



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

P.O. Box 13087
Austin, Texas 78711-3087

PERMIT TO DISCHARGE WASTES

under provisions of
Section 402 of the Clean Water Act
and Chapter 26 of the Texas Water Code
and 40 CFR Part 414

Union Carbide Corporation

whose mailing address is

P.O. Box 186
Port Lavaca, Texas 77979

is authorized to treat and discharge wastes from UCC Seadrift Operations, a chemical facility that manufactures plastics (polyethylene and polypropylene), glycols, and oxide derivatives (SIC 2869, 2821, and 2813)

located at 7501 State Highway 185 North, near the City of Seadrift, Calhoun County, Texas 77983

via Outfalls 001, 002, 005, 006, and 012 directly to Victoria Barge Canal Tidal in Segment No. 1701 of the Lavaca-Guadalupe Coastal Basin; via Outfall 003 to a ditch, thence to West Coloma Creek, thence to Coloma Creek; via Outfalls 014 and 015 to West Coloma Creek, thence to Coloma Creek; via Outfall 016 to West Coloma Creek Lateral No. 17, thence to West Coloma Creek, thence to Coloma Creek, thence to Matagorda Bay/Powderhorn Lake in Segment No. 2451 of the Bays and Estauries; via Outfall 004 to an unnamed ditch, thence to San Antonio Bay/Hynes Bay/Guadalupe Bay/Mission Lake in Segment No. 2462 of the Bays and Estuaries

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 on **July 8, 2026**.

ISSUED DATE:

For the Commission

TPDES PERMIT NO.
WQ0000447000
*[For TCEQ office use only -
EPA I.D. No. TX0002844]*

This major amendment replaces
TPDES Permit No. WQ0000447000
issued on July 8, 2021.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS-INTERIM

Outfall Number 001

1. During the period beginning upon the date of permit issuance and lasting until completion of modifications for Outfall 002, the permittee is authorized to discharge process wastewater from Union Carbide Corporation, remediated ground water, domestic wastewater, utility wastewater ¹, hydrostatic test water, and stormwater ² subject to the following effluent limitations:

The daily average dry-weather flow ³ of effluent shall not exceed 5.80 million gallons per day (MGD).

Effluent Characteristics	Discharge Limitations					Minimum Self-Monitoring Requirements	
	Daily Average		Daily Maximum		Single Grab	Report Daily Average and Daily Maximum	Measurement Frequency Sample Type
	lbs/day	mg/L	lbs/day	mg/L	mg/L		
Flow (dry-weather) ³	5.80 MGD		Report, MGD		N/A	Continuous	Record
Biochemical Oxygen Demand (5-day)	1187	34.8	3106	100	200	3/week	Composite
Total Suspended Solids	1966	Report	6375	280	560	3/week	Composite
Dissolved Oxygen (DO) ^{4, 5}	Report, mg/L (min)		N/A	N/A	N/A	1/day ⁶	Grab
Enterococci ⁷	35		104		104	1/week	Grab
Total Residual Chlorine	N/A	N/A	N/A	0.1 ⁸	0.1	1/day ⁹	Grab
Total Organic Carbon	N/A	Report	N/A	Report	N/A	3/week	Composite
Acenaphthene	0.70	N/A	1.87	N/A	0.060	1/year	Composite
Acenaphthylene	0.70	N/A	1.87	N/A	0.060	1/year	Composite
Acrylonitrile	3.04	N/A	7.67	N/A	0.246	1/year	Composite
Anthracene	0.70	N/A	1.87	N/A	0.060	1/year	Composite
Benzene	1.17	N/A	4.31	N/A	0.138	1/year	Composite
Benzo(a)anthracene	0.041	N/A	0.087	N/A	0.005	1/year	Composite
3,4-Benzofluoranthene	0.73	N/A	1.93	N/A	0.062	1/year	Composite
Benzo(k)fluoranthene	0.70	N/A	1.87	N/A	0.060	1/year	Composite
Benzo(a)pyrene	0.0041	N/A	0.0087	N/A	0.005	1/year	Composite
Bis(2-ethylhexyl) phthalate	3.27	N/A	8.85	N/A	0.284	1/year	Composite

¹ See Other Requirement No. 15.

² Stormwater includes stormwater associated with industrial activities and allowable non-stormwater wastestreams. See Other Requirement No. 16.

³ See Other Requirement No. 1.

⁴ Monitoring and reporting requirements for DO are applicable when the daily discharge is greater than 5.8 MGD. For self-reporting purposes, report as wet-weather discharge.

⁵ The monitoring and reporting requirements expire one week prior to the permit expiration date.

⁶ Samples must be collected 1/day as long as the daily discharge is greater than 5.8 MGD.

⁷ Bacteria measured as colony forming units (CFU) or most probable number (MPN) per 100 mL.

⁸ The daily maximum effluent limitation for Total Residual Chlorine (TRC) is applicable when the TRC samples at Outfall 002 is greater than 0.2 mg/L.

