC Chapter 116, SubChapter B 116.115(b)(2)(F)
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: GTC and STC No. 14 OP
NSR Authorization 14 PERMIT
Special Condition 1 PERMIT
Special Term and Condition 14 PERMIT

Description: Failure to comply with the maximum allowable emissions rates (EPN: 35-HR-11). (Category A8 High Priority Violation General Criterion 2).

6 Effective Date: 11/08/2022 ADMINORDER 2021-0980-AIR-E (1660 Order-Agreed Order With Denial)

Classification: Minor

Citation: 30 TAC Chapter 101, SubChapter F 101.201(a)(1)(B)
30 TAC Chapter 122, SubChapter B 122.143(4)

Rqmt Prov: General Terms and Conditions OP
Special Term & Condition 2(F) OP

Description: Failed to submit an initial notification for a reportable emissions event no later than 24 hours after the discovery of an emissions event. Specifically, the initial notification for Incident No. 281429 was due by April 3, 2018 at 8:30 a.m., but was not submitted until April 3, 2018 at 8:46 a.m.

Classification: Moderate

Citation: 30 TAC Chapter 101, SubChapter A 101.20(3)
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)

5C THSC Chapter 382 382.085(b)

Rqmt Prov: GTC OP

Special Condition 1 PERMIT

Special Conditions No. 1 PERMIT

Special Term & Condition 14(A) OP

Description: Failed to prevent unauthorized emissions. Specifically, the Respondent released 429 pounds of ammonia as fugitive emissions, during an emissions event (Incident No. 281429) that occurred on April 2, 2018 and lasted five hours. The emissions event occurred when the steam tracing on the ammonia piping damaged the steam tubing that caused a leak in the steam tracing on the ammonia piping, resulting in a pinhole leak in the ammonia piping and in the release to the atmosphere.

B. Criminal convictions:

N/A

C. Chronic excessive emissions events:

N/A

D. The approval dates of investigations (CCEDS Inv. Track. No.):

Item 1	August 07, 2015	(1253705)
Item 2	August 20, 2015	(1283123)
Item 3	September 17, 2015	(1290262)
Item 4	October 09, 2015	(1275994)
Item 5	October 20, 2015	(1296466)
Item 6	November 06, 2015	(1288127)
Item 7	November 17, 2015	(1301919)
Item 8	December 15, 2015	(1308847)
Item 9	January 19, 2016	(1315631)
Item 10	February 17, 2016	(1325023)
Item 11	March 01, 2016	(1307152)
Item 12	April 14, 2016	(1331752)
Item 13	April 29, 2016	(1328958)
Item 14	June 16, 2016	(1352157)
Item 15	June 29, 2016	(1336836)
Item 16	July 12, 2016	(1330298)
Item 17	July 18, 2016	(1359131)
Item 18	August 12, 2016	(1336979)
Item 19	August 16, 2016	(1312007)
Item 20	August 18, 2016	(1315411)
Item 21	September 02, 2016	(1351670)
Item 22	September 07, 2016	(1343851)
Item 23	September 09, 2016	(1358523)
Item 24	September 19, 2016	(1372256)
Item 25	October 19, 2016	(1378433)
Item 26	October 26, 2016	(1362619)
Item 27	November 16, 2016	(1384392)
Item 28	December 14, 2016	(1390530)
Item 29	January 09, 2017	(1377890)
Item 30	January 18, 2017	(1397146)
Item 31	January 20, 2017	(1382976)
Item 32	February 20, 2017	(1404030)
Item 33	March 20, 2017	(1411131)
Item 34	April 20, 2017	(1417634)
Item 35	May 18, 2017	(1425223)
Item 36	June 19, 2017	(1431226)
Item 37	July 17, 2017	(1439835)
Item 38	August 02, 2017	(1409365)
Item 39	August 17, 2017	(1443523)
Item 40	August 24, 2017	(1400551)
Item 41	October 19, 2017	(1455970)
Item 42	November 16, 2017	(1461451)

Item 43	November 29, 2017	(1388639)
Item 44	December 14, 2017	(1467830)
Item 45	January 16, 2018	(1474535)
Item 46	February 15, 2018	(1486761)
Item 47	March 19, 2018	(1490438)
Item 48	March 22, 2018	(1437635)
Item 49	April 19, 2018	(1493675)
Item 50	April 30, 2018	(1472650)
Item 51	May 17, 2018	(1479057)
Item 52	May 22, 2018	(1483361)
Item 53	June 20, 2018	(1507710)
Item 54	July 06, 2018	(1499395)
Item 55	July 18, 2018	(1514028)
Item 56	August 17, 2018	(1497247)
Item 57	August 20, 2018	(1520089)
Item 58	August 23, 2018	(1481651)
Item 59	September 18, 2018	(1527254)
Item 60	October 03, 2018	(1513588)
Item 61	October 18, 2018	(1533612)
Item 62	October 25, 2018	(1517937)
Item 63	November 20, 2018	(1541447)
Item 64	November 28, 2018	(1517738)
Item 65	December 13, 2018	(1545231)
Item 66	January 17, 2019	(1559668)
Item 67	January 18, 2019	(1496748)
Item 68	February 14, 2019	(1559666)
Item 69	March 01, 2019	(1517820)
Item 70	March 19, 2019	(1559667)
Item 71	April 15, 2019	(1555579)
Item 72	April 16, 2019	(1571828)
Item 73	May 17, 2019	(1583265)
Item 74	June 19, 2019	(1583266)
Item 75	July 18, 2019	(1593141)
Item 76	August 02, 2019	(1557866)
Item 77	August 19, 2019	(1599487)
Item 78	September 16, 2019	(1606392)
Item 79	November 20, 2019	(1603744)
Item 80	December 19, 2019	(1626404)
Item 81	January 16, 2020	(1634045)
Item 82	February 20, 2020	(1640664)
Item 83	February 21, 2020	(1612513)
Item 84	April 20, 2020	(1653520)
Item 85	April 21, 2020	(1612512)
Item 86	April 28, 2020	(1603371)
Item 87	May 22, 2020	(1660107)
Item 88	June 15, 2020	(1652739)
Item 89	June 17, 2020	(1666611)
Item 90	August 03, 2020	(1659142)
Item 91	August 04, 2020	(1665921)
Item 92	August 19, 2020	(1680343)
Item 93	August 20, 2020	(1650926)
Item 94	August 24, 2020	(1666288)
Item 95	September 18, 2020	(1686912)
Item 96	October 15, 2020	(1693259)
Item 97	October 21, 2020	(1678958)
Item 98	November 09, 2020	(1672691)
Item 99	November 17, 2020	(1712467)
Item 100	November 23, 2020	(1677437)
Item 101	December 03, 2020	(1672700)
Item 102	December 16, 2020	(1712468)

Item 103	January 19, 2021	(1712469)
Item 104	February 19, 2021	(1725522)
Item 105	March 11, 2021	(1692236)
Item 106	April 23, 2021	(1725524)
Item 107	May 18, 2021	(1740067)
Item 108	June 07, 2021	(1711296)
Item 109	June 15, 2021	(1740068)
Item 110	June 30, 2021	(1686753)
Item 111	July 22, 2021	(1751708)
Item 112	August 13, 2021	(1749367)
Item 113	August 23, 2021	(1678969)
Item 114	September 08, 2021	(1691874)
Item 115	September 22, 2021	(1766252)
Item 116	September 28, 2021	(1763005)
Item 117	October 18, 2021	(1776715)
Item 118	November 17, 2021	(1783624)
Item 119	November 30, 2021	(1762611)
Item 120	December 15, 2021	(1790650)
Item 121	January 20, 2022	(1798444)
Item 122	February 22, 2022	(1806318)
Item 123	March 16, 2022	(1776057)
Item 124	March 17, 2022	(1776046)
Item 125	March 21, 2022	(1813385)
Item 126	April 21, 2022	(1819956)
Item 127	May 09, 2022	(1806165)
Item 128	May 18, 2022	(1828795)
Item 129	June 27, 2022	(1835087)
Item 130	July 25, 2022	(1842292)
Item 131	August 23, 2022	(1848425)
Item 132	September 22, 2022	(1856223)
Item 133	October 07, 2022	(1847559)
Item 134	October 20, 2022	(1846277)
Item 135	October 24, 2022	(1862580)
Item 136	November 21, 2022	(1869494)
Item 137	December 20, 2022	(1866939)
Item 138	December 23, 2022	(1875343)
Item 139	January 03, 2023	(1860995)

E. Written notices of violations (NOV) (CCEDS Inv. Track. No.):

A notice of violation represents a written allegation of a violation of a specific regulatory requirement from the commission to a regulated entity. A notice of violation is not a final enforcement action, nor proof that a violation has actually occurred.

