

STATEMENT OF BASIS/TECHNICAL SUMMARY AND
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DESCRIPTION OF APPLICATION

Applicant: Exxon Mobil Corporation; Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0001215000 (EPA I.D. No. TX0007013)

Regulated Activity: Industrial wastewater permit

Type of Application: Major amendment with renewal

Request: Major amendment with renewal to add Outfall 007; increase the daily average limit for total suspended solids (TSS) at Outfall 003, remove internal Outfalls 103 and 203, and monitor for all applicable parameters at Outfall 003; modify the daily average report requirements for all pollutants; add the discharge of additional wastestreams via Outfall 003; and modify the description of emergency firefighting wastewaters that is listed in Other Requirement No. 4.

Authority: Federal Clean Water Act (CWA) §402; Texas Water Code §26.027; 30 Texas Administrative Code (TAC) Chapter 305, Subchapters C-F, and Chapters 307 and 319; Commission policies; and Environmental Protection Agency (EPA) guidelines.

EXECUTIVE DIRECTOR RECOMMENDATION

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

REASON FOR PROJECT PROPOSED

The applicant applied to the Texas Commission on Environmental Quality (TCEQ) for a major amendment with renewal to add Outfall 007 to authorize the discharge of stormwater, including construction stormwater and stormwater that may contain deicing chemicals, and *de minimis* quantities of other facility wastewaters on an intermittent and flow-variable basis; increase the daily average limit for total suspended solids (TSS) at Outfall 003; remove internal Outfalls 103 and 203 that discharge to Outfall 003, and monitor for all applicable parameters at Outfall 003; modify the daily average report requirements for all pollutants that are sampled once per year at Outfall 003 so the daily average limit only needs to be calculated when more than one sample is collected in a given month; add the discharge of additional wastestreams (construction stormwater and stormwater that may contain deicing chemicals) via Outfall 003; and modify the description of emergency firefighting wastewaters that is listed in Other Requirement No. 4 to include fire prevention actions taken to control other dangerous high heat conditions such as smoldering and emergency cooling of equipment.

PROJECT DESCRIPTION AND LOCATION

The applicant operates the Baytown Chemical Plant, a petrochemical manufacturing plant. The wastewaters in the drainage area of Outfall 003 consist of process wastewater, process area stormwater, and utility wastewater from the Butyl Polymers area, Northwest Chemical area, and Syngas Unit. The wastewaters expected in the drainage area of new Outfall 007 will consist of process wastewater, process area stormwater, and utility wastewater from the new Performance Polymers Unit (PPU) and Monomer Preparation Facility (MPF). The process wastewaters, process area stormwater, and utility wastewater from the drainage area of Outfall 003 and new Outfall 007 are routed to the ExxonMobil Baytown Refinery (BTRF) for treatment and discharge via TPDES Permit No. WQ0000592000.

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The process wastewater from the Butyl Polymers area gravity flows to a unit oil/water separator prior to being pumped to the ExxonMobil BTRF BIOX system. Rainwater collected from the process area is also pumped to the ExxonMobil BTRF BIOX system. When rainfall exceeds the capacity of the system pumps, lift station pumps divert flow to the Butyl Polymers retention pond. The process wastewater from the Northwest Chemical area gravity flows to a unit oil/water separator prior to being pumped to the ExxonMobil BTRF BIOX system. Rainwater collected from the process area is also pumped to the ExxonMobil BTRF BIOX system. When rainfall exceeds the capacity of the system pumps, lift station pumps divert flow to the Northwest retention pond. If excess flow threatens the capacity of the retention ponds, flow is diverted to the 9-foot sewer system that discharges via Outfall 003. When rainfall has diminished, reducing pump system impact, water in the retention ponds is pumped back through the lift stations to the ExxonMobil BTRF treatment system.

The Syngas Unit wastewater is routed to a sump in the process area, then it is pumped to the process sewer. This Syngas Unit sump receives process area stormwater and process wastewater. The Syngas Unit sump is designed to handle 30 minutes of normal, dry-weather flows. If heavy rainfall results in run-off flows that exceed the pumping and sump storage capacity, the excess flow will overflow into a pipe which gravity drains directly to Outfall 003.

Process wastewater from the PPU/MPF will be collected in a system segregated from the storm water collection system and then routed to the ExxonMobil Baytown Refinery (BTRF) treatment system. A first flush storm water basin will collect storm water from the PPU/MPF areas and route the first flush of storm water to the BTRF treatment system. Post-first-flush stormwater will be routed to the PPU/MPF storm water detention pond.

The PPU/MPF storm water pond will serve primarily as a detention pond to meet Harris County requirements to control the flow rate of storm water runoff. Storm water effluent from the pond will be discharged through Outfall 007.

Process wastewater normally will be routed to the BTRF treatment system; however, under certain conditions, de minimis quantities of process wastewater may be commingled with storm water and discharged through Outfall 007. Process wastewater may enter the stormwater collection system from accidental releases in the process area (e.g., spills, lift station malfunction) and commingle with storm water flowing to the storm water detention pond. In such events, the water in the pond would be rerouted to the BTRF treatment system instead of discharging through Outfall 007; however, if storm water flow to the pond exceeds its volume capacity, excess storm water commingled with process wastewater would discharge from the pond through Outfall 007.

The draft permit authorizes the discharge of stormwater (see Other Requirement No. 5) and facility wastewater (see Other Requirement No. 6) on an intermittent and flow-variable basis via Outfalls 003 and 007.

Stormwater authorized for discharge may include stormwater runoff; stormwater associated with industrial activity (the term includes, but is not limited to, stormwater discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling areas; refuse/waste disposal of process wastewaters; sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and disposal areas; sites used for the application or receiving areas; manufacturing buildings; storage areas [including tank farms], intermediate products, and final products; similar areas where stormwater can contact pollutants related to industrial activity; stormwater that may contain deicing chemicals; and areas where industrial activity have taken place in the past and significant materials remain and are exposed to stormwater [materials handling areas include storage, loading and unloading, transportation, or

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conveyance of any raw material, intermediate product, final product, by-product or waste product [i.e., process area stormwater]); construction stormwater; and miscellaneous non-stormwaters that are authorized under the MSGP.

The miscellaneous non-stormwaters may include discharges from emergency firefighting activities (including fire prevention actions taken to control other dangerous high heat conditions, such as smoldering and emergency cooling of equipment) and uncontaminated fire hydrant flushings; potable water sources; irrigation drainage; routine washing of buildings without detergents or chemicals; routine washing of pavements without detergents or chemicals; uncontaminated air conditioner, compressor, and steam condensates, and condensate from the outside storage of refrigerated gasses or liquids; uncontaminated water from foundation or foot drains; uncontaminated water used for dust suppression; uncontaminated springs or other uncontaminated groundwater; and incidental wind-blown mist from cooling towers that deposits on rooftops or adjacent portions of the facility.

Facility wastewaters may include fire water control system test and flush water, and *de minimis* losses from the fire water control system (e.g., freeze protection, minor leaks awaiting repair), *de minimis* losses from the decorative ponds (the permittee shall not use copper sulfate as an additive to the decorative ponds without prior written approval from the Executive Director of the TCEQ), hydrostatic test water (new or clean equipment), potable water system flush water, irrigation water from the landscape sprinkler system, steam condensate and air conditioner condensate, *de minimis* losses of potable water; and *de minimis* losses of clarified water.

The facility site is located at 5000 Bayway Drive, in the City of Baytown, Harris County, Texas 77520.

Discharge Route

The effluent discharge routes are via Outfall 003 to an unnamed tidal inlet thence to Scott Bay in Segment No. 2429 of the the Bays and Estuaries and via Outfall 007 to Harris County Flood Control District (HCFCD) ditch 0107-00-00, thence to West Fork Goose Creek, thence to Goose Creek, thence to Tabbs Bay in Segment No. 2426 of the Bays and Estruaries. The unclassified receiving water uses are high aquatic life use for the unnamed tidal inlet; minimal aquatic life use for HCFCD ditch 0107-00-00 and West Fork Goose Creek; and limited aquatic life use for Goose Creek. The designated uses for Segment Nos. 2429 and 2426 are primary contact recreation and high aquatic life use. The effluent limits in the draft permit will maintain and protect the existing instream uses. All determinations are preliminary and subject to additional review and revisions.

Antidegradation Review

In accordance with Title 30 Texas Administrative Code Section 307.5 and TCEQ's *Procedures to Implement the Texas Surface Water Quality Standards* (June 2010), an antidegradation review of the receiving waters was performed. A Tier 1 antidegradation review has preliminarily determined that existing water quality uses will not be impaired by this permit action. Numerical and narrative criteria to protect existing uses will be maintained. A Tier 2 review has preliminarily determined that no significant degradation of water quality is expected in the unnamed tidal inlet, Tabbs Bay, and Scott Bay, which have been identified as having high aquatic life use. Existing uses will be maintained and protected. The preliminary determination can be reexamined and may be modified if new information is received.

Endangered Species Review

The discharge from this permit is not expected to have an effect on any federal endangered or threatened aquatic or aquatic-dependent species or proposed species or their critical habitat. This determination is based on the United States Fish and Wildlife Service's (USFWS's) biological opinion on the State of Texas authorization of the TPDES (September 14, 1998; October 21, 1998 update). To make this determination for TPDES permits, TCEQ and the U.S. Environmental Protection Agency

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(EPA) only considered aquatic or aquatic-dependent species occurring in watersheds of critical concern or high priority as listed in Appendix A of the USFWS's biological opinion. The determination is subject to reevaluation due to subsequent updates or amendments to the biological opinion. The permit does not require EPA review with respect to the presence of endangered or threatened species.

Impaired Water Bodies

Segment No. 2426 (Outfall 007) is currently listed on the State's inventory of impaired and threatened waters (the 2014 Clean Water Act Section 303(d) list). The listings are for dioxin in edible tissue and polychlorinated biphenyls (PCBs) in edible tissue throughout the entire segment (AU 2426_01). Goose Creek Tidal is also listed on the 303(d) list for dioxin in edible tissue and PCBs in edible tissue from the Tabbs Bay confluence upstream to the East Fork of Goose Creek confluence (AU 2426C_01).

Segment No. 2429 (Outfall 003) is currently listed on the State's inventory of impaired and threatened waters (the 2014 Clean Water Act Section 303(d) list). The listings are for dioxin in edible tissue and PCBs in edible tissue throughout the entire segment (AU 2429_01).

Normally, process wastewaters, process area stormwater, and utility wastewater are routed to the ExxonMobil Baytown Refinery (BTRF) for treatment and discharge via TPDES Permit No. WQ0000592000. The facility is only authorized to discharge *de minimis* quantities of process wastewater and utility wastewater that occur after runoff volumes exceed the capabilities of the lift station pumps and exceed the storage capacity of the stormwater retention ponds as delineated at existing Other Requirement No. 3, which is continued in the draft permit. Additionally, neither dioxin nor PCBs are used within the facility and are not expected to be contained within the authorized discharge.

In addition, data submitted with the application showed that PCBs are not generated at the facility and were not detected in the effluent at or above the minimum analytical level (MAL) at Outfall 003.¹ Other Requirement No. 15 of the draft permit requires complete effluent testing once the discharge commences via new Outfall 007, including testing for PCBs. Based on a technical review of the submitted analytical results, an amendment may be initiated by TCEQ staff to include additional effluent limitations, monitoring requirements, or both. Also, information submitted in Worksheet 2.0, Table 12 of the Technical Report of the application indicates that the facility has no reason to believe that dioxin or its congeners may be present in its effluent.

For these reasons, issuance of this permit is not anticipated to cause any additional adverse impacts to the receiving water with respect to the listed impairments. Therefore, no changes were made in the draft permit to address the 303(d) listings.

Completed Total Maximum Daily Loads (TMDLs)

Segment Nos. 2429 and 2426 are included in the agency's document *Fourteen Total Maximum Daily Loads for Nickel in the Houston Ship Channel System* (TMDL Project No. 1). The proposed discharge was screened using the methods outlined in the documents *Procedures to Implement the Texas Surface Water Quality Standards* (IPs), TCEQ, June 2010, and *Implementation Plan for Dissolved Nickel in the Houston Ship Channel* (TMDL Implementation Plan), TCEQ, July 2001. The discharge via Outfall 003 authorized in this draft permit was considered during the development of the TMDLs and included in the waste load allocation. The TMDL report indicates that the water quality criteria

¹ Exxon Mobil Corporation's TCEQ-10055 (05/31/2017) Industrial Wastewater Permit Application Technical Report, Worksheet 2.0, Table 3, page 21 of 83 and Table 11, page 29 of 83. The detection level achieved by the laboratory was also reported on the applicable tables.

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for dissolved nickel are generally being met in the Houston Ship Channel, and a specific limit for nickel is not recommended for this facility by the Water Quality Assessment Team.

Other Requirement No. 15 in the draft permit requires the permittee to perform sampling and submit analytical data for discharges made via new Outfall 007 for screening against the calculated water quality-based effluent limitations for total nickel located in Appendix B of this statement of basis. The permit may be re-opened and additional water quality-based effluent limitations placed in the permit based on the results of that screening.

Dissolved Oxygen

In accordance with the Interoffice Memorandum (IOM) from the Water Quality Assessment Team to the Industrial Permits Team of the Water Quality Division dated September 18, 2018, a dissolved oxygen evaluation of the discharge via Outfall 003 and the proposed discharge via Outfall 007 has been performed. Based on the evaluation and due to the intermittent nature and low concentration of oxygen-demanding constituents expected in the wastewater, no significant dissolved oxygen depletion is anticipated in the receiving waters as a result of these discharges.

SUMMARY OF EFFLUENT DATA

The following is a quantitative description of the discharge described in the monthly effluent report data for the period January 2013 through February 2020. The "average of daily average" values presented in the following table are the average of all daily average values for the reporting period for each pollutant. The "maximum of daily maximum" values presented in the following table are the individual maximum values for the reporting period for each pollutant. Flows are expressed in million gallons per day (MGD). All pH values are expressed in standard units (SU).