⁹ Samples must be collected 1/day when the TRC samples at Outfall 002 is greater than 0.2 mg/L.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS-INTERIM-continued

Outfall Number 001

Effluent Characteristics	Discharge Limitations					Minimum Self-Monitoring Requirements	
	Daily Average lbs/day	Daily Average mg/L	Daily Maximum lbs/day	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Carbon Tetrachloride	0.57	N/A	1.21	N/A	0.039	1/year	Composite
Chlorobenzene	0.48	N/A	0.89	N/A	0.029	1/year	Composite
Chloroethane	3.30	N/A	8.50	N/A	0.273	1/year	Composite
Chloroform	0.67	N/A	1.46	N/A	0.047	1/year	Composite
2-Chlorophenol	0.98	N/A	3.11	N/A	0.100	1/year	Composite
Chrysene	0.70	N/A	1.87	N/A	0.060	1/year	Composite
Di-n-butyl phthalate	0.86	N/A	1.81	N/A	0.058	1/year	Composite
1,2-Dichlorobenzene	2.44	N/A	5.17	N/A	0.166	1/year	Composite
1,3-Dichlorobenzene	0.98	N/A	1.40	N/A	0.045	1/year	Composite
1,4-Dichlorobenzene	0.48	N/A	0.89	N/A	0.029	1/year	Composite
1,1-Dichloroethane	0.70	N/A	1.87	N/A	0.060	1/year	Composite
1,2-Dichloroethane	2.16	N/A	6.69	N/A	0.215	1/year	Composite
1,1-Dichloroethylene	0.51	N/A	0.79	N/A	0.025	1/year	Composite
1,2-trans-Dichloroethylene	0.67	N/A	1.71	N/A	0.055	1/year	Composite
2,4-Dichlorophenol	1.24	N/A	3.55	N/A	0.114	1/year	Composite
1,2-Dichloropropane	4.85	N/A	7.29	N/A	0.234	1/year	Composite
1,3-Dichloropropylene	0.92	N/A	1.40	N/A	0.045	1/year	Composite
Diethyl phthalate	2.57	N/A	6.44	N/A	0.207	1/year	Composite
2,4-Dimethylphenol	0.57	N/A	1.14	N/A	0.037	1/year	Composite
Dimethyl phthalate	0.60	N/A	1.49	N/A	0.048	1/year	Composite
4,6-Dinitro-o-Cresol	2.47	N/A	8.78	N/A	0.282	1/year	Composite
2,4-Dinitrophenol	2.25	N/A	3.90	N/A	0.125	1/year	Composite
2,4-Dinitrotoluene	3.58	N/A	9.04	N/A	0.290	1/year	Composite
2,6-Dinitrotoluene	8.09	N/A	20.3	N/A	0.652	1/year	Composite
Ethylbenzene	1.01	N/A	3.42	N/A	0.110	1/year	Composite
Fluoranthene	0.79	N/A	2.16	N/A	0.069	1/year	Composite
Fluorene	0.70	N/A	1.87	N/A	0.060	1/year	Composite
Hexachlorobenzene	0.0011	N/A	0.0023	N/A	0.005	1/year	Composite
Hexachlorobutadiene	0.363	N/A	0.769	N/A	0.023	1/year	Composite

Effluent Characteristics	Discharge Limitations				Minimum Self-Monitoring Requirements		
	Daily Average lbs/day	Daily Average mg/L	Daily Maximum lbs/day	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Hexachloroethane	0.67	N/A	1.71	N/A	0.055	1/year	Composite
Methyl Chloride	2.73	N/A	6.03	N/A	0.193	1/year	Composite
Methylene Chloride	1.27	N/A	2.82	N/A	0.091	1/year	Composite
Naphthalene	0.70	N/A	1.87	N/A	0.060	1/year	Composite
Nitrobenzene	0.86	N/A	2.16	N/A	0.069	1/year	Composite
2-Nitrophenol	1.30	N/A	2.19	N/A	0.070	1/year	Composite
4-Nitrophenol	2.28	N/A	3.93	N/A	0.126	1/year	Composite
Phenanthrene	0.33	N/A	0.69	N/A	0.030	1/year	Composite
Phenol	0.48	N/A	0.82	N/A	0.026	1/year	Composite
Pyrene	0.79	N/A	2.12	N/A	0.068	1/year	Composite
Tetrachloroethylene	0.70	N/A	1.78	N/A	0.057	1/year	Composite
Toluene	0.82	N/A	2.54	N/A	0.081	1/year	Composite
1,2,4-Trichlorobenzene	2.16	N/A	4.44	N/A	0.143	1/year	Composite
1,1,1-Trichloroethane	0.67	N/A	1.71	N/A	0.055	1/year	Composite
1,1,2-Trichloroethane	0.67	N/A	1.71	N/A	0.055	1/year	Composite
Trichloroethylene	0.67	N/A	1.71	N/A	0.055	1/year	Composite
Vinyl Chloride	3.30	N/A	8.50	N/A	0.273	1/year	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 ¹.
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: At Outfall 001, after the final treatment pond and before discharging to the Victoria Barge Canal. Enterococci must be monitored downstream of Tank 1106 and all the sampling results from downstream of Tank 1106 shall be used in the calculations of the daily average (geometric mean for Enterococci) and daily maximum concentrations. Total Residual Chlorine must be sample after Outfall 001 and 002 is commingled and before discharging to the Victoria Barge Canal.

¹ See Other Requirement No. 10.

1. During the period beginning upon completion of modifications for Outfall 002 and initial discharge, and lasting until permit expiration, the permittee is authorized to discharge process wastewater from Union Carbide Corporation, remediated ground water, domestic wastewater, utility wastewater ¹, hydrostatic test water, and stormwater ² subject to the following effluent limitations:

The daily average dry-weather flow ³ of effluent shall not exceed 5.80 million gallons per day (MGD).