1 Date: 04/08/2022 (1794494)

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 305, SubChapter F 305.125(1)
30 TAC Chapter 305, SubChapter F 305.125(4)
Permit Conditions 2.g., page 8 PERMIT
TWC Chapter 26 26.121

Description: Failure to prevent the unauthorized discharge of wastewater.

2 Date: 06/24/2022 (1776041)

Self Report? NO Classification: Moderate

Citation: 1257A PERMIT
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
O1583 OP

Description: Failure to comply with permitted tank roof replacement limit for Tanks 34560 and 34730 Acid Residue Tanks [EPN: B-3-55] (Category B18g1)

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
751 PERMIT

O1583 OP

Description: Failure to prevent rolling 12-month exceedances of Particulate Matter (PM) for HR-II Preheater [EPN: 36-HR-5] (Category B17)

Self Report? NO Classification: Moderate

Citation: 1257A PERMIT
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
O1583 OP

Description: Failure to prevent temperature exceedance for liquid stored in Tank 34426 [EPN: B-3-19] (Category C7)

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
751 PERMIT
O1583 OP

Description: Failure to prevent exceedances of the maximum hourly limits of Particulate Matter (PM) for HR Davy Stack [EPN: HR-8] (Category B17)

Self Report? NO Classification: Moderate

Citation: 1257A PERMIT
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
O1583 OP

Description: Failure to calibrate Lower Explosive Limit (LEL) Meter at standard 25 percent (Category B1)

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
751 ORDER
O1583 OP

Description: Failure to prevent exceedances of Differential Pressure across Baghouse [EPN: HR_BAGHSE] (Category B18.g.1)

3 Date: 08/02/2022 (1796994)

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 115, SubChapter D 115.352(4)
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.167(a)(2)
5C THSC Chapter 382 382.085(b)
Special Condition 8(E)(1) PERMIT
Special Term and Condition 14 OP
Special Term and Condition 1A OP

Description: Failure to cap an open-ended line on Fugitive (EPN: FN) (Category C10).

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT A 63.11(b)(6)(ii)
5C THSC Chapter 382 382.085(b)
Special Condition 11A PERMIT
Special Term and Condition 14 OP
Special Term and Condition 1A OP

Description: Failure to maintain the net heating value within the permitted limits for Flare (EPN: N-6) (Category C4).

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT A 63.11(b)(7)(i)
5C THSC Chapter 382 382.085(b)
Special Condition 11A PERMIT
Special Term and Condition 14 OP
Special Term and Condition 1A OP

Description: Failure to maintain the exit velocity within the permitted limits for Flare (EPN: N-6) (Category C4).

4 Date: 08/04/2022 (1797006)

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 106, SubChapter K 106.261(a)(7)(B)
30 TAC Chapter 122, SubChapter B 122.143(4)

5C THSC Chapter 382 382.085(b)
Special Term and Condition 20 OP

Description: Failure to submit annual Fugitive PBR to the TCEQ within the required time frame (Category B3).

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 115, SubChapter D 115.352(4)
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.167(a)(1)
5C THSC Chapter 382 382.085(b)
Special Condition 6E PERMIT
Special Term and Condition 19 OP
Special Term and Condition 1A OP

Description: Failure to cap an open-ended line on Fugitive (EPN: HT2-FUG) (Category C10).

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT EEE 63.1219(a)(5)(i)
5C THSC Chapter 382 382.085(b)
Special Condition 5B PERMIT
Special Term and Condition 19 OP
Special Term and Condition 1A OP

Description: Failure to maintain the stack carbon monoxide (CO) concentration for Hazardous Waste Combustor (EPN: HT-3) (Category C4).

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT A 60.18(c)(3)(ii)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT A 63.11(b)(6)(ii)
5C THSC Chapter 382 382.085(b)
Special Condition 16B PERMIT
Special Term and Condition 19 OP
Special Term and Condition 1A OP

Description: Failure to maintain the net heating value within the permitted limits for the Flare (EPN: HT-10) (Category B18(g)(1)).

5 Date: 11/15/2022 (1846463)

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 113, SubChapter C 113.890
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 1, SubChapter C, PT 63, SubPT FFFF 63.2525(m)(3)
5C THSC Chapter 382 382.085(b)
FOP Special Term and Condition 1E OP
FOP, Special Term and Condition 8 OP
NSR, Special Condition 10 PERMIT

Description: Failure to maintain flow monitor records for the flare (Unit ID SW-1). (Category B3 violation)

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
FOP, Special Term and Condition 8 OP
NSR, Special Condition 9D PERMIT

Description: Failure to meet the permitted natural gas to waste gas feed ratio for the flare (Unit SW-1). (Category C7 violation)

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
FOP, Special Term and Condition 8 OP
NSR, Special Condition 9D PERMIT

Description: Failure to maintain data for the natural gas to waste gas feed ratio for the flare (Unit SW-1). (Category C3 violation)

6 Date: 12/09/2022 (1853843)

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 335, SubChapter A 335.6(c)
Permit Provision II.C.1.i. PERMIT

Description: Failure to update the Notice of Registration (NOR).

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 305, SubChapter F 305.125(1)

Permit Provision III.D. PERMIT
Description: The permittee shall follow the inspection requirements established in Permit Table III.D. – Inspection Schedule.
Self Report? NO Classification: Moderate
Citation: 30 TAC Chapter 335, SubChapter H 335.261(a)
40 CFR Chapter 273, SubChapter I, PT 273, SubPT B 273.15(a)
Description: Failure to accumulate universal waste (UW) for no longer than one year from the date the UW is generated.

7 Date: 01/17/2023 (1860481)
Self Report? NO Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Special Condition 21B PERMIT
Special Term and Condition 15 OP
Description: Failure to comply with permitted tank roof replacement limit for Acid Residue Tank 34560 (EPN: B-3-55-1) (Category B18(g)(1)).
Self Report? NO Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Special Condition 15F PERMIT
Special Term and Condition 15 OP
Description: Failure to maintain the liquid temperature for Storage Tank (EPN: B-3-18) within permitted limits (Category B18(g)(1)).
Self Report? NO Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Special Condition 15F PERMIT
Special Term and Condition 15 OP
Description: Failure to maintain the liquid temperature for Storage Tank (EPN: B-3-19) within permitted limits (Category B18(g)(1)).
Self Report? NO Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Special Condition 26 PERMIT
Special Term and Condition 15 OP
Description: Failure to shut down the Thermal Oxidizer for planned Maintenance, Startup, and Shutdown (MSS) while the light ends (EPN: B3-MSSLD) were being loaded (Category B17).
Self Report? NO Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT H 60.82
5C THSC Chapter 382 382.085(b)
Special Condition 3B PERMIT
Special Condition 8 PERMIT
Special Term and Condition 15 OP
Special Term and Condition 1A OP
Description: Failure to maintain the New Source Performance Standards (NSPS) limit for the Davy Stack (EPN: HR1) within permitted limits (Category B17).
Self Report? NO Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT H 60.82
5C THSC Chapter 382 382.085(b)
Special Condition 3B PERMIT
Special Condition 8 PERMIT
Special Term and Condition 15 OP
Special Term and Condition 1A OP
Description: Failure to maintain the New Source Performance Standards (NSPS) limit for the Davy Stack (EPN: HR-2) within permitted limits (Category B17).
Self Report? NO Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Special Condition 21C PERMIT
Special Term and Condition 15 OP
Description: Failure to maintain the differential pressure for Baghouse (EPN: HR-BAGHSE)

within permitted limits (Category B18(g)(1)).