A. Flow

Outfall	Frequency	Average of Daily Average, MGD	Maximum of Daily Maximum, MGD
003	Intermittent	11.33	44.0
103	Intermittent	9.74	40.8
203	Intermittent	2.98	14.8

B. Effluent Characteristics

Outfall	Pollutant	Average of Daily Average	Maximum of Daily Maximum
		mg/L	mg/L
003	Total Organic Carbon (TOC)	N/A	103
	Oil and Grease	N/A	14.5
	Xylene	N/A	<0.015
	Biochemical Oxygen Demand, 5-day (BOD ₅)	5.76	12.0
	Total Suspended Solids (TSS)	125.52	590
	Acenaphthene	<0.0033	<0.01
	Acenaphthylene	<0.0033	<0.01
	Acrylonitrile	<0.0033	<0.05
	Anthracene	<0.0033	<0.01
	Benzene	<0.00033	<0.01
	Benzo(a)anthracene	<0.0033	<0.01
	3,4-Benzofluoranthene	<0.0033	<0.01
	Benzo(k)fluoranthene	<0.0033	<0.01

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B. Effluent Characteristics

Outfall	Pollutant	Average of Daily Average	Maximum of Daily Maximum
		mg/L	mg/L
003	Benzo(a)pyrene	<0.0033	<0.01
	Bis(2-ethylhexyl)phthalate	<0.0033	<0.01
	Carbon Tetrachloride	<0.00033	<0.01
	Chlorobenzene	<0.00067	<0.01
	Chloroethane	<0.00067	<0.01
	Chloroform	<0.00067	<0.01
	Chrysene	<0.0033	<0.01
	Di-n-butyl phthalate	<0.0033	<0.01
	1,2-Dichlorobenzene	<0.00167	<0.01
	1,3-Dichlorobenzene	<0.00167	<0.01
	1,4-Dichlorobenzene	<0.00167	<0.01
	1,1-Dichloroethane	<0.00067	<0.01
	1,2-Dichloroethane	<0.00033	<0.01
	1,1-Dichloroethylene	<0.00067	<0.01
	1,2-trans Dichloroethylene	<0.00033	<0.01
	1,2-Dichloropropane	<0.00067	<0.01
	1,3-Dichloropropylene	<0.00033	<0.01
	Diethyl phthalate	<0.0033	<0.01
	2,4-Dimethylphenol	<0.0033	<0.01
	Dimethyl phthalate	<0.0033	<0.01
	2,4-Dinitrophenol	<0.0067	<0.05
	4,6-Dinitro-o-cresol	<0.0067	<0.05
	Ethylbenzene	<0.00067	<0.01
	Fluoranthene	<0.0033	<0.01
	Fluorene	<0.0033	<0.01
	Hexachlorobenzene	<0.00027	<0.01
	Hexachlorobutadiene	<0.0033	<0.01
	Hexachloroethane	<0.0033	<0.02
	Methylene Chloride	<0.00033	<0.02
	Methyl Chloride	<0.0067	<0.02
	Naphthalene	<0.0033	<0.01
	Nitrobenzene	<0.0033	<0.01
	2-Nitrophenol	<0.0033	<0.02
	4-Nitrophenol	<0.0033	<0.05
	Phenanthrene	<0.0033	<0.01
	Phenol	<0.00067	<0.01
	Pyrene	<0.0033	<0.01
	Tetrachloroethylene	<0.001	<0.01
	1,2,4-Trichlorobenzene	<0.0033	<0.01
	1,1,1-Trichloroethane	<0.00067	<0.01
	1,1,2-Trichloroethane	<0.00133	<0.01
	Trichloroethylene	<0.00083	<0.01
	Toluene	<0.001	<0.01
	Vinyl Chloride	<0.00067	<0.01
	pH, standard units	6.3 SU (min)	9.2 SU

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B. Effluent Characteristics

Outfall	Pollutant	Average of Daily Average	Maximum of Daily Maximum
		mg/L	mg/L
103	TOC	N/A	23.6
	Oil and Grease	N/A	51.7
	Copper, Total	N/A	0.073
	Zinc, Total	N/A	1.06
	pH, standard units	7.5 SU (min)	10.3 SU
203	TOC	N/A	12.0
	Oil and Grease	N/A	12.4
	Copper, Total	N/A	0.048
	Zinc, Total	N/A	4.72
	pH, standard units	6.45 SU (min)	8.8 SU

C. Effluent Limitation Violations

Outfall	Pollutant (units)	Report Date	Daily Average		Daily Maximum	
			Limit	Reported	Limit	Reported
003	pH, standard units	12/2017	-	-	9.0	9.2
	TSS, mg/L	6/2015	99	159	198	590
	TSS, mg/L	12/2017	99	175	-	-
	TSS, mg/L	12/2018	99	145.6	-	-
	TOC, mg/L	12/2014	-	-	55	103
103	Oil and Grease, mg/L	9/2014	-	-	15.0	26.9
	Oil and Grease, mg/L	5/2015	-	-	15.0	19.9
	Oil and Grease, mg/L	10/2015	-	-	15.0	51.7
	Oil and Grease, mg/L	11/2019	-	-	15.0	36.1
	pH, standard units	9/2014	-	-	9.0	10.3
	pH, standard units	8/2017	-	-	9.0	9.07
	pH, standard units	9/2019	-	-	9.0	9.08

The violations at Outfall 003 and internal Outfall 103 were infrequent and the draft permit was not changed to address these few effluent limit violations. No effluent limit violations were documented in the monthly effluent reports for internal Outfall 203.

DRAFT PERMIT CONDITIONS

The draft permit authorizes the discharge of stormwater and facility wastewater on an intermittent and flow-variable basis via Outfalls 003 and 007.

Effluent limitations are established in the draft permit as follows:

Outfall	Parameter	Daily Average, mg/L	Daily Maximum, mg/L
003	Flow, MGD	Report	Report
	Total Organic Carbon	N/A	55
	Oil and Grease	N/A	15
	Xylene	N/A	1.0
	Copper, total (Interim)	Report ¹	Report ¹

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Outfall	Parameter	Daily Average, mg/L	Daily Maximum, mg/L
003	Copper, total (Final)	0.00657 ²	0.0139 ²
	Lead, total	Report ¹	Report ¹
	Zinc, total (Interim)	Report ¹	Report ¹
	Zinc, total (Final)	0.0722 ²	0.152 ²
	Biochemical Oxygen Demand (5-day)	30	80
	Total Suspended Solids	127	283
	Acenaphthene	0.019	0.047
	Acenaphthylene	0.019	0.047
	Acrylonitrile (Interim)	0.0104 ¹	0.022 ¹
	Acrylonitrile (Final)	0.0101 ²	0.0215 ²
	Anthracene	0.019	0.047
	Benzene	0.057	0.134
	Benzo(a)anthracene	0.0015	0.0031
	Benzo(a)pyrene	0.0015	0.0031
	3,4-Benzofluoranthene	0.020	0.048
	Benzo(k)fluoranthene	0.019	0.047
	Bis(2-ethylhexyl) phthalate	0.095	0.258
	Carbon Tetrachloride	0.015	0.032
	Chlorobenzene	0.142	0.380
	Chloroethane	0.110	0.295
	Chloroform	0.111	0.325
	Chrysene	0.015	0.031
	1,2-Dichlorobenzene	0.196	0.794
	1,3-Dichlorobenzene	0.142	0.380
	1,4-Dichlorobenzene	0.142	0.380
	1,1-Dichloroethane	0.022	0.059
	1,2-Dichloroethane	0.135	0.285
	1,1-Dichloroethylene	0.011	0.023
	1,2-trans Dichloroethylene	0.025	0.066
	1,2-Dichloropropane	0.196	0.794
	1,3-Dichloropropylene	0.196	0.794
	Diethyl phthalate	0.046	0.113
	2,4-Dimethylphenol	0.019	0.047
	Dimethyl phthalate	0.019	0.047
	Di-n-butyl phthalate	0.020	0.043
	4,6-Dinitro-o-cresol	0.078	0.277
	2,4-Dinitrophenol	1.207	4.291
	Ethylbenzene	0.142	0.380
	Fluoranthene	0.022	0.054
	Fluorene	0.019	0.047
	Hexachlorobenzene (Interim)	0.0000123 ¹	0.000026 ¹
	Hexachlorobenzene (Final)	0.0000120 ²	0.000025 ²
	Hexachlorobutadiene	0.0067	0.014
	Hexachloroethane	0.170	0.359
	Methyl Chloride	0.110	0.295
	Methylene Chloride	0.036	0.170
	Naphthalene	0.019	0.047
	Nitrobenzene	0.427	0.902

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003	2-Nitrophenol	0.065	0.231
	4-Nitrophenol	0.162	0.576
	Phenanthrene	0.0036	0.0077
	Phenol	0.019	0.047
	Pyrene	0.020	0.048
	Tetrachloroethylene	0.052	0.164
	Toluene	0.028	0.074
	1,2,4-Trichlorobenzene	0.196	0.794
	1,1,1-Trichloroethane	0.022	0.059
	1,1,2-Trichloroethane	0.032	0.127
	Trichloroethylene	0.026	0.069
	Vinyl Chloride (Interim)	0.066 ¹	0.139 ¹
	Vinyl Chloride (Final)	0.064 ²	0.136 ²
	pH, SU	6.0, minimum	9.0

¹ Required upon the permit issuance date for three years.

² Required three years from the permit issuance date.

Outfall	Parameter	Daily Average, mg/L	Daily Maximum, mg/L
007	Flow, MGD	Report	Report
	Total Organic Carbon	N/A	55
	Oil and Grease	N/A	15
	Xylene	N/A	1.0
	Biochemical Oxygen Demand (5-day)	30	80
	Total Suspended Solids	127	283
	Acenaphthene	0.019	0.047
	Acenaphthylene	0.019	0.047
	Acrylonitrile (Interim)	0.0940 ¹	0.232 ¹
	Acrylonitrile (Final)	0.0089 ²	0.0188 ²
	Anthracene	0.019	0.047
	Benzene	0.057	0.134
	Benzo(a)anthracene (Interim)	0.019 ¹	0.047 ¹
	Benzo(a)anthracene (Final)	0.0077 ²	0.0162 ²
	Benzo(a)pyrene (Interim)	0.020 ¹	0.048 ¹
	Benzo(a)pyrene (Final)	0.0007 ²	0.0016 ²
	3,4-Benzofluoranthene	0.020	0.048
	Benzo(k)fluoranthene	0.019	0.047
	Bis(2-ethylhexyl) phthalate (Interim)	0.095 ¹	0.258 ¹
	Bis(2-ethylhexyl) phthalate (Final)	0.095	0.203 ²
	Carbon Tetrachloride (Interim)	0.142 ¹	0.380 ¹
	Carbon Tetrachloride (Final)	0.0716 ²	0.151 ²
	Chlorobenzene	0.142	0.380
	Chloroethane	0.110	0.295
	Chloroform	0.111	0.325
	Chrysene	0.019	0.047
	1,2-Dichlorobenzene	0.196	0.794
	1,3-Dichlorobenzene	0.142	0.380
	1,4-Dichlorobenzene	0.142	0.380

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007	1,1-Dichloroethane	0.022	0.059
	1,2-Dichloroethane	0.180	0.574
	1,1-Dichloroethylene	0.022	0.060
	1,2-trans Dichloroethylene	0.025	0.066
	1,2-Dichloropropane	0.196	0.794
	1,3-Dichloropropylene	0.196	0.794
	Diethyl phthalate	0.046	0.113
	2,4-Dimethylphenol	0.019	0.047
	Dimethyl phthalate	0.019	0.047
	Di-n-butyl phthalate	0.020	0.043
	4,6-Dinitro-o-cresol	0.078	0.277
	2,4-Dinitrophenol	1.207	4.291
	Ethylbenzene	0.142	0.380
	Fluoranthene	0.022	0.054
	Fluorene	0.019	0.047
	Hexachlorobenzene (Interim)	0.196 ¹	0.794 ¹
	Hexachlorobenzene (Final)	0.000010 ²	0.000022 ²
	Hexachlorobutadiene	0.142	0.380
	Hexachloroethane (Interim)	0.196 ¹	0.794 ¹
	Hexachloroethane (Final)	0.0270 ²	0.0571 ²
	Methyl Chloride	0.110	0.295
	Methylene Chloride	0.036	0.170
	Naphthalene	0.019	0.047
	Nitrobenzene	2.237	6.402
	2-Nitrophenol	0.065	0.231
	4-Nitrophenol	0.162	0.576
	Phenanthrene	0.019	0.047
	Phenol	0.019	0.047
	Pyrene	0.020	0.048
	Tetrachloroethylene	0.052	0.164
	Toluene	0.028	0.074
	1,2,4-Trichlorobenzene	0.196	0.794
	1,1,1-Trichloroethane	0.022	0.059
	1,1,2-Trichloroethane	0.032	0.127
	Trichloroethylene	0.026	0.069
	Vinyl Chloride (Interim)	0.097 ¹	0.172 ¹
	Vinyl Chloride (Final)	0.056 ²	0.119 ²
	pH, SU	6.0, minimum	9.0

¹ Required upon the permit issuance date for three years.

² Required three years from the permit issuance date.

Technology-Based Effluent Limitations

Regulations in Title 40 of the Code of Federal Regulations (40 CFR) require that technology-based limitations be placed in wastewater discharge permits based on effluent limitation guidelines (ELGs), where applicable, or on best professional judgment (BPJ) in the absence of guidelines. The effluent limitations in the existing and draft permits for the categorical toxic pollutants at Outfall 003 and new Outfall 007 are based on EPA categorical guidelines at 40 CFR Part 414, Subpart J and are required based on the authorization to discharge *de minimis* quantities of process wastewaters. The

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development of technology-based effluent limitations for the draft permit are detailed in Appendix A of this *Statement of Basis / Technical Summary and Executive Director's Preliminary Decision* (statement of basis).

Water Quality-Based Effluent Limitations

Aquatic life and human health water quality-based effluent limitations screening is not generally applicable to predominately stormwater-driven discharges. However, due to the nature of the intermittent and flow-variable stormwater and the addition of facility wastewaters, a water quality-based screening was performed. Calculations of water quality-based effluent limitations for the protection of aquatic life and human health are presented in Appendix B. Aquatic life criteria established in Table 1 and human health criteria established in Table 2 of 30 TAC Chapter 307 are incorporated into the calculations, as are recommendations in the Water Quality Assessment Team's memos dated July 16, 2018 and September 17, 2018. TCEQ practice for determining significant potential is to compare the reported analytical data from the facility against percentages of the calculated daily average water quality-based effluent limitation. Permit limitations are required when analytical data reported in the application exceeds 85 percent of the calculated daily average water quality-based effluent limitation. Monitoring and reporting is required when analytical data reported in the application exceeds 70 percent of the calculated daily average water quality-based effluent limitation.

The permittee requested approval to extend the boundary of the existing water-effect ratio (WER) of 1.8 for total copper in the Houston Ship Channel/San Jacinto River Tidal system to apply to the discharge at Outfall 003. Although the existing 1999 WER study did not include Segment No. 2429 (Scott Bay), this water body is a side bay of Segment No. 1005 (Houston Ship Channel/San Jacinto River Tidal) and is directly across from Segment No. 2427 (San Jacinto Bay). Toxicity of copper to aquatic life is affected by several parameters including dissolved organic carbon, pH, salinity and temperature. The permittee reviewed data for pH, salinity, temperature and other parameters, available in the TCEQ's Surface Water Quality Monitoring Information System (SWQMIS) from ambient monitoring in Segment Nos. 1005, 2427 and 2429. EPA's review of the analysis provided by the permittee and data for total organic carbon found that the water quality characteristics of Scott Bay and the segments included in the 1999 WER study are similar, such that the water body WER of 1.8 can also be applied to Scott Bay. The resulting total copper limitations calculated by applying a WER of 1.8 are 0.00657 mg/L (daily average) and 0.0139 mg/L (daily maximum).

Analytical data reported in the application for Outfall 003 was screened against calculated water quality-based effluent limitations for the protection of aquatic life and human health. Total lead exceeds 70 percent but is less than 85 percent of the most stringent calculated daily average water quality-based effluent limitation. Therefore, due to the intermittent, stormwater-driven discharges, a daily average and daily maximum report requirement has been added to the draft permit at Outfall 003 for total lead. Total copper and total zinc both exceed 85 percent of the most stringent applicable calculated daily average water quality-based effluent limitations. Therefore, daily average and daily maximum effluent limitations have been added to the draft permit at Outfall 003 for total copper and total zinc. The available cyanide effluent data submitted with the application was not tested to the appropriate minimal analytical level (MAL) of 2 micrograms per liter ($\mu\text{g/L}$). Further, the water quality criteria are for free cyanide. Therefore, to make a better determination on the necessity of water quality-based effluent limits, Other Requirement No. 14 has been added to the draft permit for the retest of free cyanide.

In addition, Other Requirement No. 15 has been placed in the draft permit, which requires the permittee to perform sampling and submit analytical data for discharges made via new Outfall 007 once the discharge begins for screening against the calculated water quality-based effluent limitations

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located in Appendix B of this statement of basis. The permit may be reopened and additional water quality-based effluent limitations placed in the permit based on the results of that screening.

Total Dissolved Solids (TDS), Chloride, and Sulfate Screening

Segment Nos. 2429 and 2426, which receive the discharges from this facility, do not have criteria established for TDS, chloride, or sulfate in 30 TAC Chapter 307; therefore, no screening was performed for TDS, chloride, or sulfate in the effluent.

pH Screening

The existing permit includes pH limits of 6.0 – 9.0 SU at Outfall 003, which discharges into an unclassified water body, an unnamed tidal inlet. The draft permit includes pH limits of 6.0 – 9.0 SU at new Outfall 007, which will discharge into an unclassified water body, HCFCD ditch 0107-00-00. Consistent with the procedures for pH screening that were submitted to EPA with a letter dated May 28, 2014, and approved by EPA in a letter dated June 2, 2014, requiring these discharges to unclassified water bodies to meet pH limits of 6.0 – 9.0 standard units reasonably ensures instream compliance with *Texas Surface Water Quality Standards* pH criteria. Therefore, the proposed effluent limits of 6.0 – 9.0 SU at Outfalls 003 and 007 are adequate to ensure that the discharges will not violate the pH criteria in the receiving waters.