Effluent Characteristics	Discharge Limitations				Minimum Self-Monitoring Requirements		
	Daily Average		Daily Maximum		Single Grab	Report Daily Average and Daily Maximum Measurement Frequency	Daily Maximum Sample Type
	lbs/day	mg/L	lbs/day	mg/L	mg/L		
Flow (dry-weather) ³	5.80 MGD		Report, MGD		N/A	Continuous	Record
Biochemical Oxygen Demand (5-day)	1187	34.8	3106	100	200	3/week	Composite
Total Suspended Solids	1966	Report	6375	280	560	3/week	Composite
Dissolved Oxygen (DO) ^{4,5}	Report, mg/L (min)		N/A	N/A	N/A	1/day ⁶	Grab
Enterococci ⁷	35		104		104	1/week	Grab
Total Residual Chlorine	N/A	N/A	N/A	0.1 ⁸	0.1	1/day ⁹	Grab
Total Organic Carbon	N/A	Report	N/A	Report	N/A	3/week	Composite
Acenaphthene	0.70	N/A	1.87	N/A	0.060	1/year	Composite
Acenaphthylene	0.70	N/A	1.87	N/A	0.060	1/year	Composite
Acrylonitrile	3.04	N/A	7.67	N/A	0.246	1/year	Composite
Anthracene	0.70	N/A	1.87	N/A	0.060	1/year	Composite
Benzene	1.17	N/A	4.31	N/A	0.138	1/year	Composite
Benzo(a)anthracene	0.033	N/A	0.0697	N/A	0.005	1/year	Composite
3,4-Benzofluoranthene	0.73	N/A	1.93	N/A	0.062	1/year	Composite
Benzo(k)fluoranthene	0.70	N/A	1.87	N/A	0.060	1/year	Composite
Benzo(a)pyrene	0.0033	N/A	0.00697	N/A	0.005	1/year	Composite
Bis(2-ethylhexyl) phthalate	3.27	N/A	8.85	N/A	0.284	1/year	Composite

¹ See Other Requirement No. 15.

² Stormwater includes stormwater associated with industrial activities and allowable non-stormwater wastestreams. See Other Requirement No. 16.

³ See Other Requirement No. 1.

⁴ Monitoring and reporting requirements for DO are applicable when the daily discharge is greater than 5.8 MGD. For self-reporting purposes, report as wet-weather discharge.

⁵ The monitoring and reporting requirements expire one week prior to the permit expiration date.

⁶ Samples must be collected 1/day as long as the daily discharge is greater than 5.8 MGD.

⁷ Bacteria measured as colony forming units (CFU) or most probable number (MPN) per 100 mL.

⁸ The daily maximum effluent limitation for Total Residual Chlorine (TRC) is applicable when the TRC samples at Outfall 002 is greater than 0.2 mg/L.

⁹ Samples must be collected 1/day when the TRC at Outfall 002 is greater than 0.2 mg/L.

Effluent Characteristics	Discharge Limitations				Minimum Self-Monitoring Requirements		
	Daily Average lbs/day	Daily Average mg/L	Daily Maximum lbs/day	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Carbon Tetrachloride	0.57	N/A	1.21	N/A	0.039	1/year	Composite
Chlorobenzene	0.48	N/A	0.89	N/A	0.029	1/year	Composite
Chloroethane	3.30	N/A	8.50	N/A	0.273	1/year	Composite
Chloroform	0.67	N/A	1.46	N/A	0.047	1/year	Composite
2-Chlorophenol	0.98	N/A	3.11	N/A	0.100	1/year	Composite
Chrysene	0.70	N/A	1.87	N/A	0.060	1/year	Composite
Di-n-butyl phthalate	0.86	N/A	1.81	N/A	0.058	1/year	Composite
1,2-Dichlorobenzene	2.44	N/A	5.17	N/A	0.166	1/year	Composite
1,3-Dichlorobenzene	0.98	N/A	1.40	N/A	0.045	1/year	Composite
1,4-Dichlorobenzene	0.48	N/A	0.89	N/A	0.029	1/year	Composite
1,1-Dichloroethane	0.70	N/A	1.87	N/A	0.060	1/year	Composite
1,2-Dichloroethane	2.16	N/A	6.69	N/A	0.215	1/year	Composite
1,1-Dichloroethylene	0.51	N/A	0.79	N/A	0.025	1/year	Composite
1,2-trans-Dichloroethylene	0.67	N/A	1.71	N/A	0.055	1/year	Composite
2,4-Dichlorophenol	1.24	N/A	3.55	N/A	0.114	1/year	Composite
1,2-Dichloropropane	4.85	N/A	7.29	N/A	0.234	1/year	Composite
1,3-Dichloropropylene	0.92	N/A	1.40	N/A	0.045	1/year	Composite
Diethyl phthalate	2.57	N/A	6.44	N/A	0.207	1/year	Composite
2,4-Dimethylphenol	0.57	N/A	1.14	N/A	0.037	1/year	Composite
Dimethyl phthalate	0.60	N/A	1.49	N/A	0.048	1/year	Composite
4,6-Dinitro-o-Cresol	2.47	N/A	8.78	N/A	0.282	1/year	Composite
2,4-Dinitrophenol	2.25	N/A	3.90	N/A	0.125	1/year	Composite
2,4-Dinitrotoluene	3.58	N/A	9.04	N/A	0.290	1/year	Composite
2,6-Dinitrotoluene	8.09	N/A	20.3	N/A	0.652	1/year	Composite
Ethylbenzene	1.01	N/A	3.42	N/A	0.110	1/year	Composite
Fluoranthene	0.79	N/A	2.16	N/A	0.069	1/year	Composite
Fluorene	0.70	N/A	1.87	N/A	0.060	1/year	Composite
Hexachlorobenzene	0.000895	N/A	0.0019	N/A	0.005	1/year	Composite
Hexachlorobutadiene	0.0291	N/A	0.615	N/A	0.010	1/year	Composite