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Special Condition 18C(1) PERMIT
Special Term and Condition 15 OP

Description: Failure to maintain records of the monthly Lower Explosive Limit (LEL) meter calibrations (Category C3).

F. Environmental audits:

Notice of Intent Date: 02/03/2015 (1227843)
Disclosure Date: 02/08/2016
Viol. Classification: Minor
Citation: 30 TAC Chapter 115, SubChapter C 115.226
30 TAC Chapter 122, SubChapter B 122.143(4)
Description: Failed to maintain the 24 month rolling calendar period of records for five years. They only date back to August 6, 2013.

Notice of Intent Date: 02/03/2015 (1227876)
Disclosure Date: 02/08/2016
Viol. Classification: Major
Citation: 30 TAC Chapter 116, SubChapter B 116.115(b)(2)(F)
Description: Failed to be able to locate permit authorizations for all of the stationary internal combustion diesel engines.
Viol. Classification: Moderate
Citation: 30 TAC Chapter 117, SubChapter B 117.345(f)
Description: Failed to be able to locate 5 years of records for the diesel engines, and operating records for the diesel engines that power the firewater pumps could not be located either.
Viol. Classification: Moderate
Citation: 40 CFR Chapter 63, SubChapter C, PT 63, SubPT ZZZZ 63.6625(e)
Description: The preventative maintenance plan for the generator's diesel engines did not include an inspection of the air filter. Also, the frequencies in the maintenance plans do not reflect the frequencies required by the RICE MACT regulation. In addition, a maintenance plan for the firewater pump diesel engines could not be located.

Notice of Intent Date: 09/16/2015 (1281086)
Disclosure Date: 09/26/2016
Viol. Classification: Major
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
Description: Failure to obtain authorization for VOC emissions. Unauthorized emissions of VOC were discovered from railcar washing activity.

Notice of Intent Date: 09/16/2015 (1281537)
Disclosure Date: 09/15/2016
Viol. Classification: Minor
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
Description: Failed to be able to locate all of the calibration records for the flares.

Notice of Intent Date: 09/16/2015 (1281764)
Disclosure Date: 05/17/2016
Viol. Classification: Minor
Citation: 40 CFR Chapter 122, SubChapter D, PT 122, SubPT B 122.30
Description: Failed to locate all of the calibration records for the flares.
Viol. Classification: Moderate
Citation: 30 TAC Chapter 117, SubChapter B 117.340(a)
40 CFR Chapter 122, SubChapter D, PT 122, SubPT B 122.30
Description: Failed to add the calculated pilot fuel flow rate to the monitored fuel flow when fuel flow is totalized for Boilers #3 and 4.

Notice of Intent Date: 10/02/2015 (1287286)
Disclosure Date: 05/17/2016
Viol. Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115
40 CFR Chapter 122, SubChapter D, PT 122, SubPT B 122.30
Description: Failed to have several tanks accurately represented in the permits. Specifically NSR Permit Nos. 1257A and

8838, and Title V Permit Nos O-1593 and O-2236.

Notice of Intent Date: 10/02/2015 (1287292)
Disclosure Date: 03/23/2016
Viol. Classification: Major
Citation: 30 TAC Chapter 116, SubChapter B 116.110(a)
Description: Failed to be able to locate authorizations for several atmospheric tanks.
Viol. Classification: Moderate
Citation: 30 TAC Chapter 115, SubChapter B 115.118(a)(6)(A)
30 TAC Chapter 115, SubChapter B 115.118(a)(7)
Description: Failed to have all tanks included in the tanks applicability document.

Notice of Intent Date: 12/18/2015 (1301155)
Disclosure Date: 12/15/2016
Viol. Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115
30 TAC Chapter 122, SubChapter B 122.120(a)
Description: Failure to maintain API Separator cover. Process wastewater streams have been routed away from the API separator. Further, the API Separator cover has degraded.

Notice of Intent Date: 01/07/2016 (1305948)
Disclosure Date: 05/12/2016
Viol. Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
40 CFR Chapter 122, SubChapter D, PT 122, SubPT B 122.30
Rqmt Prov: OP SC 9
PERMIT SC 9D
Description: Failed to install a flow meter on the flare following a permit update.

Notice of Intent Date: 01/25/2016 (1308290)
Disclosure Date: 01/25/2017
Viol. Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
Description: Failure to accurately represent wastewater loading. Sample analyses indicate that actual wastewater loading is inconsistent with permit representations.

Notice of Intent Date: 01/25/2016 (1308297)
Disclosure Date: 08/10/2016
Viol. Classification: Minor
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
Rqmt Prov: PERMIT SC 10A
OP SC 16B
Description: The method used to sample the cooling towers at HT/HT2 did not employ the approved sample method as required by the air permit.

Notice of Intent Date: 04/21/2016 (1330816)
No DOV Associated

Notice of Intent Date: 05/21/2016 (1330436)
No DOV Associated

Notice of Intent Date: 05/18/2016 (1336358)
Disclosure Date: 10/17/2016
Viol. Classification: Minor
Citation: 30 TAC Chapter 115, SubChapter E 115.463
Description: Failure to locate exemption tracking documentation used to demonstrate compliance with the 160 fluid ounce daily limit.
Viol. Classification: Minor
Citation: 30 TAC Chapter 106, SubChapter T 106.454
30 TAC Chapter 115, SubChapter E 115.412(1)(A)
Description: Failure to properly close part washer when not in use.
Viol. Classification: Minor
Citation: 30 TAC Chapter 106, SubChapter T 106.454(1)(A)(ii)
Description: Failure to maintain records documenting total solvent make-up per the requirements of the degreasing unit PBR (Permit by Rule).

Notice of Intent Date: 05/18/2016 (1336371)
No DOV Associated

Notice of Intent Date: 06/02/2016 (1338084)
Disclosure Date: 02/12/2017
Viol. Classification: Minor
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
Description: Failure to maintain instrument calibration and sampling records; these records are either missing or incomplete.
Viol. Classification: Minor
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
Description: Failure to maintain MSS activity records; these records are either missing or incomplete.

Notice of Intent Date: 06/02/2016 (1338088)
Disclosure Date: 12/15/2016
Viol. Classification: Moderate
Citation: 30 TAC Chapter 115, SubChapter D 115.352
30 TAC Chapter 115, SubChapter D 115.354
30 TAC Chapter 115, SubChapter D 115.355
30 TAC Chapter 115, SubChapter D 115.357
40 CFR Chapter 63, SubChapter C, PT 63, SubPT UU 63.1022
40 CFR Chapter 63, SubChapter C, PT 63, SubPT UU 63.1023
40 CFR Chapter 63, SubChapter C, PT 63, SubPT UU 63.1024
40 CFR Chapter 63, SubChapter C, PT 63, SubPT UU 63.1025
40 CFR Chapter 63, SubChapter C, PT 63, SubPT UU 63.1026
40 CFR Chapter 63, SubChapter C, PT 63, SubPT UU 63.1027
40 CFR Chapter 63, SubChapter C, PT 63, SubPT UU 63.1029
40 CFR Chapter 63, SubChapter C, PT 63, SubPT UU 63.1030
40 CFR Chapter 63, SubChapter C, PT 63, SubPT UU 63.1033
40 CFR Chapter 63, SubChapter C, PT 63, SubPT UU 63.1034
40 CFR Chapter 63, SubChapter C, PT 63, SubPT UU 63.1039
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.160
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.162
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.163
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.165
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.173
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.174
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.180
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.181
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.182
Description: Failure to include several components of the Closed Vent System in the fugitive monitoring program.