316(b) Cooling Water Intake Structures

The facility will not own or operate a cooling water intake structure (CWIS)². The facility is supplied with cooling water from a public water supplier, the San Jacinto River Authority Highlands (PWS Registration Number TX1013456), which obtains the water from Intake 1 Lake Houston, ID No. S1013456A (Latitude 29.9243 and Longitude -95.1253). According to the rules applicable to cooling water intake structures (40 CFR § 125.91(c)), the use of water from a public water system for cooling purposes does not constitute the use of a cooling water intake structure; therefore, the facility is not subject to CWA Section 316(b) or 40 CFR Part 125, Subpart J. The draft permit requires the permittee to notify the TCEQ in the event that a change in procedure or a facility modification alters the method by which cooling water is obtained. Upon receipt of such notification, the TCEQ may reopen the permit to include additional terms and conditions as necessary.

Whole Effluent Toxicity Testing (Biomonitoring)

Biomonitoring requirements are not included in the existing permit or the draft permit.

SUMMARY OF CHANGES FROM APPLICATION

The following changes have been made from the application, which make the draft permit more stringent.

1. Water quality-based effluent limitations were included for total copper, total zinc, acrylonitrile, hexachlorobenzene, and vinyl chloride at Outfall 003; and acrylonitrile, benzo(a)anthracene, benzo(a)pyrene, bis(2-ethylhexyl)phthalate (only the daily maximum effluent limitation applies), carbon tetrachloride, hexachlorobenzene, hexachloroethane, and vinyl chloride at new Outfall 007. An interim three-year compliance period is required for all new water quality-based effluent limitations at both Outfalls 003 and 007. The associated compliance schedule is included in the draft permit at new Other Requirement No. 12 for the more stringent water quality-based effluent limitations in accordance with 30 TAC § 307.2(f).

² Exxon Mobil Corporation's TCEQ-10055 (05/31/2017) Industrial Wastewater Permit Application Technical Report, No. 12, page 13 of 83.

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2. Existing Other Requirement No. 6 (draft No. 7) has been revised to include current pond requirements.

SUMMARY OF CHANGES FROM EXISTING PERMIT

The permittee requested the following changes in their amendment request that the executive director has recommended granting.

1. The applicant requested to add Outfall 007 to discharge stormwater, including construction stormwater and stormwater that may contain deicing chemicals, and *de minimis* quantities of other facility wastewaters on an intermittent and flow-variable basis. The applicant also requested to add the discharge of construction stormwater and stormwater that may contain deicing chemicals via existing Outfall 003. The draft permit authorizes the discharge of stormwater (defined under Other Requirement No. 5) and facility wastewater (defined under Other Requirement No. 6) on an intermittent and flow-variable basis via Outfalls 003 and 007.
2. The applicant requested to increase the daily average limit for TSS at Outfall 003. The stormwater and non-stormwater contributing sources (utility wastewaters and process wastewaters) have been evaluated with the stormwater contribution based on the MSGP maximum TSS benchmark sampling level of 100 mg/L. A benchmark level is not an effluent limitation and is used to identify problems at the site with exposed or unidentified pollutant sources, and adherence to the benchmark level can result in more effective control measures. This benchmark value is an average value and can be considered analogous to an annual average value, which normalizes average values. Using this value as a long-term average, the daily average and daily maximum TSS allocation has been adjusted as detailed in Appendix A. Therefore, the total calculated technology-based TSS effluent limitations placed in the draft permit at Outfalls 003 and 007 are 127 mg/L as a daily average and 283 mg/L as a daily maximum.
3. The applicant requested removal of internal Outfalls 103 and 203 (that discharge via external Outfall 003) and monitoring for all applicable parameters at Outfall 003. The existing permit's internal Outfalls 103 and 203 contain daily maximum effluent limitations for TOC, oil and grease, and pH, which are mirrored at external Outfall 003 in the existing and draft permits. Internal Outfalls 103 and 203 also monitor for flow, total copper, and total zinc. The draft permit includes daily average and daily maximum final effluent limitations for total copper and total zinc at Outfall 003, which are required three years from the permit issuance date. Daily average and daily maximum monitoring for flow, total copper, and total zinc are required at Outfall 003 upon permit issuance. Therefore, the removal of internal Outfalls 103 and 203 and the continuance of the applicable parameters at Outfall 003 are consistent with EPA anti-backsliding regulations [40 CFR §122.44(l)].
4. The applicant requested modification of the daily average report requirements for all pollutants that are sampled once per year at Outfall 003 so the daily average limit only needs to be calculated when more than one sample is collected in a given month. The draft permit Outfall 003 footnote 6 has been revised accordingly.
5. The applicant requested modification of the description of emergency firefighting wastewaters that is listed in Other Requirement No. 5 to include fire prevention actions taken to control other dangerous high heat conditions such as smoldering and emergency cooling of equipment. Draft permit Other Requirement No. 5.D(1) has been revised accordingly.

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6. The applicant requested the authorization to discharge construction stormwater and stormwater that may contain deicing chemicals via Outfalls 003. Draft permit Other Requirement No. 5 has been revised to include construction stormwater and Other Requirement No. 6 was revised to include stormwater that may contain deicing chemicals.
7. New Other Requirement No. 10 requires the permittee to notify the TCEQ if there is a change in procedure or a facility modification that alters the method by which cooling water is obtained.
8. New Other Requirements No. 11 defines the mixing zones for Outfalls 003 and 007 applicable for the calculation of the water quality-based effluent limitations at the specific outfall.

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

1. The Definition and Standard Permit Conditions section of the permit (boilerplate) has been updated to the current version (01/2016).
2. Other Requirement No. 3, which was part of existing Other Requirement No. 2 and addresses effluent parameter minimum analytical levels (MALs), has been revised and includes updated MALs.
3. Existing Other Requirement No. 3 (draft No. 4) has been updated to reflect the discharge via new Outfall 007, consolidation of authorized wastewaters under revised Other Requirement No. 5, and removal of internal Outfalls 103 and 203.
4. Existing Other Requirement No. 5 (draft no. 6) has been revised to include all facility wastewaters authorized for discharge. Utility wastewater was added as a type of facility wastewater.
5. Existing Other Requirement No. 9, effluent sampling requirements for Outfall 003, has been completed. Therefore, this requirement has been revised and renumbered to new Other Requirement No. 14. Based on a technical review of the submitted analytical results, an amendment may be initiated to include additional effluent limitations, monitoring requirements, or both.
6. New Other Requirement No. 13 requires submittal of TCEQ Notification of Completion Form No. 20007 at least 45 days prior to plant startup or anticipated discharge of wastewaters not authorized by TCEQ construction storm water permit or multi-sector storm water permit via new Outfall 007.
7. New Other Requirement No. 14 requires retesting of free cyanide at the more appropriate MAL of 2 micrograms per liter ($\mu\text{g/L}$), based on the calculated water quality-based effluent limitations for the protection of aquatic life.
8. The facility location description has been updated on page 1 of the draft permit.

BASIS FOR DRAFT PERMIT

The following items were considered in developing the draft permit:

1. Application received on January 25, 2018 and additional information submitted by letter dated April 6, 2018 (received on April 10, 2018).
2. Existing permit: TPDES Permit No. WQ0001215000 issued on December 21, 2015.
3. TCEQ Rules.

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4. *Texas Surface Water Quality Standards* – 30 TAC §§307.1-307.10, effective March 6, 2014, as approved by EPA Region 6.
5. *Texas Surface Water Quality Standards* – 30 TAC §§307.1-307.10, effective July 22, 2010, as approved by EPA Region 6, for portions of the 2014 standards not approved by EPA Region 6.
6. *Texas Surface Water Quality Standards* – 30 TAC §§307.1-307.10, effective August 17, 2000, and Appendix E, effective February 27, 2002, for portions of the 2010 standards not approved by EPA Region 6.
7. *Procedures to Implement the Texas Surface Water Quality Standards (IPs)*, Texas Commission on Environmental Quality, June 2010, as approved by EPA Region 6.
8. *Procedures to Implement the Texas Surface Water Quality Standards*, Texas Commission on Environmental Quality, January 2003, for portions of the 2010 IPs not approved by EPA Region 6.
9. Memos from the Standards Implementation Team and the Water Quality Assessment Team of the Water Quality Assessment Section of the TCEQ.
10. *Guidance Document for Establishing Monitoring Frequencies for Domestic and Industrial Wastewater Discharge Permits*, TCEQ Document No. 98-001.000-OWR-WQ, May 1998.
11. EPA Effluent Guidelines: 40 CFR Part 414, Subpart J.
12. Consistency with the Coastal Management Plan: The Executive Director has reviewed this action for consistency with the goals and policies of the Texas Coastal Management Program (CMP) in accordance with the regulations of the General Land Office (GLO) and has determined that the action is consistent with the applicable CMP goals and policies.
13. Letter dated May 28, 2014, from L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ, to Bill Honker, Director, Water Quality Protection Division, EPA (TCEQ proposed development strategy for pH evaluation procedures).
14. Letter dated June 2, 2014, from William K. Honker, P.E., Director, Water Quality Protection Division, EPA, to L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ (Approval of TCEQ proposed development strategy for pH evaluation procedures).

PROCEDURES FOR FINAL DECISION

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

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

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

After the public comment deadline, the executive director prepares a response to all significant public comments on the application or the draft permit raised during the public comment period. The chief

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clerk then mails the executive director's response to comments and final decision to people who have filed comments, requested a contested case hearing, or requested to be on the mailing list. This notice provides that if a person is not satisfied with the executive director's response and decision, they can request a contested case hearing or file a request to reconsider the executive director's decision within 30 days after the notice is mailed.

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

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

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

Sarah A. Johnson, Ph.D.

Date

(Melinda Luxemburg, P.E., Nov. 16, 2018 version)

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Appendix A

Calculated Technology-Based Effluent Limits

Application of 40 CFR Part 414, Subpart J – Direct Discharge Point Sources That Do Not Use End-of-Pipe Biological Treatment Effluent Limitations

The effluent limitations in the current permit for the categorical toxic pollutants at Outfall 003 and new Outfall 007 are based on EPA categorical guidelines and are required based on the authorization to discharge *de minimis* quantities of process wastewaters.

The following limitations are determined to be the appropriate technology-based effluent limitations for the 40 CFR Part 414 Subpart J toxic pollutants that are monitored at a frequency of once per year at Outfall 003 and new Outfall 007.

Pollutant	Daily Average mg/L	Daily Maximum, mg/L
Acenaphthene	0.019	0.047
Acenaphthylene	0.019	0.047
Acrylonitrile	0.020	0.042
Anthracene	0.019	0.047
Benzene	0.057	0.134
Benzo(a)anthracene	0.019	0.047
Benzo(a)pyrene	0.020	0.048
3,4-Benzofluoranthene	0.020	0.048
Benzo(k)fluoranthene	0.019	0.047
Bis(2-ethylhexyl)phthalate	0.095	0.258
Carbon Tetrachloride	0.015	0.032
Chlorobenzene	0.142	0.38
Chloroethane	0.110	0.295
Chloroform	0.111	0.325
Chrysene	0.015	0.031
1,2-Dichlorobenzene	0.196	0.794
1,3-Dichlorobenzene	0.142	0.38
1,4-Dichlorobenzene	0.142	0.38
1,1-Dichloroethane	0.022	0.059
1,2-Dichloroethane	0.135	0.285
1,1-Dichloroethylene	0.011	0.023
1,2-trans Dichloroethylene	0.025	0.066
1,2-Dichloropropane	0.196	0.794
1,3-Dichloropropylene	0.196	0.794
Diethyl phthalate	0.046	0.113
2,4-Dimethylphenol	0.019	0.047

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Pollutant	Daily Average mg/L	Daily Maximum, mg/L
Dimethyl phthalate	0.019	0.047
Di-n-butyl phthalate	0.020	0.043
4,6-Dinitro-o-cresol	0.078	0.277
2,4-Dinitrophenol	1.207	4.291
Ethylbenzene	0.142	0.38
Fluoranthene	0.022	0.054
Fluorene	0.019	0.047
Hexachlorobenzene	0.196	0.794
Hexachlorobutadiene	0.142	0.380
Hexachloroethane	0.196	0.794
Methyl Chloride	0.11	0.295
Methylene Chloride	0.036	0.17
Naphthalene	0.019	0.047
Nitrobenzene	0.427	0.902
2-Nitrophenol	0.065	0.231
4-Nitrophenol	0.162	0.576
Phenanthrene	0.019	0.047
Phenol	0.019	0.047
Pyrene	0.020	0.048
Tetrachloroethylene	0.052	0.164
Toluene	0.028	0.074
1,2,4-Trichlorobenzene	0.196	0.794
1,1,1-Trichloroethane	0.022	0.059
1,1,2-Trichloroethane	0.032	0.127
Trichloroethylene	0.026	0.069
Vinyl Chloride	0.097	0.172

STORMWATERS AND OTHER CONTRIBUTING FACILITY WASTEWATERS

The draft permits authorize the discharge of the following wastewaters via Outfalls 003 and 007:

- stormwater (stormwater associated with industrial activity, construction stormwater, stormwater that may contain deicing chemicals, and miscellaneous non-stormwater flows commingled with other wastewaters, which may contain process area stormwater),
- *de minimis* quantities of other facility wastewaters (also includes allowable non-stormwaters),
- fire water control system test and flush water, and other *de minimis* losses from fire water control system (freeze protection, minor leaks awaiting repair),
- other *de minimis* losses from the decorative ponds,
- hydrostatic test water (new or clean equipment),
- potable water system flush water,
- irrigation water from the landscape sprinkler system,
- steam condensate and air conditioner condensate,

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- other *de minimis* losses of potable water,
- and other *de minimis* losses of clarified water,
- and previously monitored effluents (stormwater commingled with other wastewaters) from Outfalls 103 and 203 subject to the following effluent limitations.

Allowable non-stormwaters are based on the TPDES General Permit TXR050000 – Industrial Stormwater Multi-Sector General Permit (MSGP) and include the following:

- (a) discharges from emergency firefighting activities (includes fire prevention actions taken to control other dangerous high heat conditions such as smoldering and emergency cooling of equipment) and uncontaminated fire hydrant flushings (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, or 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 the cooling tower (e.g., "piped" cooling tower blowdown or drains).

TOTAL SUSPENDED SOLIDS

Although no specific quantitative value can be accurately determined and assigned to the term "*de minimis*" with respect to establishing a representative contributing portion of flow, an estimated value of 1% (or 0.01 fraction) is assigned to the non-stormwater process wastewater contribution source category and an estimated value of 10% (or 0.10 fraction) is assigned to the non-stormwater utility wastewater contribution source category for the purpose of calculating effluent limitations for total suspended solids (TSS) at Outfall 003 and new Outfall 007.

1. Stormwater-Contributing Allocations – TSS

In lieu of an applicable categorical guideline for stormwater, the benchmark concentration level from the MSGP is utilized to calculate the allocations for the stormwater component.

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The benchmark concentration level for TSS in the MSGP is 100 mg/L. The benchmark concentration is based on the average of the quarterly samples taken in the span of one year. This is analogous to an annual average value, which can normalize ¹ average values and can be considered as a long-term average (LTA). From the IPs, the daily average (DA=1.47xLTA) and daily maximum (DM=3.11xLTA) stormwater effluent limitations (allocations) can be calculated.

$$\begin{aligned} \text{DA} &= (1.47) * (100 \text{ mg/L}) = 147 \text{ mg/L allocation for TSS daily average} \\ \text{DM} &= (3.11) * (100 \text{ mg/L}) = 311 \text{ mg/L allocation for TSS daily maximum} \end{aligned}$$

There are three discharges via Outfall 003 for reported monthly average TSS with values of 84.6 mg/L, 159 mg/L, and 175 mg/L. The average of the values equals 139.5 (also equals the mean value) and the standard deviation is 39.4 mg/L.