Effluent Characteristics	Discharge Limitations				Minimum Self-Monitoring Requirements		
	Daily Average lbs/day	Daily Average mg/L	Daily Maximum lbs/day	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Hexachloroethane	0.67	N/A	1.71	N/A	0.055	1/year	Composite
Methyl Chloride	2.73	N/A	6.03	N/A	0.193	1/year	Composite
Methylene Chloride	1.27	N/A	2.82	N/A	0.091	1/year	Composite
Naphthalene	0.70	N/A	1.87	N/A	0.060	1/year	Composite
Nitrobenzene	0.86	N/A	2.16	N/A	0.069	1/year	Composite
2-Nitrophenol	1.30	N/A	2.19	N/A	0.070	1/year	Composite
4-Nitrophenol	2.28	N/A	3.93	N/A	0.126	1/year	Composite
Phenanthrene	0.33	N/A	0.69	N/A	0.030	1/year	Composite
Phenol	0.48	N/A	0.82	N/A	0.026	1/year	Composite
Pyrene	0.79	N/A	2.12	N/A	0.068	1/year	Composite
Tetrachloroethylene	0.70	N/A	1.78	N/A	0.057	1/year	Composite
Toluene	0.82	N/A	2.54	N/A	0.081	1/year	Composite
1,2,4-Trichlorobenzene	2.16	N/A	4.44	N/A	0.143	1/year	Composite
1,1,1-Trichloroethane	0.67	N/A	1.71	N/A	0.055	1/year	Composite
1,1,2-Trichloroethane	0.67	N/A	1.71	N/A	0.055	1/year	Composite
Trichloroethylene	0.67	N/A	1.71	N/A	0.055	1/year	Composite
Vinyl Chloride	3.30	N/A	8.50	N/A	0.273	1/year	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 ¹.
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: At Outfall 001, after the final treatment pond and before discharging to the Victoria Barge Canal. Enterococci must be monitored downstream of Tank 1106 and all the sampling results from downstream of Tank 1106 shall be used in the calculations of the daily average (geometric mean for Enterococci) and daily maximum concentrations. Total Residual Chlorine must be sample after Outfall 001 and 002 is commingled and before discharging to the Victoria Barge Canal.

¹ See Other Requirement No. 10.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS-INTERIM

Outfall Number 002

1. During the period beginning upon the date of permit issuance and lasting through the completion of modifications and initial discharge of Outfall 002, the permittee is authorized to discharge cooling water blowdown, water treatment waste ¹, boiler blowdown, resin pad wash water, resin container rinse water, steam condensate, stormwater from Union Carbide ², hydrostatic test water, firewater, and *de minimis* quantities of process wastewater subject to the following effluent limitations:

The daily average dry-weather flow of effluent shall not exceed 12.0 million gallons per day (MGD). The daily maximum dry-weather flow shall not exceed 17.0 MGD

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow (dry-weather)	12 MGD	17 MGD	N/A	Continuous	Record
Temperature ³	N/A	100 °F	100 °F	Continuous ⁴	Record
Total Organic Carbon	N/A	50	75	1/week	Composite
Total Copper	0.0365	0.0773	0.159	1/week	Composite
Total Residual Chlorine	N/A	2.0	2.0	1/day ⁵	Grab
Acenaphthene	0.022	0.059	0.059	1/year ⁶	Grab
Acenaphthylene	0.022	0.059	0.059	1/year ⁶	Grab
Acrylonitrile	0.096	0.242	0.242	1/year ⁶	Grab
Anthracene	0.022	0.059	0.059	1/year ⁶	Grab
Benzene	0.037	0.136	0.136	1/year ⁶	Grab
Benzo(a)anthracene	0.022	0.059	0.059	1/year ⁶	Grab
3,4-Benzofluoranthene	0.023	0.061	0.061	1/year ⁶	Grab
Benzo(k)fluoranthene	0.022	0.059	0.059	1/year ⁶	Grab
Benzo(a)pyrene	0.023	0.061	0.061	1/year ⁶	Grab
Bis(2-ethylhexyl) phthalate	0.103	0.279	0.279	1/year ⁶	Grab
Carbon Tetrachloride	0.018	0.038	0.038	1/year ⁶	Grab

¹ See Other Requirement No. 15.

² Stormwater includes stormwater associated with industrial activities and allowable non-stormwater wastestreams. See Other Requirement No. 16.

³ See Other Requirement No. 14.

⁴ See Other Requirement No. 6.

⁵ Monitor during periods of chlorination, such as the addition of sodium hypochlorite.

⁶ When discharging *de minimis* quantities of process wastewater.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS-continued