Notice of Intent Date: 06/02/2016 (1338090)
Disclosure Date: 05/25/2017
Viol. Classification: Moderate
Citation: 30 TAC Chapter 115, SubChapter D 115.352
30 TAC Chapter 115, SubChapter D 115.354
30 TAC Chapter 115, SubChapter D 115.355
30 TAC Chapter 115, SubChapter D 115.357
40 CFR Chapter 63, SubChapter C, PT 63, SubPT UU 63.1023
40 CFR Chapter 63, SubChapter C, PT 63, SubPT UU 63.1027
40 CFR Chapter 63, SubChapter C, PT 63, SubPT UU 63.1038
40 CFR Part 63, Subpart H 63.165
40 CFR Part 63, Subpart H 63.174
Description: Failure to include several components on the closed vent system in the fugitive monitoring program.

Notice of Intent Date: 09/30/2016 (1365135)
Disclosure Date: 11/23/2016
Viol. Classification: Major
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
Description: Failure to use authorized equipment during tank degassing activities. A control device other than a flare

was used to control emissions from MSS tank degassing. The control device used had greater destruction efficiency for all compounds than the permit authorized flare, so there were no excess emissions.

Notice of Intent Date: 01/18/2017 (1389649)

Disclosure Date: 08/14/2017

Viol. Classification: Minor

Citation: 40 CFR Chapter 63, SubChapter C, PT 63, SubPT DDDDD 63.7510

Description: Failure to maintain documentation for testing required under 40 CFR 63, Subpart DDDDD (Unit HT-32).

Viol. Classification: Minor

Citation: 40 CFR Chapter 264, SubChapter I, PT 264, SubPT B 264.15(a)

40 CFR Chapter 264, SubChapter I, PT 264, SubPT B 264.15(d)

Description: Failure to maintain documentation of daily Hazardous Waste Tank inspections.

Viol. Classification: Minor

Citation: 40 CFR Chapter 264, SubChapter I, PT 264, SubPT CC 264.1084(d)(3)

Description: Failure to document daily Hazardous Waste Tank Roof inspections.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 115, SubChapter H 115.725(c)(3)(A)

30 TAC Chapter 115, SubChapter H 115.725(d)

30 TAC Chapter 115, SubChapter H 115.725(e)(3)

30 TAC Chapter 115, SubChapter H 115.725(f)

30 TAC Chapter 122, SubChapter B 122.132(e)

Description: Failure to accurately represent HRVOC requirements in current Title V permit.

Viol. Classification: Minor

Citation: 30 TAC Chapter 122, SubChapter B 122.144(1)

Description: Failure to maintain documents associated with conductivity and TDS correlation (CT-6, CT-11, CT-8, CT-9, CT10).

Viol. Classification: Minor

Citation: 30 TAC Chapter 115, SubChapter D 115.352(1)

30 TAC Chapter 115, SubChapter D 115.352(2)

30 TAC Chapter 115, SubChapter D 115.352(3)

30 TAC Chapter 115, SubChapter D 115.354(3)

30 TAC Chapter 115, SubChapter D 115.356(2)(E)

30 TAC Chapter 115, SubChapter D 115.356(2)(F)

30 TAC Chapter 115, SubChapter D 115.356(5)

30 TAC Chapter 115, SubChapter H 115.781(c)(1)

30 TAC Chapter 115, SubChapter H 115.786(e)

40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.148(b)(3)

40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.163(c)(3)

40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.181(c)

40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.181(d)

Description: Failure to maintain records associated with fugitive leaks identified during AVO inspections.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)

Description: Failure to comply with MAERT emission limits for EPNs HT-33.

Viol. Classification: Moderate

Citation: 40 CFR Part 63, Subpart H 63.165

40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.182(d)(2)(xiv)

Description: Failure to limit PRDs (Pressure Relief Devices) in gas/vapor service to below 500 ppm.

Viol. Classification: Minor

Citation: 30 TAC Chapter 115, SubChapter H 115.725(c)

Description: Failure to maintain checklists associated with quarterly visual PSV inspections and HRVOC Monitoring Parameters. The checklist are not being signed, dated, and records properly retained for five years. the check list missing elements required under the rule.

Viol. Classification: Minor

Citation: 5B THSC Chapter 363, SubChapter A 363.119

40 CFR Chapter 63, SubChapter C, PT 63, SubPT A 63.11(b)

40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.112(e)(3)

40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.113(a)(1)(i)

40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.114(a)(1)(i)

40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.116(a)

40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.120

Description: Failure to update and correct deficiencies of Subpart G and H representations in NOCs.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 122, SubChapter B 122.132(e)

Description: Failure to update and correct deficiencies in Title V permit representations.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 117, SubChapter B 117.303(a)(11)
30 TAC Chapter 117, SubChapter B 117.303(a)(6)(D)
30 TAC Chapter 117, SubChapter B 117.303(b)(10)
30 TAC Chapter 117, SubChapter B 117.354(a)(5)
30 TAC Chapter 117, SubChapter B 117.356
40 CFR Chapter 89, SubChapter C, PT 89, SubPT B 89.112

Description: Failure to correct deficiencies associated with diesel engines for the following :
Final Control Plan, Title V Permit Representations, RICE MACT Representations

Notice of Intent Date: 01/18/2017 (1389686)

Disclosure Date: 05/25/2017

Viol. Classification: Minor

Citation: 30 TAC Chapter 116, SubChapter B 116.115

Description: Failure to maintain calibration records and verify accuracy of assist natural gas flow meters. The annual calibration records are not available for the B-3-1 flare vent stream flow meter for 2015 and 2016. In addition, the records associated with the assist natural gas flow meters do not demonstrate that the meters are meeting the accuracy requirements of +5%.

Viol. Classification: Minor

Citation: 30 TAC Chapter 116, SubChapter B 116.115

Description: Failure to retain on-site manufacturer supplied engineering data for the caustic scrubbing system. The Plant does not have on-site manufacturer supplied engineering data on the caustic scrubbing system that demonstrates that the scrubbing system will maintain a minimal efficiency of 92.5%.

Viol. Classification: Minor

Citation: 30 TAC Chapter 122, SubChapter G 122.602

Description: Failure to retain records of structural integrity inspections and dip pipe verification. Records to document structural integrity inspections and dip pipe verification could not be located for nine storage tanks. Further, drawings showing dip pipes extend 6 inches of the bottom of the tanks could not be located.

Disclosure Date: 11/27/2017

Viol. Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)

Description: Failure to monitor instrumentation systems.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(b)(2)(C)

Description: Failure to identify heavy liquid components in the LDAR system. Component count may not be up to date.

Notice of Intent Date: 03/09/2017 (1401616)

No DOV Associated

Notice of Intent Date: 03/20/2017 (1403504)

No DOV Associated

Notice of Intent Date: 04/05/2017 (1408464)

No DOV Associated

Notice of Intent Date: 07/19/2017 (1430185)

No DOV Associated

Notice of Intent Date: 07/19/2017 (1430186)

No DOV Associated

Notice of Intent Date: 08/23/2017 (1437924)

Disclosure Date: 09/28/2017

Viol. Classification: Minor

Citation: 30 TAC Chapter 106, SubChapter A 106.8

Description: Failure to locate Wastewater PBR documentation for the West Wastewater Treatment Plant.

Viol. Classification: Major

Citation: 30 TAC Chapter 122, SubChapter B 122.132(d)(2)
30 TAC Chapter 122, SubChapter B 122.132(d)(3)
30 TAC Chapter 122, SubChapter B 122.142(b)(2)

Description: Failure to include the Wastewater Treatment Plants, East Waste Treatment Plant and West Waste Treatment Plant, in a Title V Permit.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter F 116.615(3)

Description: Failure to properly consolidate Standard Permit per 30 TAC 116.615(3). Standard Permit 82086 was incorporated by reference in the last renewal instead of being consolidated per 30 TAC 116.615(3). The Standard Permit was subsequently voided as if it had been consolidated into the permit.

Notice of Intent Date: 09/05/2017 (1437841)

No DOV Associated

Notice of Intent Date: 09/05/2017 (1442923)

No DOV Associated

Notice of Intent Date: 09/14/2017 (1439454)

No DOV Associated

Notice of Intent Date: 10/02/2017 (1447238)

Disclosure Date: 11/27/2017

Viol. Classification: Major

Citation: 30 TAC Chapter 122, SubChapter B 122.132(d)(2)

30 TAC Chapter 122, SubChapter B 122.142(b)(2)

Description: Failure to obtain authorization for Acetone Scrubber.