Therefore, the TSS concentration allocation has been increased from the normalized value of 100 mg/L to a mean value of 139 mg/L, which is within the standard deviation of the site-specific values. Based on BPJ, the daily maximum concentration allocation will be set at 305 mg/L, which is the equivalent of a 2.20:1 daily maximum to daily average criteria (dm/da) ratio. This ratio is considered conservative when compared to the TSS dm/da criteria ratios of 3.33:1 and 3.24:1 for utility wastewaters and process wastewaters, respectively.

The fraction of the daily average and daily maximum TSS concentration allocations for stormwater are calculated as follows:

$$\begin{aligned} (139 \text{ mg/L}) * (0.89 \text{ fraction}) &= 123.7 \text{ mg/L contributing fraction for TSS daily average} \\ (305 \text{ mg/L}) * (0.89 \text{ fraction}) &= 271.45 \text{ mg/L contributing fraction for TSS daily maximum} \end{aligned}$$

2. Utility Wastewater Contributing Allocations – TSS (Daily Maximum)

In lieu of an applicable categorical guideline for utility wastewaters, the EPA categorical guidelines for low volume wastes in 40 CFR Part 423 were determined to be similar enough in character to be used as a basis for best professional judgement (BPJ) allocations.

30 mg/L daily average
100 mg/L daily maximum

$$\begin{aligned} (30 \text{ mg/L}) * (0.10 \text{ fraction}) &= 3.0 \text{ mg/L contributing fraction for TSS daily average} \\ (100 \text{ mg/L}) * (0.10 \text{ fraction}) &= 10.0 \text{ mg/L contributing fraction for TSS daily maximum} \end{aligned}$$

3. Process Wastewater Contributing Allocations – TSS

The following concentration allocations are derived from EPA categorical guidelines in 40 CFR 414.61 (Subpart F) and meets BPT, BCT, BAT, and NSPS for *process wastewaters*.

46 mg/L daily average
149 mg/L daily maximum

¹ Normal distributions are often used in natural science to represent real-valued random variables and can converge in distribution to the normal (become normally distributed) when the number of observations is sufficiently large, as can occur with an annual average. The TSS stormwater allocation value has been adjusted to reflect a more site-specific value.

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(46 mg/L) * (0.01 fraction) = 0.46 mg/L contributing fraction for TSS daily average

(149 mg/L) * (0.01 fraction) = 1.49 mg/L contributing fraction for TSS daily maximum

4. Summation of Contributing Allocations – TSS

Contributing Wastestream	Daily Average mg/L	Daily Maximum mg/L
Stormwater	123.7	271.45
Utility Wastewater	3.00	10.0
Process Wastewater	0.46	1.49
Total	127.16 ~ 127	282.94 ~ 283

The calculated technology-based effluent limitations for TSS are as follows:

Daily Average: 127 mg/L
Daily Maximum: 283 mg/L

Internal Outfalls 103 and 203

The existing permit internal Outfalls 103 and 203 are monitored at the individual process unit sump overflow locations and have final discharge via Outfall 003. The existing permit internal Outfalls 103 and 203 contain daily maximum effluent limitations for total organic carbon (TOC), oil & grease, and pH, which are mirrored at external Outfalls 003. Internal Outfalls 103 and 203 also monitor for flow, total copper, and total zinc. This major amendment application includes a request to remove internal Outfalls 103 and 203 and monitor for all applicable parameters at Outfall 003.

The draft permit includes daily average and daily maximum final effluent limitations for total copper and total zinc at Outfall 003, which are required three years from the permit issuance date. Daily average and daily maximum monitoring for flow, total copper, and total zinc are required at Outfall 003 upon permit issuance. Therefore, the removal of internal Outfalls 103 and 203 and the continuance of the applicable parameters at Outfall 003 are consistent with EPA anti-backsliding regulations [40 CFR 122.44(l)].

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Calculated Water Quality-Based Effluent Limits

TEXTTOX MENU #5 - BAY OR WIDE TIDAL RIVER

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

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Saltwater Aquatic Life

Table 2, 2014 Texas Surface Water Quality Standards for Human Health

"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

PERMIT INFORMATION

Permittee Name:	ExxonMobil
TPDES Permit No:	Wq0001215000
Outfall No:	003
Prepared by:	S. Johnson
Date:	03/19/2020

DISCHARGE INFORMATION

Receiving Waterbody:	unnamed tidal inlet
Segment No:	2429
TSS (mg/L):	9
Effluent Flow for Aquatic Life (MGD)	38.8
% Effluent for Chronic Aquatic Life (Mixing Zone):	100
% Effluent for Acute Aquatic Life (ZID):	100
Oyster Waters?	no
Effluent Flow for Human Health (MGD):	22.2
% Effluent for Human Health:	51

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

<i>Estuarine Metal</i>	<i>Intercept (b)</i>	<i>Slope (m)</i>	<i>Partition Coefficient (Kp)</i>	<i>Dissolved Fraction (Cd/Ct)</i>		<i>Water Effect Ratio (WER)</i>	
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Cadmium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (Total)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (+3)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (+6)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	4.85	-0.72	14552.76	0.88		1.80	Assumed
Lead	6.06	-0.85	177375.60	0.39		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	5.86	-0.74	142514.99	0.44		1.00	Assumed
Zinc	5.36	-0.52	73079.22	0.60		1.00	Assumed

AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>SW Acute Criterion (ug/L)</i>	<i>SW Chronic Criterion (ug/L)</i>	<i>WLAa</i>	<i>WLAc</i>	<i>LTAa</i>	<i>LTAc</i>	<i>Daily Avg. (ug/L)</i>	<i>Daily Max. (ug/L)</i>
Aldrin	1.3	N/A	1.30	N/A	0.42	N/A	0.61	1.29
Aluminum	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arsenic	149	78	149.00	78.00	47.68	47.58	69.94	147.97

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Cadmium	40.0	8.75	40.00	8.75	12.80	5.34	7.85	16.60
Carbaryl	613	N/A	613.00	N/A	196.16	N/A	288.36	610.06
Chlordane	0.09	0.004	0.09	0.00	0.03	0.00	0.00	0.01
Chlorpyrifos	0.011	0.006	0.01	0.01	0.00	0.00	0.01	0.01
Chromium (+3)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium (+6)	1,090	49.6	1090.00	49.60	348.80	30.26	44.48	94.10
Copper	24.3	6.48	27.48	7.33	8.79	4.47	6.57	13.90
Copper (oyster waters)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cyanide (free)	5.6	5.6	5.60	5.60	1.79	3.42	2.63	5.57
4,4'-DDT	0.13	0.001	0.13	0.00	0.04	0.00	0.00	0.00
Demeton	N/A	0.1	N/A	0.10	N/A	0.06	0.09	0.19
Diazinon	0.819	0.819	0.82	0.82	0.26	0.50	0.39	0.82
Dicofol	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dieldrin	0.71	0.002	0.71	0.00	0.23	0.00	0.00	0.00
Diuron	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endosulfan I (alpha)	0.034	0.009	0.03	0.01	0.01	0.01	0.01	0.02
Endosulfan II (beta)	0.034	0.009	0.03	0.01	0.01	0.01	0.01	0.02
Endosulfan sulfate	0.034	0.009	0.03	0.01	0.01	0.01	0.01	0.02
Endrin	0.037	0.002	0.04	0.00	0.01	0.00	0.00	0.00
Guthion	N/A	0.01	N/A	0.01	N/A	0.01	0.01	0.02
Heptachlor	0.053	0.004	0.05	0.00	0.02	0.00	0.00	0.01
Hexachlorocyclohexane (Lindane)	0.16	N/A	0.16	N/A	0.05	N/A	0.08	0.16
Lead	133	5.3	345.32	13.76	110.50	8.39	12.34	26.11
Malathion	N/A	0.01	N/A	0.01	N/A	0.01	0.01	0.02
Mercury	2.1	1.1	2.10	1.10	0.67	0.67	0.99	2.09
Methoxychlor	N/A	0.03	N/A	0.03	N/A	0.02	0.03	0.06
Mirex	N/A	0.001	N/A	0.00	N/A	0.00	0.00	0.00
Nickel	118	13.1	118.00	13.10	37.76	7.99	11.75	24.85
Nonylphenol	7	1.7	7.00	1.70	2.24	1.04	1.52	3.23
Parathion (ethyl)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pentachlorophenol	15.1	9.6	15.10	9.60	4.83	5.86	7.10	15.03
Phenanthrene	7.7	4.6	7.70	4.60	2.46	2.81	3.62	7.66
Polychlorinated Biphenyls (PCBs)	10	0.03	10.00	0.03	3.20	0.02	0.03	0.06
Selenium	564	136	564.00	136.00	180.48	82.96	121.95	258.01
Silver	2	N/A	4.57	N/A	1.46	N/A	2.15	4.54
Toxaphene	0.21	0.0002	0.21	0.00	0.07	0.00	0.00	0.00
Tributyltin (TBT)	0.24	0.0074	0.24	0.01	0.08	0.00	0.01	0.01
2,4,5 Trichlorophenol	259	12	259.00	12.00	82.88	7.32	10.76	22.77
Zinc	92.7	84.2	153.67	139.58	49.17	85.14	72.29	152.93

HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>Fish Only Criterion (ug/L)</i>	<i>WLAh</i>	<i>LTAh</i>	<i>Daily Avg. (ug/L)</i>	<i>Daily Max. (ug/L)</i>
Acrylonitrile	3.8	7.45	6.93	10.19	21.55
Aldrin	0.0010	0.00	0.00	0.00268	0.00567
Anthracene	N/A	N/A	N/A	N/A	N/A
Antimony	1,071	2100.00	1953.00	2870.91	6073.83
Arsenic	N/A	N/A	N/A	N/A	N/A
Barium	N/A	N/A	N/A	N/A	N/A
Benzene	513	1005.88	935.47	1375.14	2909.31
Benzidine	0.0020	0.00	0.00	0.00536	0.01134
Benzo(a)anthracene	3.28	6.43	5.98	8.79233	18.60146
Benzo(a)pyrene	0.33	0.65	0.60	0.88459	1.87149

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Bis(chloromethyl)ether	0.44	0.86	0.80	1.17946	2.49532
Bis(2-chloroethyl)ether	10.06	19.73	18.34	26.96672	57.05204
Bis(2-ethylhexyl)phthalate	41	80.39	74.76	109.90	232.52
Bromodichloromethane (Dichlorobromomethane)	322	631.37	587.18	863.15	1826.12
Bromoform	2,175	4264.71	3966.18	5830.28	12334.81
Cadmium	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	30.5	59.80	55.62	81.76	172.97
Chlordane	0.0081	0.02	0.01	0.02171	0.04594
Chlorobenzene	5,201	10198.04	9484.18	13941.74	29495.79
Chlorodibromomethane (Dibromochloromethane)	239	468.63	435.82	640.66	1355.41
Chloroform	7,143	14005.88	13025.47	19147.44	40509.21
Chromium (+6)	502	984.31	915.41	1345.66	2846.93
Chrysene	327	641.18	596.29	876.55	1854.47
Cresols (Methylphenols)	9,301	18237.25	16960.65	24932.15	52747.61
Cyanide (free)	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.0059	0.01	0.01	0.01582	0.03346
4,4'-DDE	0.0040	0.01	0.01	0.01072	0.02268
4,4'-DDT	0.0040	0.01	0.01	0.01072	0.02268
2,4'-D	N/A	N/A	N/A	N/A	N/A
Danitrol	473	927.45	862.53	1267.92	2682.47
1,2-Dibromoethane	4.24	8.31	7.73	11.37	24.05
m-Dichlorobenzene (1,3-Dichlorobenzene)	1,445	2833.33	2635.00	3873.45	8194.85
o-Dichlorobenzene (1,2-Dichlorobenzene)	4,336	8501.96	7906.82	11623.03	24590.22
p-Dichlorobenzene (1,4-Dichlorobenzene)	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	0.44	0.86	0.80	1.18	2.50
1,2-Dichloroethane	553	1084.31	1008.41	1482.37	3136.16
1,1-Dichloroethylene	23,916	46894.12	43611.53	64108.95	135631.86
Dichloromethane (Methylene Chloride)	22,222	43572.55	40522.47	59568.03	126024.88
1,2-Dichloropropane	226	443.14	412.12	605.81	1281.69
1,3-Dichloropropene (1,3- Dichloropropylene)	211	413.73	384.76	565.60	1196.62
Dicofol	0.30	0.59	0.55	0.8042	1.7014
Dieldrin	0.001	0.00	0.00	0.0027	0.0057
2,4-Dimethylphenol	571	1119.61	1041.24	1530.62	3238.24
Di-n-Butyl Phthalate	3,010	5901.96	5488.82	8068.57	17070.24
Dioxins/Furans (TCDD Equivalents)	7.97E-08	1.56E-07	1.45E-07	2.14E-07	4.52E-07
Endrin	0.20	0.39	0.36	0.5361	1.1342
Ethylbenzene	7,143	14005.88	13025.47	19147.44	40509.21
Fluoride	N/A	N/A	N/A	N/A	N/A
Heptachlor Epoxide	0.00075	0.00	0.00	0.00201	0.00425
Hexachlorobenzene	0.0045	0.01	0.01	0.01206	0.02552
Hexachlorobutadiene	274	537.25	499.65	734.48	1553.90
Hexachlorocyclohexane (alpha)	0.093	0.18	0.17	0.24929	0.52742
Hexachlorocyclohexane (beta)	0.33	0.65	0.60	0.88459	1.87149
Hexachlorocyclohexane (gamma) (Lindane)	6.2	12.16	11.31	16.61965	35.16129
Hexachlorocyclopentadiene	N/A	N/A	N/A	N/A	N/A
Hexachloroethane	11.51	22.57	20.99	30.85357	65.27524
Hexachlorophene	2.90	5.69	5.29	7.77371	16.44641
Lead	3.83	19.50	18.13	26.65614	56.39495
Mercury	0.0250	0.05	0.05	0.06701	0.14178
Methoxychlor	1.61	3.16	2.94	4.31575	9.13059
Methyl Ethyl Ketone	992,000	1945098	1808941	2659144	5625807
Nickel	1,140	2235.29	2078.82	3055.87	6465.14
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A	N/A	N/A	N/A

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Nitrobenzene	1,853	3633.33	3379.00	4967.13	10508.69
N-Nitrosodiethylamine	2.1	4.12	3.83	5.62924	11.90947
N-Nitroso-di-n-Butylamine	4.2	8.24	7.66	11.25847	23.81894
Pentachlorobenzene	1.0	1.96	1.82	2.68059	5.67118
Pentachlorophenol	9.1	17.84	16.59	24.39335	51.60771
Polychlorinated Biphenyls (PCBs)	6.4E-04	0.00	0.00	0.00172	0.00363
Pyridine	947	1856.86	1726.88	2538.52	5370.60
Selenium	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.71	1.39	1.29	1.90322	4.02654
1,1,2,2-Tetrachloroethane	40	78.43	72.94	107.22	226.85
Tetrachloroethylene	525	1029.41	957.35	1407.31	2977.37
Thallium	0.23	0.45	0.42	0.6165	1.3044
Toluene	N/A	N/A	N/A	N/A	N/A
Toxaphene	0.0053	0.01	0.01	0.0142	0.0301
2,4,5-TP (Silvex)	21	41.18	38.29	56.29	119.09
1,1,1-Trichloroethane	956,663	1,875,810	1,744,503	2,564,420	5,425,405
1,1,2-Trichloroethane	295	578.43	537.94	790.77	1673.00
Trichloroethylene	82	160.78	149.53	219.81	465.04
2,4,5-Trichlorophenol	2,435	4774.51	4440.29	6527.23	13809.31
TTHM (Sum of Total Trihalomethanes)	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	24	47.06	43.76	64.33	136.11