Outfall Number 002

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Chlorobenzene	0.015	0.028	0.028	1/year ⁶	Grab
Chloroethane	0.104	0.268	0.268	1/year ⁶	Grab
Chloroform	0.021	0.046	0.046	1/year ⁶	Grab
2-Chlorophenol	0.031	0.098	0.098	1/year ⁶	Grab
Chrysene	0.022	0.059	0.059	1/year ⁶	Grab
Di-n-butyl phthalate	0.027	0.057	0.057	1/year ⁶	Grab
1,2-Dichlorobenzene	0.077	0.163	0.163	1/year ⁶	Grab
1,3-Dichlorobenzene	0.031	0.044	0.044	1/year ⁶	Grab
1,4-Dichlorobenzene	0.015	0.028	0.028	1/year ⁶	Grab
1,1-Dichloroethane	0.022	0.059	0.059	1/year ⁶	Grab
1,2-Dichloroethane	0.068	0.211	0.211	1/year ⁶	Grab
1,1-Dichloroethylene	0.016	0.025	0.025	1/year ⁶	Grab
1,2-trans Dichloroethylene	0.021	0.054	0.054	1/year ⁶	Grab
2,4-Dichlorophenol	0.039	0.112	0.112	1/year ⁶	Grab
1,2-Dichloropropane	0.153	0.230	0.230	1/year ⁶	Grab
1,3-Dichloropropylene	0.029	0.044	0.044	1/year ⁶	Grab
Diethyl phthalate	0.081	0.203	0.203	1/year ⁶	Grab
2,4-Dimethylphenol	0.018	0.036	0.036	1/year ⁶	Grab
Dimethyl phthalate	0.019	0.047	0.047	1/year ⁶	Grab
4,6-Dinitro-o-cresol	0.078	0.277	0.277	1/year ⁶	Grab
2,4-Dinitrophenol	0.071	0.123	0.123	1/year ⁶	Grab
2,4-Dinitrotoluene	0.113	0.285	0.285	1/year ⁶	Grab
2,6-Dinitrotoluene	0.255	0.641	0.641	1/year ⁶	Grab
Ethylbenzene	0.032	0.108	0.108	1/year ⁶	Grab
Fluoranthene	0.025	0.068	0.068	1/year ⁶	Grab
Fluorene	0.022	0.059	0.059	1/year ⁶	Grab
Hexachlorobenzene	0.015	0.028	0.028	1/year ⁶	Grab
Hexachlorobutadiene	0.020	0.049	0.049	1/year ⁶	Grab
Hexachloroethane	0.021	0.054	0.054	1/year ⁶	Grab
Methyl Chloride	0.086	0.190	0.190	1/year ⁶	Grab
Methylene Chloride	0.040	0.089	0.089	1/year ⁶	Grab
Naphthalene	0.022	0.059	0.059	1/year ⁶	Grab

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS -INTERIM-continued

Outfall Number 002

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Nitrobenzene	0.027	0.068	0.068	1/year ⁶	Grab
2-Nitrophenol	0.041	0.069	0.069	1/year ⁶	Grab
4-Nitrophenol	0.072	0.124	0.124	1/year ⁶	Grab
Phenanthrene	0.022	0.059	0.059	1/year ⁶	Grab
Phenol	0.015	0.026	0.026	1/year ⁶	Grab
Pyrene	0.015	0.067	0.067	1/year ⁶	Grab
Tetrachloroethylene	0.022	0.056	0.056	1/year ⁶	Grab
Toluene	0.026	0.080	0.080	1/year ⁶	Grab
1,2,4-Trichlorobenzene	0.068	0.140	0.140	1/year ⁶	Grab
1,1,1-Trichloroethane	0.021	0.054	0.054	1/year ⁶	Grab
1,1,2-Trichloroethane	0.021	0.054	0.054	1/year ⁶	Grab
Trichloroethylene	0.021	0.054	0.054	1/year ⁶	Grab
Vinyl Chloride	0.104	0.268	0.268	1/year ⁶	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 ¹.
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 002, at the clean water discharge monitoring station.

¹ See Other Requirement No. 10.

1. During the period beginning upon the completion of modifications and initial discharge via Outfall 002 and lasting until date of permit expiration, the permittee is authorized to discharge cooling water blowdown, water treatment waste ¹, boiler blowdown, resin pad wash water, resin container rinse water, steam condensate, stormwater from Union Carbide ², hydrostatic test water, firewater, and *de minimis* quantities of process wastewater subject to the following effluent limitations:

The daily average flow of effluent shall not exceed 17.0 million gallons per day (MGD). The daily maximum flow shall not exceed 43 MGD.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow	17 MGD	42 MGD	N/A	Continuous	Record
Temperature ³	N/A	100 °F	100 °F	Continuous ⁴	Record
Total Organic Carbon	N/A	50	75	1/week	Composite
Total Copper	0.0325	0.0689	0.098	1/week	Composite
Total Residual Chlorine	N/A	2.0	2.0	1/day ⁵	Grab
Acenaphthene	0.022	0.059	0.059	1/year ⁶	Grab
Acenaphthylene	0.022	0.059	0.059	1/year ⁶	Grab
Acrylonitrile	0.096	0.242	0.242	1/year ⁶	Grab
Anthracene	0.022	0.059	0.059	1/year ⁶	Grab
Benzene	0.037	0.136	0.136	1/year ⁶	Grab
Benzo(a)anthracene	0.022	0.059	0.059	1/year ⁶	Grab
3,4-Benzofluoranthene	0.023	0.061	0.061	1/year ⁶	Grab
Benzo(k)fluoranthene	0.022	0.059	0.059	1/year ⁶	Grab
Benzo(a)pyrene	0.023	0.061	0.061	1/year ⁶	Grab
Bis(2-ethylhexyl) phthalate	0.103	0.279	0.279	1/year ⁶	Grab
Carbon Tetrachloride	0.018	0.038	0.038	1/year ⁶	Grab

¹ See Other Requirement No. 15.

² Stormwater includes stormwater associated with industrial activities and allowable non-stormwater wastestreams. See Other Requirement No. 16.

³ See Other Requirement No. 14.

⁴ See Other Requirement No. 6.

⁵ Monitor during periods of chlorination, such as the addition of sodium hypochlorite.