Viol. Classification: Major

Citation: 30 TAC Chapter 116, SubChapter B 116.115(b)(2)(F)

Description: Failure to monitor emissions of VOC, SO2 and Acetone. Unauthorized emissions of VOC, SO2, and Acetone were discovered as a result of Acetone Water System Evaluation.

Notice of Intent Date: 11/16/2017 (1454371)

Disclosure Date: 05/29/2018

Viol. Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.116(a)

Description: Failure to limit the hourly fill rate for Tanks B-3-18 and B-3-19 as prescribed in permit.

Notice of Intent Date: 12/07/2017 (1460192)

Disclosure Date: 05/29/2018

Viol. Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(a)

Description: Failure to maintain Stack Test Emission Factor below permit representation for PM.

Notice of Intent Date: 02/14/2018 (1472490)

Disclosure Date: 08/13/2018

Viol. Classification: Minor

Citation: 40 CFR Chapter 63, SubChapter C, PT 63, SubPT A 63.10(d)(5)

40 CFR Chapter 63, SubChapter C, PT 63, SubPT F 63.102(a)(4)

40 CFR Chapter 63, SubChapter C, PT 63, SubPT F 63.103(c)(2)

40 CFR Chapter 63, SubChapter C, PT 63, SubPT F 63.103(c)(3)

40 CFR Chapter 63, SubChapter C, PT 63, SubPT A 63.6(e)

40 CFR Chapter 63, SubChapter C, PT 63, SubPT A 63.6(e)(1)(i)

40 CFR Chapter 63, SubChapter C, PT 63, SubPT A 63.6(e)(3)(iii)

Description: Failure to manage records associated with shutdown, startup, malfunction of process equipment or continuous monitoring systems. This also includes not having a maintenance wastewater plan incorporated as part of an SSM Plan.

Viol. Classification: Moderate

Citation: 40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.111

40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.132(c)

40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.144(b)(1)

40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.144(c)

40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.146(b)(1)

40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.147(b)(8)

40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.147(f)

40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.152(b)(1)

40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.152(b)(1)(i)

Description: Failure to classify wastewater streams (HT2: SEP2/SEP3). Process wastewater streams discarded from the HON applicable unit that have not been evaluated as a potential Pont of Determination (POD) for HON Subpart G process wastewater provisions. Supporting documentation was also not available.

Viol. Classification: Minor

Citation: 40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.118(a)(2)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.118(f)(2)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.152(c)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.152(c)(2)(ii)(A)(2)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.152(c)(2)(ii)(A)(3)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.152(c)(2)(ii)(A)(4)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.152(c)(2)(ii)(B)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.152(c)(2)(ii)(C)

Description: Failure to include compliance information in the Hazardous Organic NESHAP (HON) Periodic Report. This includes insufficient monitoring data for the thermal incinerators and flares and times and durations associated with pilot flames of a flare. See DOV chart for specific details.

Viol. Classification: Minor

Citation: 40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.160(a)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.161
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.162(c)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.162(e)
40 CFR Part 63, Subpart H 63.166
40 CFR Part 63, Subpart H 63.181(i)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.181(j)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.182(a)(2)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.182(c)

Description: Failure to record sampling connections systems intended to operate in organic hazardous pollutant service for 300 hours or more during the calendar year.

Viol. Classification: Minor

Citation: 40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.112(e)(3)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.113
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.182
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.182(a)(2)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.182(c)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.182(d)(4)

Description: Failure to complete deficiencies in NOCS for Subparts G and H.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 122, SubChapter B 122.132(e)

Description: Failure to correct deficiencies in the Title V permit representations.

Viol. Classification: Moderate

Citation: 40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.160
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.162
40 CFR Part 63, Subpart H 63.163
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.165
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.166
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.167
40 CFR Part 63, Subpart H 63.170
40 CFR Part 63, Subpart H 63.174

Description: Failure to include components in the HT chemical manufacturing process unit and comply with associated regulations.

Notice of Intent Date: 02/21/2018 (1473695)

No DOV Associated

Notice of Intent Date: 03/20/2018 (1479031)

Disclosure Date: 06/25/2018

Viol. Classification: Major

Citation: 30 TAC Chapter 116, SubChapter B 116.110(a)

Description: Failure to obtain authorization for four preheaters.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)

Description: Failure to monitor the bulk liquid temperature of Tank 96674. Occasionally, bulk liquid temperature of tank 96674 is not monitored accurately if the tank level is below the thermocouple, and there is potential for the temperature to exceed the 65 degree F, which is required by Special Condition 5.

Notice of Intent Date: 04/04/2018 (1482583)

Disclosure Date: 08/13/2018

Viol. Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(a)

Description: Failure to maintain temperature of the mPD Storage Tanks. The temperature of the mPD Storage Tanks (HT-4403, HT-44943) intermittently exceeds the maximum temperature specified in NSR 8838 Special Condition 31.

Notice of Intent Date: 07/12/2018 (1506359)

No DOV Associated

Notice of Intent Date: 07/12/2018 (1506364)

Disclosure Date: 10/11/2018

Viol. Classification: Minor

Citation: 30 TAC Chapter 111, SubChapter A 111.111

30 TAC Chapter 111, SubChapter A 111.111(a)(1)

30 TAC Chapter 116, SubChapter B 116.115(a)

Description: Failure to maintain and/or locate opacity reading records.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 117, SubChapter B 117.356

Description: Failure to include all sources in Final Control Plan.

Notice of Intent Date: 07/31/2018 (1511075)

No DOV Associated

Notice of Intent Date: 08/23/2018 (1513373)

No DOV Associated

Notice of Intent Date: 08/29/2018 (1517501)

No DOV Associated

Notice of Intent Date: 08/28/2018 (1517504)

Disclosure Date: 11/27/2018

Viol. Classification: Minor

Citation: 30 TAC Chapter 115, SubChapter D 115.354(3)

30 TAC Chapter 116, SubChapter B 116.115(b)(2)(E)

40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.163(b)(3)

Description: Failure to maintain records for AVO inspections (unit HT-FUG, HT2-FUG).

Viol. Classification: Minor

Citation: 30 TAC Chapter 116, SubChapter B 116.115(b)(2)(E)

30 TAC Chapter 116, SubChapter B 116.115(b)(2)(F)

Description: Failure to maintain records of MS activities (HT-3, HT-11, HT-30, HT-46, HT_MSSFR, HT_MSSTK, HT_MSSP, TWTP1MSS, HT_DEGAS, HT_MISCMSS).

Viol. Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(b)(2)(E)

30 TAC Chapter 116, SubChapter B 116.115(b)(2)(F)

Description: Failure to maintain records of annual and hourly emissions.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(a)

Description: Failure to accurately represent preheater representations in permit.

Notice of Intent Date: 09/19/2018 (1525823)

Disclosure Date: 02/11/2019

Viol. Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)

Description: Failure to maintain CO hourly emissions below permit limits.

Notice of Intent Date: 09/28/2018 (1519933)

Disclosure Date: 11/27/2018

Viol. Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.111(b)(2)

Description: Failure to create Public Notice Records for the Notice of Receipt of Application and the Intent to Obtain Permit (1st Notice) requirement.

Notice of Intent Date: 10/01/2018 (1519939)

No DOV Associated

Notice of Intent Date: 10/25/2018 (1526571)

No DOV Associated

Notice of Intent Date: 11/21/2018 (1537047)
No DOV Associated

Notice of Intent Date: 11/28/2018 (1537054)
No DOV Associated

Notice of Intent Date: 11/28/2018 (1537059)
No DOV Associated

Notice of Intent Date: 12/04/2018 (1537090)
No DOV Associated

Notice of Intent Date: 12/18/2018 (1539220)
Disclosure Date: 10/16/2019
Viol. Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 117, SubChapter B 117.310(c)(1)
30 TAC Chapter 122, SubChapter B 122.143(4)
Description: Failure to maintain Carbon Monoxide emissions for N 7/8 Preheater (EPN: N-3) below permitted limits.