Outfall 003

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

Aquatic Life		
<i>Parameter</i>	<i>70%</i>	<i>85%</i>
Aldrin	0.428	0.520
Aluminum	N/A	N/A
Arsenic	48.960	59.451
Cadmium	5.492	6.669
Carbaryl	201.849	245.102
Chlordane	0.003	0.003
Chlorpyrifos	0.004	0.004
Chromium (+3)	N/A	N/A
Chromium (+6)	31.133	37.805
Copper	4.600	5.586
Copper (oyster waters)	N/A	N/A
Cyanide (free)	1.844	2.239
4,4'-DDT	0.001	0.001
Demeton	0.063	0.076
Diazinon	0.270	0.327
Dicofol	N/A	N/A
Dieldrin	0.001	0.002
Diuron	N/A	N/A
Endosulfan (alpha)	0.006	0.007
Endosulfan (beta)	0.006	0.007
Endosulfan sulfate	0.006	0.007
Endrin	0.001	0.002
Guthion	0.006	0.008
Heptachlor	0.003	0.003

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Aquatic Life

<i>Parameter</i>	<i>70%</i>	<i>85%</i>
Hexachlorocyclohexane (Lindane)	0.053	0.064
Lead	8.638	10.488
Malathion	0.006	0.008
Mercury	0.690	0.838
Methoxychlor	0.019	0.023
Mirex	0.001	0.001
Nickel	8.223	9.985
Nonylphenol	1.067	1.296
Parathion (ethyl)	N/A	N/A
Pentachlorophenol	4.972	6.038
Phenanthrene	2.535	3.079
Polychlorinated Biphenyls (PCBs)	0.019	0.023
Selenium	85.366	103.659
Silver	1.503	1.825
Toxaphene	0.0001	0.0002
Tributyltin (TBT)	0.005	0.006
2,4,5 Trichlorophenol	7.532	9.146
Zinc	50.600	61.443

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

Human Health

<i>Parameter</i>	<i>70%</i>	<i>85%</i>
Acrylonitrile	7.130	8.658
Aldrin	0.002	0.002
Anthracene	N/A	N/A
Antimony	2009.637	2440.274
Arsenic	N/A	N/A
Barium	N/A	N/A
Benzene	962.599	1168.871
Benzidine	0.004	0.005
Benzo(a)anthracene	6.155	7.473
Benzo(a)pyrene	0.619	0.752
Bis(chloromethyl)ether	0.826	1.003
Bis(2-chloroethyl)ether	18.877	22.922
Bis(2-ethylhexyl)phthalate	76.933	93.419
Bromodichloromethane (Dichlorobromomethane)	604.205	733.677
Bromoform	4081.196	4955.738
Cadmium	N/A	N/A
Carbon Tetrachloride	57.231	69.494
Chlordane	0.015	0.018
Chlorobenzene	9759.218	11850.479
Chlorodibromomethane (Dibromochloromethane)	448.462	544.562
Chloroform	13403.209	16275.326
Chromium (+6)	941.959	1143.807
Chrysene	613.587	745.070
Cresols (Methylphenols)	17452.506	21192.329
Cyanide (free)	N/A	N/A
4,4'-DDD	0.011	0.013
4,4'-DDE	0.008	0.009
4,4'-DDT	0.008	0.009
2,4'-D	N/A	N/A
Danitrol	887.543	1077.731

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Human Health		
Parameter	70%	85%
1,2-Dibromoethane	7.956	9.661
m-Dichlorobenzene (1,3-Dichlorobenzene)	2711.415	3292.433
o-Dichlorobenzene (1,2-Dichlorobenzene)	8136.121	9879.576
p-Dichlorobenzene (1,4-Dichlorobenzene)	N/A	N/A
3,3'-Dichlorobenzidine	0.826	1.003
1,2-Dichloroethane	1037.656	1260.011
1,1-Dichloroethylene	44876.264	54492.606
Dichloromethane (Methylene Chloride)	41697.622	50632.827
1,2-Dichloropropane	424.069	514.941
1,3-Dichloropropene (1,3- Dichloropropylene)	395.923	480.764
Dicofol	0.563	0.684
Dieldrin	0.002	0.002
2,4-Dimethylphenol	1071.431	1301.024
Di-n-Butyl Phthalate	5647.999	6858.285
Dioxins/Furans (TCDD Equivalents)	1.50E-07	1.82E-07
Endrin	0.375	0.456
Ethylbenzene	13403.209	16275.326
Fluoride	N/A	N/A
Heptachlor	0.003	0.003
Heptachlor Epoxide	0.001	0.002
Hexachlorobenzene	0.008	0.010
Hexachlorobutadiene	514.137	624.309
Hexachlorocyclohexane (alpha)	0.175	0.212
Hexachlorocyclohexane (beta)	0.619	0.752
Hexachlorocyclohexane (gamma) (Undane)	11.634	14.127
Hexachlorocyclopentadiene	N/A	N/A
Hexachloroethane	21.597	26.226
Hexachlorophene	5.442	6.608
Lead	18.659	22.658
Mercury	0.047	0.057
Methoxychlor	3.021	3.668
Methyl Ethyl Ketone	1,861,400	2,260,272
Nickel	2139.109	2597.490
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	3476.991	4222.061
N-Nitrosodiethylamine	3.940	4.785
N-Nitroso-di-n-Butylamine	7.881	9.570
Pentachlorobenzene	1.876	2.279
Pentachlorophenol	17.075	20.734
Polychlorinated Biphenyls (PCBs)	0.001	0.001
Pyridine	1776.962	2157.740
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	1.332	1.618
1,1,2,2-Tetrachloroethane	75.056	91.140
Tetrachloroethylene	985.116	1196.213
Thallium	0.432	0.524
Toluene	N/A	N/A
Toxaphene	0.010	0.012
2,4,5-TP (Silvex)	39.405	47.849
1,1,1-Trichloroethane	1,795,094	2,179,757
1,1,2-Trichloroethane	553.541	672.158
Trichloroethylene	153.866	186.837

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Human Health		
Parameter	70%	85%
2,4,5-Trichlorophenol	4569.063	5548.148
TTHM (Sum of Total Trihalomethanes)	N/A	N/A
Vinyl Chloride	45.034	54.684

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TEXTOX MENU #2 – INTERMITTENT STREAM WITHIN 3 MILES OF FRESHWATER PERENNIAL

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

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Freshwater Aquatic Life

Table 2, 2014 Texas Surface Water Quality Standards for Human Health

"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

PERMIT INFORMATION

Permittee Name:	Exxon Mobil Corporation
TPDES Permit No.:	WQ0001215000
Outfall No.:	007
Prepared by:	Melinda Luxemburg, P.E.
Date:	October 11, 2018

DISCHARGE INFORMATION

Intermittent Waterbody:	HCFCF ditch No. 0107-00-00 (use Segment No. 0902 values)
Perennial Stream within 3 miles	Goose Creek
Segment No.:	2426
TSS (mg/L):	4
pH (Standard Units):	7.1
Hardness (mg/L as CaCO ₃):	90
Chloride (mg/L):	88
Effluent Flow for Aquatic Life (MGD):	<10
Critical Low Flow [7Q2](cfs) intermittent:	0
Critical Low Flow [7Q2](cfs) perennial:	1.77
% Effluent for Chronic Aquatic Life (Mixing Zone):	89.73
% Effluent for Acute Aquatic Life (ZID):	100.0
Effluent Flow for Human Health (MGD):	<10
Harmonic Mean Flow (cfs):	11.1
% Effluent for Human Health:	58.203
Public Water Supply Use?	No

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

Stream/River Metal	Intercept (b)	Slope (m)	Partition Coefficient (Kp)	Dissolved Fraction (Cd/Ct)		Water Effect Ratio (WER)	
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	5.68	-0.73	173978.75	0.59		1.00	Assumed
Cadmium	6.60	-1.13	831136.22	0.23		1.00	Assumed
Chromium (Total)	6.52	-0.93	912187.69	0.22		1.00	Assumed
Chromium (+3)	6.52	-0.93	912187.69	0.22		1.00	Assumed
Chromium (+6)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	6.02	-0.74	375383.87	0.40		1.00	Assumed
Lead	6.45	-0.80	929719.64	0.21		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	5.69	-0.57	222241.83	0.53		1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	6.38	-1.03	575278.59	0.30		1.00	Assumed
Zinc	6.10	-0.70	477043.53	0.34		1.00	Assumed

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AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>FW Acute Criterion (ug/L)</i>	<i>FW Chronic Criterion (ug/L)</i>	<i>WLAa</i>	<i>WLAC</i>	<i>LTAa</i>	<i>LTAc</i>	<i>Daily Avg. (ug/L)</i>	<i>Daily Max. (ug/L)</i>
Aldrin	3.0	N/A	3.00	N/A	1.72	N/A	2.5269	5.3461
Aluminum	991	N/A	991	N/A	568	N/A	834.7292	1765.991
Arsenic	340	150	576.611	283.518	330.398	218.309	320.9140	678.9404
Cadmium	7.746	0.229	33.500	1.102	19.195	0.848	1.2473	2.6388
Carbaryl	2.0	N/A	2.00	N/A	1.15	N/A	1.6846	3.5641
Chlordane	2.4	0.004	2.40	0.004	1.38	0.003	0.0050	0.0107
Chlorpyrifos	0.083	0.041	0.083	0.046	0.048	0.035	0.0517	0.1094
Chromium (+3)	522.660	67.987	2429.716	352.249	1392.227	271.231	398.7103	843.5299
Chromium (+6)	15.7	10.6	15.7	11.814	9.00	9.097	13.2243	27.9779
Copper	12.860	8.654	32.169	24.126	18.433	18.577	27.0963	57.3261
Cyanide (free)	45.8	10.7	45.8	11.925	26.2	9.182	13.4982	28.5575
4,4'-DDT	1.1	0.001	1.10	0.001	0.630	0.001	0.0013	0.0027
Demeton	N/A	0.1	N/A	0.111	N/A	0.086	0.1262	0.2669
Diazinon	0.17	0.17	0.170	0.189	0.097	0.146	0.1432	0.3029
Dicofol	59.3	19.8	59.3	22.067	34.0	16.992	24.9780	52.8447
Dieldrin	0.24	0.002	0.240	0.002	0.138	0.002	0.0025	0.0053
Diuron	210	70	210	78.016	120	60.072	88.3062	186.8247
Endosulfan I (alpha)	0.22	0.056	0.220	0.062	0.126	0.048	0.0706	0.1495
Endosulfan II (beta)	0.22	0.056	0.220	0.062	0.126	0.048	0.0706	0.1495
Endosulfan sulfate	0.22	0.056	0.220	0.062	0.126	0.048	0.0706	0.1495
Endrin	0.086	0.002	0.086	0.002	0.049	0.002	0.0025	0.0053
Guthion	N/A	0.01	N/A	0.011	N/A	0.009	0.0126	0.0267
Heptachlor	0.52	0.004	0.520	0.004	0.298	0.003	0.0050	0.0107
Hexachlorocyclohexane (Lindane)	1.126	0.08	1.13	0.089	0.645	0.069	0.1009	0.2135
Lead	57.571	2.243	271.672	11.799	155.668	9.085	13.3553	28.2550
Malathion	N/A	0.01	N/A	0.011	N/A	0.009	0.0126	0.0267
Mercury	2.4	1.3	2.40	1.449	1.38	1.116	1.6400	3.4696
Methoxychlor	N/A	0.03	N/A	0.033	N/A	0.026	0.0378	0.0801
Mirex	N/A	0.001	N/A	0.001	N/A	0.001	0.0013	0.0027
Nickel	428.306	47.572	809.055	100.151	463.589	77.117	113.3613	239.8324
Nonylphenol	28	6.6	28.0	7.356	16.0	5.664	8.3260	17.6149
Parathion (ethyl)	0.065	0.013	0.065	0.014	0.037	0.011	0.0164	0.0347
Pentachlorophenol	9.646	7.400	9.646	8.248	5.527	6.351	8.1246	17.1887
Phenanthrene	30	30	30.0	33.435	17.2	25.745	25.2693	53.4609
Polychlorinated Biphenyls (PCBs)	2.0	0.014	2.00	0.016	1.15	0.012	0.0177	0.0374
Selenium	20	5	20.0	5.573	11.5	4.291	6.3076	13.3446
Silver	0.8	N/A	19.45362	N/A	11.147	N/A	16.3860	34.6669
Toxaphene	0.78	0.0002	0.780	0.000	0.447	0.000	0.0003	0.0005
Tributyltin (TBT)	0.13	0.024	0.130	0.027	0.074	0.021	0.0303	0.0641
2,4,5 Trichlorophenol	136	64	136	71.329	77.9	54.923	80.7371	170.8112
Zinc	107.173	108.050	311.677	350.210	178.591	269.662	262.5290	555.4184

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HUMAN HEALTH - CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	Water & Fish Criterion (ug/L)	Fish Only Criterion (ug/L)	WLAh	LTAh	Daily Avg. (ug/L)	Daily Max. (ug/L)
Acrylonitrile	0.80	3.8	6.529	6.072	8.9257	18.8836
Aldrin	0.00094	0.0010	0.002	0.002	0.0023	0.0050
Anthracene	5,569	N/A	N/A	N/A	N/A	N/A
Antimony	6	1,071	1840.121	1711.312	2515.629	5322.181
Arsenic	10	N/A	N/A	N/A	N/A	N/A
Barium	2,000	N/A	N/A	N/A	N/A	N/A
Benzene	5	513	881.402	819.704	1204.965	2549.280
Benidine	0.00086	0.0020	0.003	0.003	0.0047	0.0099
Benzo(a)anthracene	0.68	3.28	5.635	5.241	7.704	16.299
Benzo(a)pyrene	0.068	0.33	0.567	0.527	0.7751	1.6399
Bis(chloromethyl)ether	0.0024	0.44	0.756	0.703	1.033	2.187
Bis(2-chloroethyl)ether	0.57	10.06	17.284	16.075	23.630	49.992
Bis(2-ethylhexyl)phthalate	6	41	70.443	65.512	96.303	203.744
Bromodichloromethane (Dichlorobromomethane)	10.2	322	553.239	514.512	756.333	1600.133
Bromoform	69.1	2,175	3736.940	3475.354	5108.771	10808.352
Cadmium	5	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	4.3	30.5	52.403	48.735	71.640	151.565
Chlordane	0.0080	0.0081	0.014	0.013	0.0190	0.0403
Chlorobenzene	100	5,201	8936.011	8310.491	12216.421	25845.626
Chlorodibromomethane (Dibromochloromethane)	7.6	239	410.634	381.889	561.378	1187.676
Chloroform	70	7,143	12272.626	11413.543	16777.908	35496.117
Chromium (+6)	62	502	862.503	802.128	1179.128	2494.617
Chrysene	68.13	327	561.830	522.502	768.077	1624.980
Cresols (Methylphenols)	1,041	9,301	15980.358	14861.733	21846.748	46219.990
Cyanide (free)	200	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.0059	0.0059	0.010	0.009	0.0139	0.0293
4,4'-DDE	0.0040	0.0040	0.007	0.006	0.0094	0.0199
4,4'-DDT	0.0040	0.0040	0.007	0.006	0.0094	0.0199
2,4'-D	70	N/A	N/A	N/A	N/A	N/A
Danitol	262	473	812.677	755.790	1111.011	2350.506
1,2-Dibromoethane	0.17	4.24	7.285	6.775	9.959	21.070
m-Dichlorobenzene (1,3-Dichlorobenzene)	473	1,445	2482.703	2308.913	3394.103	7180.721
o-Dichlorobenzene (1,2-Dichlorobenzene)	600	4,336	7449.826	6928.338	10184.657	21547.132
p-Dichlorobenzene (1,4-Dichlorobenzene)	75	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	0.32	0.44	0.756	0.703	1.033	2.187
1,2-Dichloroethane	5	553	950.128	883.619	1298.920	2748.054
1,1-Dichloroethylene	7	23,916	41090.877	38214.515	56175.338	118847.143
Dichloromethane (Methylene Chloride)	5	22,222	38180.359	35507.734	52196.369	110429.052
1,2-Dichloropropane	5	226	388.298	361.117	530.842	1123.075
1,3-Dichloropropene (1,3- Dichloropropylene)	3.4	211	362.526	337.149	495.609	1048.534
Dicofol	0.30	0.30	0.515	0.479	0.7047	1.4908
Dieldrin	0.001	0.001	0.002	0.002	0.0023	0.0050
2,4-Dimethylphenol	257	571	981.054	912.380	1341.199	2837.503
Di-n-Butyl Phthalate	1,318	3,010	5171.581	4809.571	7070.069	14957.765
Dioxins/Furans (TCDD Equivalents)	7.80E-08	7.97E-08	0.000	1.27E-07	1.87E-07	3.96E-07
Endrin	0.20	0.20	0.344	0.320	0.4698	0.9939
Ethylbenzene	700	7,143	12272.626	11413.543	16777.908	35496.117
Fluoride	4,000	N/A	N/A	N/A	N/A	N/A