⁶ When discharging *de minimis* quantities of process wastewater.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Chlorobenzene	0.015	0.028	0.028	1/year ⁶	Grab
Chloroethane	0.104	0.268	0.268	1/year ⁶	Grab
Chloroform	0.021	0.046	0.046	1/year ⁶	Grab
2-Chlorophenol	0.031	0.098	0.098	1/year ⁶	Grab
Chrysene	0.022	0.059	0.059	1/year ⁶	Grab
Di-n-butyl phthalate	0.027	0.057	0.057	1/year ⁶	Grab
1,2-Dichlorobenzene	0.077	0.163	0.163	1/year ⁶	Grab
1,3-Dichlorobenzene	0.031	0.044	0.044	1/year ⁶	Grab
1,4-Dichlorobenzene	0.015	0.028	0.028	1/year ⁶	Grab
1,1-Dichloroethane	0.022	0.059	0.059	1/year ⁶	Grab
1,2-Dichloroethane	0.068	0.211	0.211	1/year ⁶	Grab
1,1-Dichloroethylene	0.016	0.025	0.025	1/year ⁶	Grab
1,2-trans Dichloroethylene	0.021	0.054	0.054	1/year ⁶	Grab
2,4-Dichlorophenol	0.039	0.112	0.112	1/year ⁶	Grab
1,2-Dichloropropane	0.153	0.230	0.230	1/year ⁶	Grab
1,3-Dichloropropylene	0.029	0.044	0.044	1/year ⁶	Grab
Diethyl phthalate	0.081	0.203	0.203	1/year ⁶	Grab
2,4-Dimethylphenol	0.018	0.036	0.036	1/year ⁶	Grab
Dimethyl phthalate	0.019	0.047	0.047	1/year ⁶	Grab
4,6-Dinitro-o-cresol	0.078	0.277	0.277	1/year ⁶	Grab
2,4-Dinitrophenol	0.071	0.123	0.123	1/year ⁶	Grab
2,4-Dinitrotoluene	0.113	0.285	0.285	1/year ⁶	Grab
2,6-Dinitrotoluene	0.255	0.641	0.641	1/year ⁶	Grab
Ethylbenzene	0.032	0.108	0.108	1/year ⁶	Grab
Fluoranthene	0.025	0.068	0.068	1/year ⁶	Grab
Fluorene	0.022	0.059	0.059	1/year ⁶	Grab
Hexachlorobenzene	0.015	0.028	0.028	1/year ⁶	Grab
Hexachlorobutadiene	0.020	0.049	0.049	1/year ⁶	Grab
Hexachloroethane	0.021	0.054	0.054	1/year ⁶	Grab
Methyl Chloride	0.086	0.190	0.190	1/year ⁶	Grab
Methylene Chloride	0.040	0.089	0.089	1/year ⁶	Grab
Naphthalene	0.022	0.059	0.059	1/year ⁶	Grab

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Nitrobenzene	0.027	0.068	0.068	1/year ⁶	Grab
2-Nitrophenol	0.041	0.069	0.069	1/year ⁶	Grab
4-Nitrophenol	0.072	0.124	0.124	1/year ⁶	Grab
Phenanthrene	0.022	0.059	0.059	1/year ⁶	Grab
Phenol	0.015	0.026	0.026	1/year ⁶	Grab
Pyrene	0.015	0.067	0.067	1/year ⁶	Grab
Tetrachloroethylene	0.022	0.056	0.056	1/year ⁶	Grab
Toluene	0.026	0.080	0.080	1/year ⁶	Grab
1,2,4-Trichlorobenzene	0.068	0.140	0.140	1/year ⁶	Grab
1,1,1-Trichloroethane	0.021	0.054	0.054	1/year ⁶	Grab
1,1,2-Trichloroethane	0.021	0.054	0.054	1/year ⁶	Grab
Trichloroethylene	0.021	0.054	0.054	1/year ⁶	Grab
Vinyl Chloride	0.104	0.268	0.268	1/year ⁶	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 ¹.
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 002, at the box culvert downstream of the Stormwater Surge Basin.

¹ See Other Requirement No. 10.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Numbers 003, 004, 005, 006, 012, 014, 015 & 016

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 stormwater ¹ subject to the following effluent limitations:

Volume: Intermittent and flow-variable.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow	Report, MGD	Report, MGD	N/A	1/day ²	Estimate
Total Organic Carbon	N/A	75	75	1/6 months ³	Grab
Oil and Grease	N/A	15	15	1/6 months ³	Grab

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/6 months ³ 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 003: At the ditch to West Coloma Creek in the northeast section of the company property
 - Outfall 004: Following the detention pond where stormwater is discharged from the South Rail Storage Y and to the ditch on the east side of Highway 185
 - Outfall 005: Where stormwater is discharged to the west side of the Union Carbide Barge Dock area and east of the secondary treatment pond
 - Outfall 006: Where stormwater is discharged on the west side of Highway 185 near the Seadrift Pipeline Corporation building
 - Outfall 012: Where stormwater is discharged from the northwest section of the Union Carbide property and the west landfill area to the stormwater ditch on the west side of Highway 185
 - Outfall 014: Where stormwater is discharged from the North Rail Storage Yard on the west side of West Coloma Creek
 - Outfall 015: Where stormwater is discharged from the North Rail Storage Yard on the east side of West Coloma Creek
 - Outfall 016: Where stormwater is discharged from the North Rail Storage Yard on the northeast section of Union Carbide property, south of Jessie Rigby on the east side of West Coloma Creek Lateral #17

¹ Stormwater - includes stormwater associated with industrial activities and allowable non-stormwater wastestreams. See Other Requirement No. 16.

² When discharging, samples must be taken within one hour after discharge begins.

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 *n*th 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 REQUIREMENTS1. Dry-WEATHER CONDITONS

The permittee shall continuously record flow via a flow meter at Outfall 001. Compliance with the flow effluent limitations established at Outfall 001 on page 2 of this permit will be based upon days when there is dry-weather flow only. For the purpose of this permit, dry weather flow only occurs on days when the total flow at Outfall 001 consists of any of the following sources: process wastewater, remediated groundwater, domestic wastewater, utility wastewater (cooling tower blowdown, water treatment wastes, boiler blowdown, wash/rinse water, and condensate), and hydrostatic test water, and stormwater runoff resulting from rainfall less than 0.1 inch in a 24-hour period. The permittee shall install a permanent rain gauge at the plant site and keep daily records of rainfall and the resulting flows at Outfall 001. Flow at Outfall 001 during days when the rainfall exceeds 0.1 inch during any 24-hour period must not be used in calculating the daily average or daily maximum flows to be submitted on the monthly effluent report forms.