Notice of Intent Date: 01/21/2019 (1548696)
Disclosure Date: 04/25/2019
Viol. Classification: Moderate
Citation: 30 TAC Chapter 113, SubChapter C 113.110
30 TAC Chapter 113, SubChapter C 113.890
30 TAC Chapter 116, SubChapter B 116.115(c)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT F 63.104(b)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT FFFF 63.2520(e)
Description: Failure to collect the correct samples for heat exchanger.
Viol. Classification: Moderate
Citation: 30 TAC Chapter 113, SubChapter C 113.110
30 TAC Chapter 113, SubChapter C 113.890
30 TAC Chapter 116, SubChapter B 116.115(c)
40 CFR Part 63, Subpart H 63.175
40 CFR Part 63, Subpart H 63.176
Description: Failure to accurately calculate fugitive percent leak rates.
Viol. Classification: Moderate
Citation: 30 TAC Chapter 113, SubChapter C 113.110
30 TAC Chapter 113, SubChapter C 113.890
30 TAC Chapter 116, SubChapter B 116.115(c)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.152
40 CFR Chapter 63, SubChapter C, PT 63, SubPT FFFF 63.2520
Description: Failure to accurately include all required information in MACT periodic report.
Viol. Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT A 60.18
Description: Failure to maintain complete data for flares.
Viol. Classification: Minor
Citation: 30 TAC Chapter 106, SubChapter A 106.8
Description: Failure to maintain compliance data for PBRs.
Disclosure Date: 05/09/2019
Viol. Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
Description: Failure to maintain emissions calculations for a minimum of 5 years (Storage Tanks, Loading Operations).
Viol. Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
Description: Failure to maintain hourly emission limits (N14).
Viol. Classification: Minor
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
Description: Failure to maintain annual and hourly emission records.
Viol. Classification: Minor

Citation: 30 TAC Chapter 115, SubChapter C 115.214(a)
30 TAC Chapter 115, SubChapter C 115.216
30 TAC Chapter 116, SubChapter B 116.115(c)

Description: Failure to maintain Loading/Unloading records as required (SW-29, SW-30, SW-31).

Viol. Classification: Minor

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)

Description: Failure to maintain assist gas monitoring records as required (SW-1).

Viol. Classification: Minor

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)

Description: Failure to maintain MSS activity records as required (SW_MSSTK,SW_DEGAS, SWMISCMSS).

Viol. Classification: Minor

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)

Description: Failure to maintain exempt fugitive component records as required (SW-27).

Disclosure Date: 06/13/2019

Viol. Classification: Minor

Citation: 30 TAC Chapter 116, SubChapter B 116.115(b)(2)(C)

Description: Failure to maintain records of annual and daily production rates.

Viol. Classification: Minor

Citation: 30 TAC Chapter 116, SubChapter B 116.115(b)(2)(C)

Description: Failure to maintain records of tank construction and inspections (BMA-9, BMA-16).

Viol. Classification: Minor

Citation: 30 TAC Chapter 116, SubChapter B 116.115(b)(2)(C)

Description: Failure to maintain records of DMMA loading.

Viol. Classification: Major

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)

Description: Failure to maintain emissions with permit limits for the safety vents (N-7. N-8).

Viol. Classification: Minor

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)

Description: Failure to maintain records for MSS activities (PNBMA-MSTK, BMA16-MSS, PNBMA-MSPH, PNBMA_DGSA, PNMISCMSS).

Disclosure Date: 10/16/2019

Viol. Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(b)(2)(A)

Description: Failure to submit start of construction notification. Records for start of construction notification were unavailable for Unit N-12R.

Notice of Intent Date: 02/14/2019 (1550882)

No DOV Associated

Notice of Intent Date: 03/27/2019 (1554926)

No DOV Associated

Notice of Intent Date: 03/25/2019 (1554933)

No DOV Associated

Notice of Intent Date: 04/03/2019 (1577648)

No DOV Associated

Notice of Intent Date: 04/03/2019 (1577661)

No DOV Associated

Notice of Intent Date: 04/29/2019 (1569247)

No DOV Associated

Notice of Intent Date: 04/29/2019 (1569267)

No DOV Associated

Notice of Intent Date: 05/29/2019 (1571716)

Disclosure Date: 08/09/2019

Viol. Classification: Moderate

Citation: 30 TAC Chapter 113, SubChapter C 113.110
30 TAC Chapter 116, SubChapter B 116.115(c)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT F 63.104(b)

Description: Failure to collect correct samples for heat exchanger (CT-HT-1, CT-HT-2, CT-HT-2C, HT-29, HT-36).

Disclosure Date: 08/14/2019

Viol. Classification: Minor

Citation: 30 TAC Chapter 101, SubChapter F 101.201

Description: Failure to maintain records of non-reportable events (HT- Area).

Disclosure Date: 11/08/2019

Viol. Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)

30 TAC Chapter 122, SubChapter B 122.144

Description: Failure to correct permit representations on NSR permit for the following units: HR, B3. Compliance documentation was not maintained.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)

30 TAC Chapter 122, SubChapter B 122.146

Description: Failure to maintain emissions below permit limits and report annual emission exceedance on Deviation Report for the following unit: B-3-51.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 101, SubChapter A 101.10

30 TAC Chapter 116, SubChapter B 116.115(b)(2)(H)

Description: Failure to include ammonia and acetone emissions in the annual emissions inventory.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 115, SubChapter D 115.354

30 TAC Chapter 116, SubChapter B 116.115(c)

40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.163

Description: Failure to complete fugitive component monitoring information (Unit HTRES-FUG).

Viol. Classification: Moderate

Citation: 30 TAC Chapter 122, SubChapter B 122.132(d)

Description: Failure to include HTRES-FUG in the Title V permit.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.110(a)

Description: Failure to locate NSR authorization for cooling tower CT B-3.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)

30 TAC Chapter 122, SubChapter B 122.146

Description: Failure to use proper control device for degassing a storage tank. Control device other than a flare was used in the degassing process. Exceedance was not reported in the deviation report.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 113, SubChapter C 113.120

30 TAC Chapter 116, SubChapter B 116.115(c)

30 TAC Chapter 122, SubChapter B 122.144

40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.132(a)(1)

Description: Failure to maintain Hazardous Organic NESHAP (HON) wastewater determination documentation for unit B3.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 113, SubChapter C 113.130

30 TAC Chapter 116, SubChapter B 116.115(c)

30 TAC Chapter 122, SubChapter B 122.144

40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.182(c)(1)

Description: Failure to accurately represent Hazardous Organic NESHAP (HON) NOCS sampling for unit B3.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 101, SubChapter A 101.10

Description: Failure to maintain records for MSS activities for the following units: BGMA-MSSTK, B-3-9-MSS, BGMA-MSSFR, BGMA-MSSPH, BGMA-DEGAS, BGMA-MSSLD, BGMA-MSSPT, B3MISCMSS, B3MSSICE.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 101, SubChapter A 101.10

30 TAC Chapter 116, SubChapter B 116.115(c)

Description: Failure to accurately report emissions from Davy Stack (Unit HR-8).

Viol. Classification: Moderate

Citation: 30 TAC Chapter 101, SubChapter A 101.10

Description: Failure to capture accurate and complete data for flare flows (Unit B-3-1).

Viol. Classification: Moderate

Citation: 30 TAC Chapter 101, SubChapter A 101.10

Description: Failure to accurately report emissions from the flare (Unit B-3-1).

Viol. Classification: Moderate

Citation: 30 TAC Chapter 101, SubChapter A 101.10

30 TAC Chapter 116, SubChapter B 116.111(a)

30 TAC Chapter 122, SubChapter B 122.144

Description: Failure to update permit representations in permit calculations and emissions reporting for the following units: 35630, 96631, 96632.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)

Description: Failure to maintain ventilation of sulfuric acid units below 18,600 sfc during clearing (Unit HR_DEGAS).