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HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>Water & Fish Criterion (ug/L)</i>	<i>Fish Only Criterion (ug/L)</i>	<i>WLAh</i>	<i>LTAh</i>	<i>Daily Avg. (ug/L)</i>	<i>Daily Max. (ug/L)</i>
Heptachlor	0.0015	0.0015	0.003	0.002	0.0035	0.0075
Heptachlor Epoxide	0.00074	0.00075	0.001	0.001	0.0018	0.0037
Hexachlorobenzene	0.0044	0.0045	0.008	0.007	0.0106	0.0224
Hexachlorobutadiene	6.5	274	470.769	437.815	643.588	1361.604
Hexachlorocyclohexane (alpha)	0.050	0.093	0.160	0.149	0.2184	0.4622
Hexachlorocyclohexane (beta)	0.17	0.33	0.567	0.527	0.7751	1.64399
Hexachlorocyclohexane (gamma) (Lindane)	0.2	6.2	10.652	9.907	14.563	30.810
Hexachlorocyclopentadiene	50	N/A	N/A	N/A	N/A	N/A
Hexachloroethane	4.97	11.51	19.776	18.391	27.035	57.197
Hexachlorophene	2.05	2.90	4.983	4.634	6.812	14.411
Lead	1.15	3.83	31.052	28.879	42.452	89.813
Mercury	0.0122	0.0122	0.021	0.019	0.0287	0.0606
Methoxychlor	1.59	1.61	2.766	2.573	3.782	8.001
Methyl Ethyl Ketone	13,865	992,000	1704388	1585081	2330069	4929602
Nickel	332	1,140	3699.867	3440.877	5058.089	10701.126
Nitrate-Nitrogen (as Total Nitrogen)	10,000	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	45	1,853	3183.701	2960.842	4352.438	9208.219
N-Nitrosodiethylamine	0.0037	2.1	3.608	3.356	4.933	10.436
N-Nitroso-di-n-Butylamine	0.119	4.2	7.216	6.711	9.865	20.871
Pentachlorobenzene	1.0	1.0	1.718	1.598	2.349	4.969
Pentachlorophenol	0.80	9.1	15.635	14.541	21.375	45.221
Polychlorinated Biphenyls (PCBs)	6.4E-04	6.4E-04	1.10E-03	1.02E-03	1.50E-03	3.18E-03
Pyridine	23	947	1627.072	1513.177	2224.370	4705.981
Selenium	50	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.65	0.71	1.220	1.134	1.668	3.528
1,1,2,2-Tetrachloroethane	1.7	40	68.725	63.915	93.954	198.774
Tetrachloroethylene	5	525	902.020	838.879	1233.152	2608.912
Thallium	0.12	0.23	0.395	0.368	0.5402	1.1430
Toluene	1,000	N/A	N/A	N/A	N/A	N/A
Toxaphene	0.0053	0.0053	0.009	0.008	0.0124	0.0263
2,4,5-TP (Silvex)	19	21	36.081	33.555	49.326	104.356
1,1,1-Trichloroethane	200	956,663	1643675	1528617	2247068	4754000
1,1,2-Trichloroethane	5	295	506.849	471.370	692.914	1465.960
Trichloroethylene	5	82	140.887	131.025	192.607	407.487
2,4,5-Trichlorophenol	1,194	2,435	4183.655	3890.799	5719.474	12100.384
TTHM (Sum of Total Trihalomethanes)	80	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	0.25	24	41.235	38.349	56.373	119.265

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

Aquatic Life		
<i>Parameter</i>	<i>70%</i>	<i>85%</i>
Aldrin	1.77	2.15
Aluminum	584	710
Arsenic	224.640	272.777
Cadmium	0.873	1.060
Carbaryl	1.18	1.43
Chlordane	0.004	0.004
Chlorpyrifos	0.036	0.044
Chromium (+3)	279.097	338.904
Chromium (+6)	9.257	11.241
Copper	18.967	23.032
Cyanide (free)	9.449	11.474
4,4'-DDT	0.001	0.001
Demeton	0.088	0.107
Diazinon	0.100	0.122
Dicofol	17.485	21.231
Dieldrin	0.002	0.002
Diuron	61.814	75.060
Endosulfan (alpha)	0.049	0.060
Endosulfan (beta)	0.049	0.060
Endosulfan sulfate	0.049	0.060
Endrin	0.002	0.002
Guthion	0.009	0.011
Heptachlor	0.004	0.004
Hexachlorocyclohexane (Lindane)	0.071	0.086
Lead	9.349	11.352
Malathion	0.009	0.011
Mercury	1.148	1.394
Methoxychlor	0.026	0.032
Mirex	0.001	0.001
Nickel	79.353	96.357
Nonylphenol	5.828	7.077
Parathion (ethyl)	0.011	0.014
Pentachlorophenol	5.687	6.906
Phenanthrene	17.689	21.479
Polychlorinated Biphenyls (PCBs)	0.012	0.015
Selenium	4.415	5.361
Silver	11.470	13.928
Toxaphene	0.000	0.000
Tributyltin (TBT)	0.021	0.026
2,4,5 Trichlorophenol	56.516	68.627
Zinc	183.770	223.150

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

Human Health

<i>Parameter</i>	<i>70%</i>	<i>85%</i>
Acrylonitrile	6.248	7.587
Aldrin	0.002	0.002
Anthracene	N/A	N/A
Antimony	1760.940	2138.285
Arsenic	N/A	N/A
Barium	N/A	N/A
Benzene	843.476	1024.220
Benzidine	0.003	0.004
Benzo(a)anthracene	5.393	6.549
Benzo(a)pyrene	0.543	0.659
Bis(chloromethyl)ether	0.723	0.878
Bis(2-chloroethyl)ether	16.541	20.085
Bis(2-ethylhexyl)phthalate	67.412	81.858
Bromodichloromethane (Dichlorobromomethane)	529.433	642.883
Bromoform	3576.139	4342.455
Cadmium	N/A	N/A
Carbon Tetrachloride	50.148	60.894
Chlordane	0.013	0.016
Chlorobenzene	8551.495	10383.958
Chlorodibromomethane (Dibromochloromethane)	392.964	477.171
Chloroform	11744.535	14261.221
Chromium (+6)	825.389	1002.259
Chrysene	537.654	652.866
Cresols (Methylphenols)	15292.723	18569.735
Cyanide (free)	N/A	N/A
4,4'-DDD	0.010	0.012
4,4'-DDE	0.007	0.008
4,4'-DDT	0.007	0.008
2,4'-D	N/A	N/A
Danitol	777.708	944.359
1,2-Dibromoethane	6.971	8.465
m-Dichlorobenzene (1,3-Dichlorobenzene)	2375.872	2884.987
o-Dichlorobenzene (1,2-Dichlorobenzene)	7129.260	8656.959
p-Dichlorobenzene (1,4-Dichlorobenzene)	N/A	N/A
3,3'-Dichlorobenzidine	0.723	0.878
1,2-Dichloroethane	909.244	1104.082
1,1-Dichloroethylene	39322.736	47749.037
Dichloromethane (Methylene Chloride)	36537.458	44366.913
1,2-Dichloropropane	371.590	451.216
1,3-Dichloropropene (1,3- Dichloropropylene)	346.927	421.268
Dicofol	0.493	0.599
Dieldrin	0.002	0.002
2,4-Dimethylphenol	938.839	1140.019
Di-n-Butyl Phthalate	4949.048	6009.559
Dioxins/Furans (TCDD Equivalents)	1.31E-07	1.59E-07
Endrin	0.329	0.399
Ethylbenzene	11744.535	14261.221
Fluoride	N/A	N/A

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

Human Health		
Parameter	70%	85%
Heptachlor	0.002	0.003
Heptachlor Epoxide	0.001	0.001
Hexachlorobenzene	0.007	0.009
Hexachlorobutadiene	450.511	547.050
Hexachlorocyclohexane (alpha)	0.153	0.186
Hexachlorocyclohexane (beta)	0.543	0.659
Hexachlorocyclohexane (gamma) (Lindane)	10.194	12.378
Hexachlorocyclopentadiene	N/A	N/A
Hexachloroethane	18.925	22.980
Hexachlorophene	4.768	5.790
Lead	29.716	36.084
Mercury	0.020	0.024
Methoxychlor	2.647	3.214
Methyl Ethyl Ketone	1631048	1980559
Nickel	3540.662	4299.375
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	3046.706	3699.572
N-Nitrosodiethylamine	3.453	4.193
N-Nitroso-di-n-Butylamine	6.906	8.385
Pentachlorobenzene	1.644	1.997
Pentachlorophenol	14.962	18.168
Polychlorinated Biphenyls (PCBs)	1.05E-03	1.28E-03
Pyridine	1557.059	1890.715
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	1.167	1.418
1,1,2,2-Tetrachloroethane	65.768	79.861
Tetrachloroethylene	863.206	1048.179
Thallium	0.378	0.459
Toluene	N/A	N/A
Toxaphene	0.009	0.011
2,4,5-TP (Silvex)	34.528	41.927
1,1,1-Trichloroethane	1572947	1910007
1,1,2-Trichloroethane	485.040	588.977
Trichloroethylene	134.825	163.716
2,4,5-Trichlorophenol	4003.632	4861.553
TTHM (Sum of Total Trihalomethanes)	N/A	N/A
Vinyl Chloride	39.461	47.917

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Comparison of Technology-Based Effluent Limits and Water Quality-Based Effluent Limits

The following table is a summary of technology-based effluent limitations calculated/assessed in the draft permit (Technology-Based), calculated/assessed water quality-based effluent limitations (Water Quality-Based), and effluent limitations in the existing permit (Existing Permit). Effluent limitations appearing in bold are the existing or most stringent of the three and are included in the draft permit.

Outfall	Parameter	Technology-Based			Water Quality-Based			Existing Permit		
		Daily Avg mg/L	Daily Max mg/L		Daily Avg mg/L	Daily Max mg/L		Daily Avg mg/L	Daily Max mg/L	
003	Flow, MGD	-	-		-	-		Report	Report	
	Total Organic Carbon	-	-		-	-		N/A	55	
	Oil and Grease	-	-		-	-		N/A	15	
	Copper, total	-	-		Report ²	Report ²		-	-	
	Copper, total	-	-		0.00657 ³	0.0139 ³		-	-	
	Lead, total	-	-		Report ²	Report ²		-	-	
	Zinc, total	-	-		Report ²	Report ²		-	-	
	Zinc, total	-	-		0.0722 ³	0.152 ³		-	-	
	Xylene	-	-		-	-		N/A	1.0	
	Biochemical Oxygen Demand (5-day)	30	80		-	-		30	80	
	Total Suspended Solids ¹	127	283		-	-		99	198	
	Acenaphthene	0.019	0.047		-	-		0.019	0.047	
	Acenaphthylene	0.019	0.047		-	-		0.019	0.047	
	Acrylonitrile	0.094	0.232		0.0101 ³	0.0215 ³		0.0104 ²	0.0220 ²	
	Anthracene	0.019	0.047		-	-		0.019	0.047	
	Benzene	0.057	0.134		1.37	2.90		0.057	0.134	
	Benzo(a)anthracene	0.019	0.047		0.0087	0.0186		0.0015	0.0031	
	Benzo(a)pyrene	0.020	0.048		0.0088	0.0187		0.0015	0.0031	
	3,4-Benzofluoranthene	0.020	0.048		-	-		0.020	0.048	
	Benzo(k)fluoranthene	0.019	0.047		-	-		0.019	0.047	
	Bis(2-ethylhexyl) phthalate	0.095	0.258		0.109	0.232		0.095	0.258	
	Carbon Tetrachloride	0.142	0.380		0.0817	0.172		0.015	0.032	
	Chlorobenzene	0.142	0.380		13.9	29.4		0.142	0.380	

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Outfall	Parameter	Technology-Based		Water Quality-Based		Existing Permit	
		Daily Avg mg/L	Daily Max mg/L	Daily Avg mg/L	Daily Max mg/L	Daily Avg mg/L	Daily Max mg/L
003	Chloroethane	0.110	0.295	-	-	0.110	0.295
	Chloroform	0.111	0.325	19.1	40.5	0.111	0.325
	Chrysene	0.019	0.047	0.876	1.85	0.015	0.031
	1,2-Dichlorobenzene	0.196	0.794	11.6	24.5	0.196	0.794
	1,3-Dichlorobenzene	0.142	0.38	3.87	8.19	0.142	0.380
	1,4-Dichlorobenzene	0.142	0.38	-	-	0.142	0.380
	1,1-Dichloroethane	0.022	0.059	-	-	0.022	0.059
	1,2-Dichloroethane	0.180	0.574	1.48	3.13	0.135	0.285
	1,1-Dichloroethylene	0.022	0.060	64.1	135	0.011	0.023
	1,2-trans Dichloroethylene	0.025	0.066	-	-	0.025	0.066
	1,2-Dichloropropane	0.196	0.794	0.605	1.28	0.196	0.794
	1,3-Dichloropropylene	0.196	0.794	0.565	1.19	0.196	0.794
	Diethyl phthalate	0.046	0.113	-	-	0.046	0.113
	2,4-Dimethylphenol	0.019	0.047	1.53	3.23	0.019	0.047
	Dimethyl phthalate	0.019	0.047	-	-	0.019	0.047
	Di-n-butyl phthalate	0.020	0.043	8.06	17.0	0.020	0.043
	4,6-Dinitro-o-cresol	0.078	0.277	-	-	0.078	0.277
	2,4-Dinitrophenol	1.207	4.291	-	-	1.207	4.291
	Ethylbenzene	0.142	0.380	19.1	40.5	0.142	0.380
	Fluoranthene	0.022	0.054	-	-	0.022	0.054
	Fluorene	0.019	0.047	-	-	0.019	0.047
	Hexachlorobenzene	0.196	0.794	0.00001206 ³	0.0000255 ³	0.0000123 ²	0.000026 ²
	Hexachlorobutadiene	0.142	0.380	0.734	1.53	0.0067	0.014
	Hexachloroethane	0.196	0.794	0.0308	0.0652	0.170	0.359
	Methyl Chloride	0.110	0.295	-	-	0.110	0.295
	Methylene Chloride	0.036	0.170	-	-	0.036	0.170
	Naphthalene	0.019	0.047	-	-	0.019	0.047
	Nitrobenzene	2.237	6.402	4.96	10.5	0.427	0.902
	2-Nitrophenol	0.065	0.231	-	-	0.065	0.231
	4-Nitrophenol	0.162	0.576	-	-	0.162	0.576

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Outfall	Parameter	Technology-Based		Water Quality-Based		Existing Permit	
		Daily Avg mg/L	Daily Max mg/L	Daily Avg mg/L	Daily Max mg/L	Daily Avg mg/L	Daily Max mg/L
003	Phenanthrene	0.019	0.047	0.0036	0.0077	0.0036	0.0077
	Phenol	0.019	0.047	-	-	0.019	0.047
	Pyrene	0.020	0.048	-	-	0.020	0.048
	Tetrachloroethylene	0.052	0.164	1.40	2.97	0.052	0.164
	Toluene	0.028	0.074	-	-	0.028	0.074
	1,2,4-Trichlorobenzene	0.196	0.794	-	-	0.196	0.794
	1,1,1-Trichloroethane	0.022	0.059	2564	5425	0.022	0.059
	1,1,2-Trichloroethane	0.032	0.127	0.790	1.67	0.032	0.127
	Trichloroethylene	0.026	0.069	0.219	0.465	0.026	0.069
	Vinyl Chloride	0.097	0.172	0.0643 ³	0.136 ³	0.066 ²	0.139 ²
	pH	6.0 SU (min)	9.0 SU	6.5 SU (min)	9.0 SU	6.0 SU (min) ⁴	9.0 SU

- ¹ The applicant's amendment application includes a request to increase the effluent limitations for total suspended solids (TSS) at Outfall 003. The existing effluent limitations in the current permit are listed for informational purposes only and are not compared to the calculated technology-based effluent limitations for selecting effluent limitations for the draft permit.
- ² Required upon the date of permit issuance.
- ³ Required three years from the permit issuance date.
- ⁴ Outfall 003 discharges into an unclassified water body; an unnamed tidal inlet. Consistent with the procedures for pH screening that were submitted to EPA with a letter dated May 28, 2014, and approved by EPA in a letter dated June 2, 2014, requiring these discharges to unclassified water bodies to meet pH limits of 6.0 – 9.0 standard units reasonably ensures instream compliance with *Texas Surface Water Quality Standards* pH criteria. Therefore, the technology-based pH range of between 6.0 SU – 9.0 SU is continued in the draft permit.