2. Violations of daily maximum limitations for the following pollutants shall be reported orally or by facsimile to TCEQ Region 14 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 14 and Compliance Monitoring Team (MC 224):

Pollutant	MAL¹ (mg/L)
Copper (Total)	0.002

**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

¹ Minimum analytical level.

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

Pollutant	MAL (mg/L)
2,4-Dichlorophenol	0.010
1,2-Dichloropropane	0.010
1,3-Dichloropropylene	0.010
Diethyl Phthalate	0.010
2,4-Dimethylphenol	0.010
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.

Pollutant	MAL (mg/L)
Oil and Grease (O&G) [EPA Method 1664 HEM, MQL of 5.0 mg/L & MDL of 1.5 mg/L]	1.5 to 5.0

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.

3. COOLING WATER INTAKE STRUCTURE REQUIREMENTS

The permittee shall provide written notification to the TCEQ Industrial Permits Team (MC 148) and Region 14 Office of any change 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.

4. 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.

5. 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. N/A.

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). 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 1×10^{-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 Industrial Permits Team (MC-148) and copy the Compliance Monitoring Team (MC-224).
- 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), Compliance Monitoring Team (MC-224) 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. 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 Assessment Team (MC-150), Compliance Monitoring Section (MC-224), 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.

6. For continuous temperature measurements taken in accordance with pages 2f and 2i of this permit, the reporting requirements on page 6 of this permit in MONITROING AND REPORTING REQUIREMENTS, Item 7, may be omitted if the continuously recorded temperature does not exceed the Daily Maximum temperature for more than 30 minutes for any single exceedance and not more than a total of 7 hours and 26 minutes in any calendar month.
7. The chronic aquatic life mixing zone for Outfalls 001 and 002 is defined as a volume of water within a radius of 199.5 feet extending over the receiving water from the point where the discharge reaches the Victoria Barge Canal Tidal. Chronic toxic criteria apply at the edge of the chronic aquatic life mixing zone.
8. Copper sulfate may not be added to the final stabilization pond.
9. For the composite sampling of volatile organics using EPA Method 601, 602, 603, 624, or 1624 (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 (1¹/₄ 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 $\leq 6^{\circ}\text{C}$. 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.
10. The permittee shall maintain the pH within the range specified on pages 2b, 2e, 2h, and 2k of this permit. Excursions from the range are permitted. An excursion is an unintentional and temporary incident in which the pH value of the wastewater exceeds the range set forth on pages 2b, 2e, 2h, and 2k. 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.
11. The permittee submitted a study entitled "Total Recoverable and Dissolved Copper Water-Effect Ratio, Dow Chemical Company, Seadrift, Texas" dated February 2006, to the TCEQ's Water Quality Assessment Team analyzing the water-effect ratio (WER) for discharges of copper from the Seadrift Plant via Outfall 002 into Victoria Barge Canal Tidal in Segment No. 1701 of the Lavaca-Guadalupe Coastal Basin, for review. The United States Environmental Protection Agency (EPA) and the TCEQ's Water Quality Assessment Team have reviewed the study and agree with the calculated and proposed final WER value of 1.806 (approved by EPA letter dated August 31, 2006) to be applied to the saltwater acute and chronic aquatic life criteria when calculating copper limits at Outfall 001 and 002.
 12. 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.
 13. This permit does not provide authorization for the permittee to accept wastewaters from third party sources, nor does it prohibit acceptance of such wastewaters. This permit only provides the authorization to discharge wastes that are similar in character, classification, and origin to wastewaters authorized and generated on-site. Should authorization to accept third party waste be required, it is the obligation of the permittee to obtain such authorization from the appropriate regulatory authority.
 14. THERMAL PLUME STUDY FOR OUTFALL 002

The permittee submitted a thermal plume characterization study to the TCEQ for approval and implementation in accordance with the agreement reached by the TCEQ and the EPA in their letters dated April 29, 2014 and May 12, 2014, respectively. The permittee is hereby placed on notice that the executive director of the TCEQ will be initiating changes to evaluation procedures and/or rulemaking that may affect thermal requirements for this facility.
 15. The term *utility wastewater* includes, but is not limited to: cooling tower blowdown, boiler blowdown, wash/rinse water, water treatment wastes (ion exchange water treatment systems wastes, demineralizer backwash, reverse osmosis waste, and water treatment systems filter backwash), firewater (which has not come into direct contact with raw material, intermediate product, finished product, by-product, or waste product and is not the result of a fire), steam condensate, and air conditioner condensate. Air conditioning condensate is the water condensed from water vapor in the air, which is in contact with air conditioning equipment.
 16. Stormwater includes any non-stormwater waste streams that qualify for coverage under the *Multi-Sector General Permit for Industrial Stormwater* (TXR050000, Part II, Section A, Item 6) as follows:
 - A. discharges from emergency firefighting activities (including fire prevention action taken to control other dangerous highheat conditions such as smoldering and emergency cooling of equipment) and uncontaminated fire hydrant flushing (excluding discharges of hyperchlorinated

water, unless the water is first dechlorinated and discharges are not expected to adversely affect aquatic life);