Viol. Classification: Moderate

Citation: 30 TAC Chapter 101, SubChapter A 101.10

30 TAC Chapter 116, SubChapter B 116.111(a)

30 TAC Chapter 122, SubChapter B 122.144

Description: Failure to use accurate permit representations and emissions calculations for Unit B3-MSSLD.

Viol. Classification: Minor

Citation: 30 TAC Chapter 122, SubChapter B 122.144

Description: Failure to maintain records for MSS activities for the following units: HR_MSSTK, HR_MSSPH, HR_DEGAS, HR_MISCMSS.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.110(a)

Description: Failure to locate NSR authorization for the magnesium sulfate and weak sulfuric acid tanks (Unit HR-12HR-20).

Disclosure Date: 11/13/2019

Viol. Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)

Description: Failure to maintain visible emission inspection records for thermal oxidizers and start-up furnaces (Units HT-1, HT-2, HT-9, HT-32, HT-49, HT-3, HT-11, HT-30, HT-46).

Viol. Classification: Minor

Citation: 30 TAC Chapter 113, SubChapter C 113.110

30 TAC Chapter 115, SubChapter D 115.354

30 TAC Chapter 116, SubChapter B 116.115(c)

40 CFR Chapter 63, SubChapter C, PT 63, SubPT F 63.103

Description: Failure to maintain records of SSM activities for Unit PRO-HT.

Disclosure Date: 03/19/2020

Viol. Classification: Minor

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)

Description: Failure to maintain records of LEL meter calibrations and functionality tests (HR Unit).

Viol. Classification: Minor

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)

Description: Failure to maintain records of decoking activities (HT-1, HT-2, HT-9, HT-32, HT-49).

Viol. Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)

Description: Failure to include all required parameters in a 2015 stack test for HT-1 Boiler (A/B thermal oxidizer, HT-3).

Viol. Classification: Minor

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)

Description: Failure to maintain records for MSS activities (HT_MSSFR, HT_MSSTK, HT-MSSP, TWTP1MAA, HT-DEGAS, HT-MISCMSS, HT-MISCMSSFRAC).

Viol. Classification: Minor

Citation: 30 TAC Chapter 115, SubChapter H 115.725(c)(3)(D)

Description: Failure to maintain records of PRV inspections.

Viol. Classification: Moderate

Citation: 40 CFR Chapter 63, SubChapter C, PT 63, SubPT DDDDD 63.7515(d)

Description: Failure to conduct HT Preheater tune ups within 13 months of the previous tune up.

Notice of Intent Date: 05/29/2019 (1599251)

No DOV Associated

Notice of Intent Date: 06/06/2019 (1577917)

Disclosure Date: 11/18/2019

Viol. Classification: Major

Citation: 30 TAC Chapter 115, SubChapter B 115.122(a)(2)

30 TAC Chapter 116, SubChapter B 116.115(b)(2)(F)

30 TAC Chapter 116, SubChapter B 116.115(c)

Description: Failure to maintain PM emissions within permit limits. Stack test demonstrated an NSR permit exceedance of PM emissions limits from the HR2 preheater.

Notice of Intent Date: 07/03/2019 (1579217)

Disclosure Date: 11/15/2019

Viol. Classification: Moderate
Citation: 30 TAC Chapter 115, SubChapter B 115.122(a)(2)
Description: Failure of Stack Test (B3 Acetone Scrubber) to demonstrate 98 efficiency.

Notice of Intent Date: 07/08/2019 (1579489)
Disclosure Date: 08/05/2019
Viol. Classification: Minor
Citation: 30 TAC Chapter 113, SubChapter C 113.130
30 TAC Chapter 113, SubChapter C 113.520
30 TAC Chapter 115, SubChapter D 115.355(1)
30 TAC Chapter 115, SubChapter H 115.781(b)
30 TAC Chapter 116, SubChapter B 116.115(c)
40 CFR Chapter 264, SubChapter I, PT 264, SubPT BB 264.1063(b)(1)
40 CFR Chapter 265, SubChapter I, PT 265, SubPT BB 265.1063(b)(1)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT UU 63.1023(b)(2)
Description: Failure to maintain fugitive monitoring instrument calibration records.

Notice of Intent Date: 07/10/2019 (1580726)
No DOV Associated

Notice of Intent Date: 07/18/2019 (1580929)
Disclosure Date: 10/16/2019
Viol. Classification: Major
Citation: 30 TAC Chapter 116, SubChapter B 116.110(a)
30 TAC Chapter 117, SubChapter B 117.300
30 TAC Chapter 122, SubChapter B 122.121
40 CFR Chapter 60, SubChapter C, PT 60, SubPT IIII 60.4200
40 CFR Chapter 63, SubChapter C, PT 63, SubPT ZZZZ 63.6585
Description: Failure to obtain authorization and maintain associated records of a diesel engine on site.

Notice of Intent Date: 10/09/2019 (1604323)
No DOV Associated

Notice of Intent Date: 12/19/2019 (1618356)
Disclosure Date: 12/16/2020
Viol. Classification: Moderate
Citation: 40 CFR Chapter 264, SubChapter I, PT 264, SubPT BB 264.1057
Description: Failure to monitor fugitive components. Specifically, fugitive components (28) have missed monitoring due to misidentification as Difficult to Monitor designation with annual monitoring frequency instead of the Normal to Monitor quarterly frequency.

Notice of Intent Date: 04/21/2020 (1646744)
No DOV Associated

Notice of Intent Date: 04/22/2020 (1646799)
Disclosure Date: 09/14/2020
Viol. Classification: Moderate
Citation: 30 TAC Chapter 113, SubChapter C 113.1130
40 CFR Chapter 63, SubChapter C, PT 63, SubPT DDDDD 63.7550
Description: Failure to include 2017 tune-ups in annual report (units BH-2-3, BH 2-4)

Notice of Intent Date: 04/21/2020 (1646852)
No DOV Associated

Notice of Intent Date: 04/29/2020 (1651965)
Disclosure Date: 10/06/2020
Viol. Classification: Moderate
Citation: 40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.182(a)(2)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.182(c)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.182(d)(4)
Description: Failure to accurately report HON Notice of Compliance Status representations for unit GRP-MMAFUG.
Viol. Classification: Moderate
Citation: 30 TAC Chapter 113, SubChapter C 113.890

40 CFR Chapter 63, SubChapter C, PT 63, SubPT FFFF 63.2520(e)(10)

Description: Failure to accurately report MON Notice of Compliance Status representations for units GRP-MMAFUG and MAA_Vent.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.160
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.162
40 CFR Part 63, Subpart H 63.163
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.168
40 CFR Part 63, Subpart H 63.174
40 CFR Chapter 63, SubChapter C, PT 63, SubPT FFFF 63.2450
40 CFR Chapter 63, SubChapter C, PT 63, SubPT FFFF 63.2480

Description: Failure to include all components in fugitive monitoring program (MAA_Vent, GRP-MAAFUG, GRP-MMAFUG).

Viol. Classification: Moderate

Citation: 30 TAC Chapter 113, SubChapter C 113.130
30 TAC Chapter 115, SubChapter D 115.354
30 TAC Chapter 116, SubChapter B 116.115(c)
4F TWC Chapter 63, SubChapter A 63.168(b)

Description: Failure to properly label components. Normal-to-Monitor components incorrectly labeled as Difficult-to-Monitor. Missed monitoring of components due to incorrect determination.

Notice of Intent Date: 05/04/2020 (1652555)

Disclosure Date: 10/27/2020

Viol. Classification: Moderate

Citation: 30 TAC Chapter 101, SubChapter A 101.10(c)

Description: Failure to use correct Green House Gas Emission Factors for emission reporting.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 101, SubChapter A 101.10(c)

Description: Failure to use correct emission factors used in emission reporting.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 101, SubChapter A 101.10(c)

Description: Failure to use correct vent flow rates in annual emissions reporting.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 101, SubChapter A 101.10(c)

Description: Failure to use correct vent composition in annual emissions reporting.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 101, SubChapter A 101.10(c)

Description: Failure to include temporary control device emissions in annual emissions inventory.