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Outfall	Parameter	Technology-Based			Water Quality-Based			Existing Permit	
		Daily Avg	Daily Max	Report	Daily Avg	Daily Max	Daily Avg	Daily Max	mg/L
		mg/L	mg/L		mg/L	mg/L			
007	Flow, MGD	Report	Report		-	-	-	-	mg/L
	Total Organic Carbon	N/A	55		-	-	-	-	-
	Oil and Grease	N/A	15		-	-	-	-	-
	Xylene	N/A	1.0		-	-	-	-	-
	Biochemical Oxygen Demand (5-day)	30	80		-	-	-	-	-
	Total Suspended Solids	127	283		-	-	-	-	-
	Acenaphthene	0.019	0.047		-	-	-	-	-
	Acenaphthylene	0.019	0.047		-	-	-	-	-
	Acrylonitrile	0.094 ¹	0.232 ¹		0.0089 ²	0.0188 ²	-	-	-
	Anthracene	0.019	0.047		-	-	-	-	-
	Benzene	0.057	0.134		1.20	2.54	-	-	-
	Benzo(a)anthracene	0.019 ¹	0.047 ¹		0.0077 ²	0.0162 ²	-	-	-
	Benzo(a)pyrene	0.020 ¹	0.048 ¹		0.0007 ²	0.0016 ²	-	-	-
	3,4-Benzofluoranthene	0.020	0.048		-	-	-	-	-
	Benzo(k)fluoranthene	0.019	0.047		-	-	-	-	-
	Bis(2-ethylhexyl) phthalate	0.095 ¹	0.258 ¹		0.0963	0.203 ²	-	-	-
	Carbon Tetrachloride	0.142 ¹	0.380 ¹		0.0716 ²	0.151 ²	-	-	-
	Chlorobenzene	0.142	0.380		12.2	25.8	-	-	-
	Chloroethane	0.110	0.295		-	-	-	-	-
	Chloroform	0.111	0.325		16.7	35.54	-	-	-
	Chrysene	0.019	0.047		0.768	1.62	-	-	-
	1,2-Dichlorobenzene	0.196	0.794		10.1	21.5	-	-	-
	1,3-Dichlorobenzene	0.142	0.38		3.39	7.18	-	-	-

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Outfall	Parameter	Technology-Based			Water Quality-Based			Existing Permit	
		Daily Avg mg/L	Daily Max mg/L	Daily Avg mg/L	Daily Avg mg/L	Daily Max mg/L	Daily Avg mg/L	Daily Max mg/L	Daily Max mg/L
007	1,4-Dichlorobenzene	0.142	0.38	-	-	-	-	-	-
	1,1-Dichloroethane	0.022	0.059	-	-	-	-	-	-
	1,2-Dichloroethane	0.180	0.574	1.29	2.74	-	-	-	-
	1,1-Dichloroethylene	0.022	0.060	56.1	118	-	-	-	-
	1,2-trans Dichloroethylene	0.025	0.066	-	-	-	-	-	-
	1,2-Dichloropropane	0.196	0.794	0.530	1.12	-	-	-	-
	1,3-Dichloropropylene	0.196	0.794	0.495	1.04	-	-	-	-
	Diethyl phthalate	0.046	0.113	-	-	-	-	-	-
	2,4-Dimethylphenol	0.019	0.047	1.34	2.83	-	-	-	-
	Dimethyl phthalate	0.019	0.047	-	-	-	-	-	-
	Di-n-butyl phthalate	0.020	0.043	7.07	14.9	-	-	-	-
	4,6-Dinitro-o-cresol	0.078	0.277	-	-	-	-	-	-
	2,4-Dinitrophenol	1.207	4.291	-	-	-	-	-	-
	Ethylbenzene	0.142	0.380	16.7	35.4	-	-	-	-
	Fluoranthene	0.022	0.054	-	-	-	-	-	-
	Fluorene	0.019	0.047	-	-	-	-	-	-
	Hexachlorobenzene	0.196 ¹	0.794 ¹	0.0000105 ³	0.000022 ³	-	-	-	-
	Hexachlorobutadiene	0.142	0.380	0.643	1.36	-	-	-	-
	Hexachloroethane	0.196 ¹	0.794 ¹	0.0270 ³	0.0571 ³	-	-	-	-
	Methyl Chloride	0.110	0.295	-	-	-	-	-	-
	Methylene Chloride	0.036	0.170	-	-	-	-	-	-
	Naphthalene	0.019	0.047	-	-	-	-	-	-
	Nitrobenzene	2.237	6.402	4.35	9.20	-	-	-	-
	2-Nitrophenol	0.065	0.231	-	-	-	-	-	-
	4-Nitrophenol	0.162	0.576	-	-	-	-	-	-
	Phenanthrene	0.019	0.047	0.0252	0.0534	-	-	-	-
	Phenol	0.019	0.047	-	-	-	-	-	-
	Pyrene	0.020	0.048	-	-	-	-	-	-
	Tetrachloroethylene	0.052	0.164	1.23	2.60	-	-	-	-

STATEMENT OF BASIS / TECHNICAL SUMMARY AND
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Outfall	Parameter	Technology-Based		Water Quality-Based		Existing Permit	
		Daily Avg mg/L	Daily Max mg/L	Daily Avg mg/L	Daily Max mg/L	Daily Avg mg/L	Daily Max mg/L
007	Toluene	0.028	0.074	-	-	-	-
	1,2,4-Trichlorobenzene	0.196	0.794	-	-	-	-
	1,1,1-Trichloroethane	0.022	0.059	2247	4754	-	-
	1,1,2-Trichloroethane	0.032	0.127	0.692	1.46	-	-
	Trichloroethylene	0.026	0.069	0.192	0.407	-	-
	Vinyl Chloride	0.097 ¹	0.172 ¹	0.0563 ²	0.119 ²	-	-
	pH	6.0 SU (min)	9.0 SU	6.5 SU (min)	9.0 SU	6.0 SU (min) ³	9.0 SU

¹ Required upon the date of permit issuance.

² Required three years from the permit issuance date.

³ New Outfall 007 will discharge into an unclassified water body; HCFCD ditch O107-00-00. Consistent with the procedures for pH screening that were submitted to EPA with a letter dated May 28, 2014, and approved by EPA in a letter dated June 2, 2014, requiring these discharges to unclassified water bodies to meet pH limits of 6.0 – 9.0 standard units reasonably ensures instream compliance with *Texas Surface Water Quality Standards* pH criteria. Therefore, the technology-based pH range of between 6.0 SU – 9.0 SU is placed in the draft permit.



TPDES PERMIT NO. WQ0001215000
[For TCEQ office use only -EPA I.D.
No. TX0007013]

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

This major amendment replaces TPDES
Permit No. WQ000121500, issued on
December 21, 2015.

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

Exxon Mobil Corporation

whose mailing address is

P.O. Box 4004
Baytown, Texas 77522-4004

is authorized to treat and discharge wastes from the Baytown Chemical Plant, a petrochemical manufacturing plant, (SIC 2869, 2822, 2821, and 2813)

located at 5000 Bayway Drive, in the City of Baytown, Harris County, Texas 77520

via Outfall 003 to an unnamed tidal inlet, thence to Scott Bay in Segment No. 2429 of the the Bays and Estuaries and via Outfall 007 to Harris County Flood Control District (HCFCD) ditch 0107-00-00, thence to West Fork Goose Creek, thence to Goose Creek, thence to Tabbs Bay in Segment No. 2426 of the Bays and Estruaries

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

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

ISSUED DATE:

For the Commission

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 003

- During the period beginning upon the date of issuance and lasting through the date of expiration, the permittee is authorized to discharge stormwater ¹ and facility wastewater ² subject to the following effluent limitations:

Flow Volume: Intermittent and variable.

Effluent Characteristics	Discharge Limitations		Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow, MGD	Report	Report	1/day ³ or 1/six months ⁴	Estimate
Total Organic Carbon	N/A	55	1/day ³ or 1/six months ⁴	Grab
Oil and Grease	N/A	15	1/day ³ or 1/six months ⁴	Grab
Copper, total (Interim) ⁷	Report ⁷	Report ⁷	1/year ⁶	Grab
Copper, total (Final) ⁸	0.00657 ⁸	0.0139 ⁸	1/year ⁶	Grab
Lead, total	Report ⁷	Report ⁷	1/year ⁶	Grab
Zinc, total (Interim) ⁷	Report ⁷	Report ⁷	1/year ⁶	Grab
Zinc, total (Final) ⁸	0.0722 ⁸	0.152 ⁸	1/year ⁶	Grab
Xylene ⁵	N/A	1.0	1/year ⁶	Grab
Biochemical Oxygen Demand (5-day)	30	80	1/year ⁶	Grab
Total Suspended Solids	127	283	1/year ⁶	Grab
Acenaphthene	0.019	0.047	1/year ⁶	Grab
Acenaphthylene	0.019	0.047	1/year ⁶	Grab
Acrylonitrile (Interim) ⁷	0.0104 ⁷	0.022 ⁷	1/year ⁶	Grab
Acrylonitrile (Final) ⁸	0.0101 ⁸	0.0215 ⁸	1/year ⁶	Grab
Anthracene	0.019	0.047	1/year ⁶	Grab
Benzene	0.057	0.134	1/year ⁶	Grab
Benzo(a)anthracene	0.0015	0.0031	1/year ⁶	Grab
Benzo(a)pyrene	0.0015	0.0031	1/year ⁶	Grab
3,4-Benzofluoranthene	0.020	0.048	1/year ⁶	Grab
Benzo(k)fluoranthene	0.019	0.047	1/year ⁶	Grab
Bis(2-ethylhexyl) phthalate	0.095	0.258	1/year ⁶	Grab
Carbon Tetrachloride	0.015	0.032	1/year ⁶	Grab
Chlorobenzene	0.142	0.380	1/year ⁶	Grab
Chloroethane	0.110	0.295	1/year ⁶	Grab

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 003

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
Chloroform	0.111	0.325	0.325	1/year ⁶	Grab
Chrysene	0.015	0.031	0.031	1/year ⁶	Grab
1,2-Dichlorobenzene	0.196	0.794	0.794	1/year ⁶	Grab
1,3-Dichlorobenzene	0.142	0.380	0.380	1/year ⁶	Grab
1,4-Dichlorobenzene	0.142	0.380	0.380	1/year ⁶	Grab
1,1-Dichloroethane	0.022	0.059	0.059	1/year ⁶	Grab
1,2-Dichloroethane	0.135	0.285	0.285	1/year ⁶	Grab
1,1-Dichloroethylene	0.011	0.023	0.023	1/year ⁶	Grab
1,2-trans Dichloroethylene	0.025	0.066	0.066	1/year ⁶	Grab
1,2-Dichloropropane	0.196	0.794	0.794	1/year ⁶	Grab
1,3-Dichloropropylene	0.196	0.794	0.794	1/year ⁶	Grab
Diethyl phthalate	0.046	0.113	0.113	1/year ⁶	Grab
2,4-Dimethylphenol	0.019	0.047	0.047	1/year ⁶	Grab
Dimethyl phthalate	0.019	0.047	0.047	1/year ⁶	Grab
Di-n-butyl phthalate	0.020	0.043	0.043	1/year ⁶	Grab
4,6-Dinitro-o-cresol	0.078	0.277	0.277	1/year ⁶	Grab
2,4-Dinitrophenol	1.207	4.291	4.291	1/year ⁶	Grab
Ethylbenzene	0.142	0.380	0.380	1/year ⁶	Grab
Fluoranthene	0.022	0.054	0.054	1/year ⁶	Grab
Fluorene	0.019	0.047	0.047	1/year ⁶	Grab
Hexachlorobenzene (Interim) ⁷	0.0000123 ⁷	0.000026 ⁷	0.000026 ⁷	1/year ⁶	Grab
Hexachlorobenzene (Final) ⁸	0.0000120 ⁸	0.000025 ⁸	0.000025 ⁸	1/year ⁶	Grab
Hexachlorobutadiene	0.0067	0.014	0.014	1/year ⁶	Grab
Hexachloroethane	0.170	0.359	0.359	1/year ⁶	Grab
Methyl Chloride	0.110	0.295	0.295	1/year ⁶	Grab
Methylene Chloride	0.036	0.170	0.170	1/year ⁶	Grab
Naphthalene	0.019	0.047	0.047	1/year ⁶	Grab
Nitrobenzene	0.427	0.902	0.902	1/year ⁶	Grab
2-Nitrophenol	0.065	0.231	0.231	1/year ⁶	Grab
4-Nitrophenol	0.162	0.576	0.576	1/year ⁶	Grab

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 003

Effluent Characteristics	Discharge Limitations		Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum mg/L	Report Daily Average and Measurement Frequency	Daily Maximum Sample Type
Phenanthrene	0.0036	0.0077	1/year ⁶	Grab
Phenol	0.019	0.047	1/year ⁶	Grab
Pyrene	0.020	0.048	1/year ⁶	Grab
Tetrachloroethylene	0.052	0.164	1/year ⁶	Grab
Toluene	0.028	0.074	1/year ⁶	Grab
1,2,4-Trichlorobenzene	0.196	0.794	1/year ⁶	Grab
1,1,1-Trichloroethane	0.022	0.059	1/year ⁶	Grab
1,1,2-Trichloroethane	0.032	0.127	1/year ⁶	Grab
Trichloroethylene	0.026	0.069	1/year ⁶	Grab
Vinyl Chloride (Interim) ⁷	0.066 ⁷	0.139 ⁷	1/year ⁶	Grab
Vinyl Chloride (Final) ⁸	0.064 ⁸	0.136 ⁸	1/year ⁶	Grab

¹ See Other Requirement No. 5.

² See Other Requirement Nos. 4 and 6.

³ When the discharge includes an overflow from any process lift station upstream of Outfall 003 a sample shall be collected at Outfall 003 during the first hour after the overflow begins. If there is no overflow from any of these areas daily sampling is not required.

⁴ When a stormwater discharge occurs, sampling shall be taken during the first hour of the discharge of stormwater from Outfall 003. SW-846 method 8020 or any method approved in 40 CFR 136 may be used. Other EPA approved test methods, with equivalent sensitivity, may be used with written approval from TCEQ.

⁵ When the discharge includes an overflow from any process lift station upstream of Outfall 003, a sample shall be collected at Outfall 003 during the first hour after the overflow begins. Only one sample per year is required. Calculation of the daily average limit is only required when more than one sample is collected in a given month. If there is no overflow from any upstream lift station, no sample is required.

⁶ Beginning upon the date of permit issuance and lasting for a period of three years.

⁷ Beginning three years from the permit issuance date and lasting until the date of permit expiration.