- B. potable water sources (excluding discharges of hyperchlorinated water, unless the water is first dechlorinated and discharges are not expected to adversely affect aquatic life);
 - C. lawn watering and similar irrigation drainage, provided that all pesticides, herbicides, and fertilizer have been applied in accordance with the approved labeling;
 - D. water from the routine external washing of buildings, conducted without the use of detergents or other chemicals;
 - E. water from the routine washing of pavement conducted without the use of detergents or other chemicals and where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed);
 - F. uncontaminated air conditioner condensate, compressor condensate, and steam condensate, and condensate from the outside storage of refrigerated gases or liquids;
 - G. water from foundation or footing drains where flows are not contaminated with pollutants (e.g., process materials, solvents, and other pollutants);
 - H. uncontaminated water used for dust suppression;
 - I. springs and other uncontaminated groundwater; and
 - J. incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but excluding intentional discharges from cooling tower (e.g., "piped" cooling tower blowdown or drains).
17. This permit authorizes the re-use of treated effluent from Outfalls 001 and 002. Treated effluent from Outfalls 001 and 002 may be re-used as make-up water in the cooling water system and throughout the plant.
18. The permittee is hereby notified that this permit may be reviewed by the Texas Commission on Environmental Quality after the development of any new requirements concerning plastics in order to determine if the limitations and conditions contained herein are consistent with any new requirements. As a result of this review, the permit may be amended, pursuant to 30 TAC Section 305.62, to include additional requirements as necessary to protect human health and the environment.

The monitoring location to demonstrate compliance with any new requirements concerning visible plastic pellets for Outfalls 001, 002, 006, and 012 will be at the discharge structure where Outfalls 001 and 002 commingle (combined outfall) prior to discharge to the Victoria Barge Canal and at the discharge structures for Outfalls 003, 004, 005, and 014, 015, and 016.

19. The permittee shall monitor continuously for flow and pH at Outfall 001 in accordance with pages 2b and 2e and for flow, temperature, and pH at Outfall 002 in accordance with pages 2f, 2h, 2i and 2k when the continuous monitoring devices are in operation. When pH is monitored continuously, the exemption in Other Requirement No. 10 applies. If a continuous monitoring device for flow, pH or temperature is down for planned maintenance and/or repair, the permittee shall provide written notification 24-hours prior to the alternate monitoring to the TCEQ Region 14 Office and provide for a monitoring frequency of at least once a day until the continuous monitoring device is back in operation. In the event of an unplanned outage (e.g., power outage) of any continuous monitoring device, the notification shall be made within 24-hours of becoming aware of the outage. The permittee must notify the TCEQ Region 14 Office in writing within 24-hours when the continuous meters are back in normal operations.

20. Reporting requirements according to 30 TAC §§ 319.1-319.12 and any additional effluent reporting requirements contained in the permit for Outfalls 001 and 002 for the Final Phase are suspended from the effective date of the permit until the completion of re-location or initial discharge via Outfall 002 (Final Phase), whichever occurs first, from the facility described by this permit. The permittee shall provide written notice to the TCEQ Region 14 Office, Applications Review and Processing Team (MC 148) of the Water Quality Division, and Compliance Monitoring Team (MC 224) at least forty-five days prior to the completion of the Outfall 002 re-location or anticipated discharge from the Outfall 002 (Final Phase), whichever occurs first, on Notification of Completion Form 20007.
21. The process sewer clarifiers are only used on an as-needed basis as determined by operations personnel based on variable wastewater conditions. The continuous use of this treatment unit is not a requirement of this permit and suspension of its use is not considered to be a by-pass of treatment.

CHRONIC BIOMONITORING REQUIREMENTS: MARINE

The provisions of this section apply to combined effluent of Outfalls 001 and 002 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 (*Americamysis bahia* or *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. These effluent dilution concentrations are 4%, 5%, 7%, 9%, and 12% effluent. The critical dilution, defined as 9% effluent, is the effluent concentration representative of the proportion of effluent in the receiving water during critical low flow or critical mixing conditions.
- 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

Any frequency reductions granted after July 8, 2021, and in effect at the time of permit issuance, are continued upon permit issuance.

- 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.

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 Outfall 001. 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 Outfall 001 or Outfall 002 cease 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. 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 TLP6J, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."
 - 8) For the inland silverside, Parameter TOP6J, report the NOEC for survival.
 - 9) For the inland silverside, Parameter TXP6J, report the LOEC for survival.
 - 10) For the inland silverside, Parameter TWP6J, enter a "1" if the NOEC for growth is less than the critical dilution; otherwise, enter a "0."
 - 11) For the inland silverside, Parameter TPP6J, report the NOEC for growth.
 - 12) For the inland silverside, Parameter TYP6J, 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."

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.

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.
- 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)

MYSID SHRIMP SURVIVAL AND GROWTH

Dates and Times Collected No. 1 FROM: _____ Date Time _____ TO: _____ Date Time _____
 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%												
4%												
5%												
7%												
9%												
12%												

* 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%	4%	5%	7%	9%	12%
A						
B						
C						
D						
E						

TABLE 1 (SHEET 2 OF 4)

MYSID SHRIMP SURVIVAL AND GROWTH

DATA TABLE FOR GROWTH OF MYSID SHRIMP (Continued)

Replicate	Mean dry weight in milligrams in replicate chambers					
	0%	4%	5%	7%	9%	12%
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 (12%): _____ 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 (12%): _____ 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 4 OF 4)

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%							
4%							
5%							
7%							
9%							
12%							
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 (12%): _____ 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 (12%): _____ 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 Outfall 002, individually and separately, 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 (*Americamysis bahia 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 and one composite sample from Outfall 002.
- 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 Outfall 001 or Outfall 002 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. 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 TIE6J, 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