Notice of Intent Date: 05/18/2020 (1652560)

Disclosure Date: 05/28/2020

Viol. Classification: Minor

Citation: 30 TAC Chapter 115, SubChapter D 115.354(3)
30 TAC Chapter 116, SubChapter B 116.115(b)(2)(E)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.163(b)(3)

Description: Failure to maintain compliance inspection records (HT-FUG, HT-FUG2).

Disclosure Date: 08/26/2020

Viol. Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)

Description: Failure to use accurate cooling tower correlation (HT-29, HT-36).

Viol. Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(a)

Description: Failure to maintain or complete quarterly visible emission observations (HT-33, HT-40).

Viol. Classification: Moderate

Citation: 30 TAC Chapter 113, SubChapter C 113.620
40 CFR Chapter 63, SubChapter C, PT 63, SubPT EEE 63.1209(d)

Description: Failure to maintain Continuous Monitoring Systems performance Evaluation Plan (CMSPEP).

Viol. Classification: Moderate

Citation: 30 TAC Chapter 113, SubChapter C 113.130
30 TAC Chapter 115, SubChapter D 115.352(4)
30 TAC Chapter 116, SubChapter B 116.115(c)(2)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.167

Description: Failure to equip open-ended lines with an appropriately sized cap, blind flange, plug, or second valve to seal

the line (HT-FUG, HT2-FUG).

Notice of Intent Date: 08/21/2020 (1676896)
No DOV Associated

Notice of Intent Date: 09/30/2020 (1685048)
Disclosure Date: 10/27/2020
Viol. Classification: Minor
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
Description: Failure to maintain Ammonia AVO inspection records.
Viol. Classification: Minor
Citation: 30 TAC Chapter 106, SubChapter A 106.4
30 TAC Chapter 117, SubChapter B 117.354
Description: Failure to maintain records of engine inspections and operation.

Notice of Intent Date: 12/14/2020 (1701251)
No DOV Associated

Notice of Intent Date: 03/23/2021 (1723908)
Disclosure Date: 04/28/2021
Viol. Classification: Minor
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
Description: Failure to maintain records of cooling tower TDS-to-conductivity rations and PM emissions.
Viol. Classification: Minor
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
Description: Failure to maintain records of cooling tower drift eliminator inspections.
Viol. Classification: Major
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
Description: Failure to document compliance with 12-month rolling emissions limits.
Viol. Classification: Minor
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
Description: Failure to maintain tank throughput records.
Viol. Classification: Minor
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
Description: Failure to maintain calibration records for flare flow meters (SW-1).
Disclosure Date: 05/26/2021
Viol. Classification: Moderate
Citation: 30 TAC Chapter 115, SubChapter D 115.354
30 TAC Chapter 116, SubChapter B 116.115(c)
Description: Failure to monitor new fugitive components and AVO identified repair within applicable time frame (BMA-PRD-FUG, MMA-FUG, SW-27, FN).
Viol. Classification: Moderate
Citation: 30 TAC Chapter 115, SubChapter D 115.354
30 TAC Chapter 116, SubChapter B 116.115(c)
Description: Failure to monitor fugitive components. Specifically, fugitive components have missed monitoring due to misidentification as Difficult to Monitor designation instead of Normal to Monitor (BMA-PRD-FUG, MMA-FUG, SW-27, FN).
Viol. Classification: Minor
Citation: 30 TAC Chapter 115, SubChapter D 115.354
30 TAC Chapter 116, SubChapter B 116.115(c)
Description: Failure to maintain documentation identifying heavy liquid fugitive components (BMA-PRD-FUG, MMA-FUG, SW-27, FN).
Disclosure Date: 10/12/2021
Viol. Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
Description: Failure calibrate Lower Explosive Limit (LEL) meters with a 25% standard.
Viol. Classification: Moderate
Citation: 30 TAC Chapter 101, SubChapter A 101.10
Description: Failure to report and record accurate Emission Inventory calculations (N-7, N-8, N-9).
Viol. Classification: Moderate
Citation: 30 TAC Chapter 101, SubChapter A 101.10
Description: Failure to include tank emissions in the emissions inventory (N-21, N-22).
Viol. Classification: Moderate
Citation: 30 TAC Chapter 115, SubChapter D 115.352(4)
Description: Failure to equip open-ended lines with appropriately sized caps, blind flanges, plugs, or second valves to

seal the lines (FN).
Viol. Classification: Moderate
Citation: 30 TAC Chapter 115, SubChapter D 115.352(4)
30 TAC Chapter 116, SubChapter B 116.115(c)
Description: Failure to correct date in Special Condition No. 4.

Notice of Intent Date: 05/04/2021 (1724728)
Disclosure Date: 11/09/2021
Viol. Classification: Moderate
Citation: 30 TAC Chapter 113, SubChapter C 113.130
30 TAC Chapter 116, SubChapter B 116.115(c)
Description: Failure to secure the bypass line on closed-vent system in the non-diverting position. Visual inspections of the seal were not conducted monthly.

Notice of Intent Date: 05/26/2021 (1736477)
No DOV Associated

Notice of Intent Date: 06/03/2021 (1736973)
No DOV Associated

Notice of Intent Date: 07/13/2021 (1746234)
Disclosure Date: 07/12/2022
Viol. Classification: Moderate
Citation: 30 TAC Chapter 101, SubChapter F 101.201(b)(2)(I)
30 TAC Chapter 122, SubChapter B 122.143(4)
Rqmt Prov: OP STC 2.F
Description: Failed to maintain records documenting the basis used for determining the quantity of air contaminants emitted from an event that occurred on 2/27/21.
Viol. Classification: Moderate
Citation: 30 TAC Chapter 101, SubChapter F 101.201(a)(1)(B)
30 TAC Chapter 122, SubChapter B 122.143(4)
Rqmt Prov: OP STC 2.F
Description: Failed to notify the commission and local air pollution control agencies of an event which exceeded a reportable quantity that occurred on 4/28/21.

Notice of Intent Date: 07/12/2021 (1746991)
No DOV Associated

Notice of Intent Date: 09/01/2021 (1762700)
Disclosure Date: 06/27/2022
Viol. Classification: Moderate
Citation: 30 TAC Chapter 115, SubChapter D 115.354(4)
30 TAC Chapter 116, SubChapter B 116.115(c)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.125
Description: Failure to prevent relief valve activation due to thermal expansion (DMMA Cooler).

Notice of Intent Date: 09/03/2021 (1762705)
No DOV Associated

Notice of Intent Date: 09/28/2021 (1770519)
No DOV Associated

Notice of Intent Date: 10/19/2021 (1771898)
No DOV Associated

Notice of Intent Date: 11/18/2021 (1775547)
No DOV Associated

Notice of Intent Date: 01/26/2022 (1794113)
No DOV Associated

Notice of Intent Date: 02/08/2022 (1797221)
No DOV Associated

Notice of Intent Date: 04/26/2022 (1811976)

No DOV Associated

Notice of Intent Date: 04/26/2022 (1812017)
No DOV Associated

Notice of Intent Date: 05/19/2022 (1818568)
No DOV Associated

Notice of Intent Date: 05/25/2022 (1823596)
No DOV Associated

Notice of Intent Date: 07/18/2022 (1839585)
No DOV Associated

Notice of Intent Date: 09/22/2022 (1854087)
Disclosure Date: 11/18/2022
Viol. Classification: Moderate
Citation: 30 TAC Chapter 113, SubChapter C 113.130
30 TAC Chapter 115, SubChapter D 115.352(4)
30 TAC Chapter 116, SubChapter B 116.115(c)
4F TWC Chapter 63, SubChapter A 63.167(a)
Rqmt Prov: PERMIT SC 6(E)
Description: Failure to prevent an open-ended line in the HT area.

Notice of Intent Date: 10/17/2022 (1855562)
No DOV Associated

Notice of Intent Date: 11/15/2022 (1867696)
No DOV Associated

G. Type of environmental management systems (EMSs):
N/A

H. Voluntary on-site compliance assessment dates:
N/A

I. Participation in a voluntary pollution reduction program:
N/A

J. Early compliance:
N/A

Sites Outside of Texas:
N/A