2. The pH must not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/day³ by grab sample or 1/six months⁴ 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 must be taken at the following location: Outfall 003 - from the commingled flow in collection box No. 1.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 007

- During the period beginning upon the date of issuance and lasting through the date of expiration, the permittee is authorized to discharge stormwater ¹ and facility wastewater ² subject to the following effluent limitations:

Flow Volume: Intermittent and 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 Measurement Frequency	Daily Maximum mg/L	Sample Type
Flow, MGD	Report	Report	N/A	1/day ³ or 1/six months ⁴	N/A	Estimate
Total Organic Carbon	N/A	55	55	1/day ³ or 1/six months ⁴	55	Grab
Oil and Grease	N/A	15	15	1/day ³ or 1/six months ⁴	15	Grab
Xylene ⁵	N/A	1.0	1.0	1/year ⁶	1.0	Grab
Biochemical Oxygen Demand (5-day)	30	80	80	1/year ⁶	80	Grab
Total Suspended Solids	127	283	283	1/year ⁶	283	Grab
Acenaphthene	0.019	0.047	0.047	1/year ⁶	0.047	Grab
Acenaphthylene	0.019	0.047	0.047	1/year ⁶	0.047	Grab
Acrylonitrile (Interim) ⁷	0.094 ⁷	0.232 ⁷	0.232 ⁷	1/year ⁶	0.232 ⁷	Grab
Acrylonitrile (Final) ⁸	0.0089 ⁸	0.0188 ⁸	0.0188 ⁸	1/year ⁶	0.0188 ⁸	Grab
Anthracene	0.019	0.047	0.047	1/year ⁶	0.047	Grab
Benzene	0.057	0.134	0.134	1/year ⁶	0.134	Grab
Benzo(a)anthracene (Interim) ⁷	0.019 ⁷	0.047 ⁷	0.047 ⁷	1/year ⁶	0.047 ⁷	Grab
Benzo(a)anthracene (Final) ⁸	0.0077 ⁸	0.0162 ⁸	0.0162 ⁸	1/year ⁶	0.0162 ⁸	Grab
Benzo(a)pyrene (Interim) ⁷	0.020 ⁷	0.048 ⁷	0.048 ⁷	1/year ⁶	0.048 ⁷	Grab
Benzo(a)pyrene (Final) ⁸	0.0007 ⁸	0.0016 ⁸	0.0016 ⁸	1/year ⁶	0.0016 ⁸	Grab
3,4-Benzofluoranthene	0.020	0.048	0.048	1/year ⁶	0.048	Grab
Benzo(k)fluoranthene	0.019	0.047	0.047	1/year ⁶	0.047	Grab
Bis(2-ethylhexyl) phthalate (Interim) ⁷	0.095	0.258 ⁷	0.258 ⁷	1/year ⁶	0.258 ⁷	Grab
Bis(2-ethylhexyl) phthalate (Final) ⁸	0.095	0.203 ⁸	0.203 ⁸	1/year ⁶	0.203 ⁸	Grab
Carbon Tetrachloride (Interim) ⁷	0.142 ⁷	0.380 ⁷	0.380 ⁷	1/year ⁶	0.380 ⁷	Grab
Carbon Tetrachloride (Final) ⁸	0.0716 ⁸	0.151 ⁸	0.151 ⁸	1/year ⁶	0.151 ⁸	Grab
Chlorobenzene	0.142	0.380	0.380	1/year ⁶	0.380	Grab
Chloroethane	0.110	0.295	0.295	1/year ⁶	0.295	Grab

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 007

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Measurement Frequency	Daily Maximum Sample Type
Chloroform	0.111	0.325	0.325	1/year ⁶	Grab
Chrysene	0.019	0.047	0.047	1/year ⁶	Grab
1,2-Dichlorobenzene	0.196	0.794	0.794	1/year ⁶	Grab
1,3-Dichlorobenzene	0.142	0.380	0.380	1/year ⁶	Grab
1,4-Dichlorobenzene	0.142	0.380	0.380	1/year ⁶	Grab
1,1-Dichloroethane	0.022	0.059	0.059	1/year ⁶	Grab
1,2-Dichloroethane	0.180	0.574	0.574	1/year ⁶	Grab
1,1-Dichloroethylene	0.022	0.060	0.060	1/year ⁶	Grab
1,2-trans Dichloroethylene	0.025	0.066	0.066	1/year ⁶	Grab
1,2-Dichloropropane	0.196	0.794	0.794	1/year ⁶	Grab
1,3-Dichloropropylene	0.196	0.794	0.794	1/year ⁶	Grab
Diethyl phthalate	0.046	0.113	0.113	1/year ⁶	Grab
2,4-Dimethylphenol	0.019	0.047	0.047	1/year ⁶	Grab
Dimethyl phthalate	0.019	0.047	0.047	1/year ⁶	Grab
Di-n-butyl phthalate	0.020	0.043	0.043	1/year ⁶	Grab
4,6-Dinitro-o-cresol	0.078	0.277	0.277	1/year ⁶	Grab
2,4-Dinitrophenol	1.207	4.291	4.291	1/year ⁶	Grab
Ethylbenzene	0.142	0.380	0.380	1/year ⁶	Grab
Fluoranthene	0.022	0.054	0.054	1/year ⁶	Grab
Fluorene	0.019	0.047	0.047	1/year ⁶	Grab
Hexachlorobenzene (Interim) ⁷	0.196 ⁷	0.794 ⁷	0.794 ⁷	1/year ⁶	Grab
Hexachlorobenzene (Final) ⁸	0.000010 ⁸	0.000022 ⁸	0.000022 ⁸	1/year ⁶	Grab
Hexachlorobutadiene	0.142	0.380	0.380	1/year ⁶	Grab
Hexachloroethane (Interim) ⁷	0.196	0.794	0.794	1/year ⁶	Grab
Hexachloroethane (Final) ⁸	0.0270	0.0571	0.0571	1/year ⁶	Grab
Methyl Chloride	0.110	0.295	0.295	1/year ⁶	Grab
Methylene Chloride	0.036	0.170	0.170	1/year ⁶	Grab
Naphthalene	0.019	0.047	0.047	1/year ⁶	Grab

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 007

Effluent Characteristics	Discharge Limitations		Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Nitrobenzene	2.237	6.402	1/year ⁶	Grab
2-Nitrophenol	0.065	0.231	1/year ⁶	Grab
4-Nitrophenol	0.162	0.576	1/year ⁶	Grab
Phenanthrene	0.019	0.047	1/year ⁶	Grab
Phenol	0.019	0.047	1/year ⁶	Grab
Pyrene	0.020	0.048	1/year ⁶	Grab
Tetrachloroethylene	0.052	0.164	1/year ⁶	Grab
Toluene	0.028	0.074	1/year ⁶	Grab
1,2,4-Trichlorobenzene	0.196	0.794	1/year ⁶	Grab
1,1,1-Trichloroethane	0.022	0.059	1/year ⁶	Grab
1,1,2-Trichloroethane	0.032	0.127	1/year ⁶	Grab
Trichloroethylene	0.026	0.069	1/year ⁶	Grab
Vinyl Chloride (Interim) ⁷	0.097 ⁷	0.172 ⁷	1/year ⁶	Grab
Vinyl Chloride (Final) ⁸	0.056 ⁸	0.119 ⁸	1/year ⁶	Grab

¹ See Other Requirement No. 5.

² See Other Requirement Nos. 4 and 6.

³ When the discharge includes an overflow from any process lift station/sump upstream of Outfall 007, a sample shall be collected at Outfall 007 during the first hour that process wastewater is present in the discharge at Outfall 007. If there is no overflow from any of these areas daily sampling is not required.

⁴ When a stormwater discharge occurs, sampling shall be taken during the first hour of the discharge of stormwater from Outfall 007.

⁵ SW-846 method 8020 or any method approved in 40 CFR 136 may be used. Other EPA approved test methods, with equivalent sensitivity, may be used with written approval from TCEQ.

⁶ When the discharge includes an overflow from any lift station/sump upstream of Outfall 007, a sample shall be collected at Outfall 007 during the first hour that process wastewater is present in the discharge at Outfall 007. Only one sample per year is required. Calculation of the daily average limit is only required when more than one sample is collected in a given month. If there is no overflow from any upstream lift station/sump, no sample is required.

⁷ Beginning upon the date of notification of startup/discharge (see Other Requirement No. 13) and lasting for a period of three years.

⁸ Beginning three years from the date of notification of startup/discharge (see Other Requirement No. 13) and lasting until the date of permit expiration.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 007

2. The pH must not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/day ³ by grab sample, and 1/six months ⁴ 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 must be taken at the following location: Outfall 007, at the discharge from the Performance Polymers Unit (PPU) and Monomer Preparation Facility (MPF) Stormwater Detention Pond.

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 $(\text{Flow, MGD} \times \text{Concentration, mg/L} \times 8.34)$.
- 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 149) of the Commission, and such waiver of these requirements will be reviewed upon expiration of the existing permit; however, any such waiver shall not be interpreted as condoning or excusing any violation of any permit parameter.

- b. The plans and specifications for domestic sewage collection and treatment works associated with any domestic permit must be approved by the Commission, and failure to secure approval before commencing construction of such works or making a discharge is a violation of this permit and each day is an additional violation until approval has been secured.
 - c. Permits for domestic wastewater treatment plants are granted subject to the policy of the Commission to encourage the development of area-wide waste collection, treatment, and disposal systems. The Commission reserves the right to amend any domestic wastewater permit in accordance with applicable procedural requirements to require the system covered by this permit to be integrated into an area-wide system, should such be developed; to require the delivery of the wastes authorized to be collected in, treated by or discharged from said system, to such area-wide system; or to amend this permit in any other particular to effectuate the Commission's policy. Such amendments may be made when the changes required are advisable for water quality control purposes and are feasible on the basis of waste treatment technology, engineering, financial, and related considerations existing at the time the changes are required, exclusive of the loss of investment in or revenues from any then existing or proposed waste collection, treatment or disposal system.
9. Domestic wastewater treatment plants shall be operated and maintained by sewage plant operators holding a valid certificate of competency at the required level as defined in 30 TAC Chapter 30.
 10. For Publicly Owned Treatment Works (POTWs), the 30-day average (or monthly average) percent removal for BOD and TSS shall not be less than 85%, unless otherwise authorized by this permit.
 11. Facilities that generate industrial solid waste as defined in 30 TAC §335.1 shall comply with these provisions:
 - a. Any solid waste, as defined in 30 TAC §335.1 (including but not limited to such wastes as garbage, refuse, sludge from a waste treatment, water supply treatment plant or air pollution control facility, discarded materials, discarded materials to be recycled, whether the waste is solid, liquid, or semisolid), generated by the permittee during the management and treatment of wastewater, must be managed in accordance with all applicable provisions of 30 TAC Chapter 335, relating to Industrial Solid Waste Management.
 - b. Industrial wastewater that is being collected, accumulated, stored, or processed before discharge through any final discharge outfall, specified by this permit, is considered to be industrial solid waste until the wastewater passes through the actual point source discharge and must be managed in accordance with all applicable provisions of 30 TAC Chapter 335.
 - c. The permittee shall provide written notification, pursuant to the requirements of 30 TAC §335.8(b)(1), to the Corrective Action Section (MC 127) of the Remediation Division informing the Commission of any closure activity involving an Industrial Solid Waste Management Unit, at least 90 days prior to conducting such an activity.
 - d. Construction of any industrial solid waste management unit requires the prior written notification of the proposed activity to the Registration and Reporting Section (MC 129) of the Permitting and Remediation Support Division. No person shall dispose of industrial solid waste, including sludge or other solids from wastewater treatment processes, prior to fulfilling the deed recordation requirements of 30 TAC §335.5.
 - e. The term "industrial solid waste management unit" means a landfill, surface impoundment, waste-pile, industrial furnace, incinerator, cement kiln, injection well, container, drum, salt dome waste containment cavern, or any other structure vessel, appurtenance, or other improvement on land used to manage industrial solid waste.
 - f. The permittee shall keep management records for all sludge (or other waste) removed from any wastewater treatment process. These records shall fulfill all applicable requirements of 30 TAC Chapter 335 and must include the following, as it pertains to wastewater treatment and discharge:
 - i. volume of waste and date(s) generated from treatment process;
 - ii. volume of waste disposed of on-site or shipped off-site;
 - iii. date(s) of disposal;

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

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

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

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OTHER REQUIREMENTS

1. The executive director reviewed this action for consistency with the goals and policies of the Texas Coastal Management Program (CMP) in accordance with the regulations of the General Land Office and determined that the action is consistent with the applicable CMP goals and policies.
2. Violations of daily maximum limitations for the following pollutants shall be reported orally or by facsimile to TCEQ Region 12 within 24 hours from the time the permittee becomes aware of the violation, followed by a written report within five working days to TCEQ Region 12 and the Enforcement Division (MC 224):

Acenaphthene	1,4-Dichlorobenzene	Hexachloroethane
Acenaphthylene	1,1-Dichloroethane	Methyl Chloride
Acrylonitrile	1,2-Dichloroethane	Methylene Chloride
Anthracene	1,1-Dichloroethylene	Naphthalene
Benzene	1,2-trans-Dichloroethylene	Nitrobenzene
Benzo(a)anthracene	1,2-Dichloropropane	2-Nitrophenol
Benzo(a)pyrene	1,3-Dichloropropylene	4-Nitrophenol
3,4-Benzofluoranthene	Diethyl Phthalate	Phenanthrene
(Benzo(b)fluoranthene)	2,4-Dimethylphenol	Phenol
Benzo(k)fluoranthene	Dimethyl Phthalate	Pyrene
Bis(2-Ethylhexyl) Phthalate	Di-n-Butyl Phthalate	Tetrachloroethylene
Carbon Tetrachloride	4,6-Dinitro-o-Cresol	Toluene
Chlorobenzene	2,4-Dinitrophenol	1,2,4-Trichlorobenzene
Chloroethane	Ethylbenzene	1,1,1-Trichloroethane
Chloroform	Fluoranthene	1,1,2-Trichloroethane
Chrysene	Fluorene	Trichloroethylene
1,2-Dichlorobenzene	Hexachlorobenzene	Vinyl Chloride
1,3-Dichlorobenzene	Hexachlorobutadiene	

Reporting required under Monitoring and Reporting Requirement No. 7.b.iii is limited to the toxic pollutants listed above.

3. 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 minimum analytical level (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 below:

CONVENTIONAL AND NONCONVENTIONAL POLLUTANTS

Pollutant	MAL (mg/L)
Oil and Grease	5.0
Xylene	0.010

METALS

Pollutant	MAL (mg/L)
Copper, total	0.002
Lead, total	0.0005
Zinc, total	0.005

ACID COMPOUNDS

Pollutant	MAL (mg/L)
2,4-Dimethylphenol	0.010
4,6-Dinitro-o-Cresol	0.050
2,4-Dinitrophenol	0.050
2-Nitrophenol	0.020
4-Nitrophenol	0.050
Phenol	0.010

BASE/NEUTRAL COMPOUNDS

Pollutant	MAL (mg/L)
Acenaphthene	0.010
Acenaphthylene	0.010
Anthracene	0.010
Benzo(a)anthracene	0.005
Benzo(a)pyrene	0.005
3,4-Benzofluoranthene (Benzo(b)fluoranthene)	0.010
Benzo(k)fluoranthene	0.005
Bis(2-Ethylhexyl) Phthalate	0.010
Chrysene	0.005
1,2-Dichlorobenzene	0.010
1,3-Dichlorobenzene	0.010
1,4-Dichlorobenzene	0.010
Diethyl Phthalate	0.010
Dimethyl Phthalate	0.010
Di-n-Butyl Phthalate	0.010
Fluoranthene	0.010
Fluorene	0.010
Hexachlorobenzene	0.005
Hexachlorobutadiene	0.010
Hexachloroethane	0.020
Naphthalene	0.010
Nitrobenzene	0.010
Phenanthrene	0.010
Pyrene	0.010
1,2,4-Trichlorobenzene	0.010

VOLATILE COMPOUNDS

Pollutant	MAL (mg/L)
Acrylonitrile	0.050
Benzene	0.010
Carbon Tetrachloride	0.002
Chlorobenzene	0.010

VOLATILE COMPOUNDS

Pollutant	MAL (mg/L)
Chloroethane	0.050
Chloroform	0.010
1,1-Dichloroethane	0.010
1,2-Dichloroethane	0.010
1,1-Dichloroethylene	0.010
1,2-Dichloropropane	0.010
1,3-Dichloropropylene	0.010
Ethylbenzene	0.010
Methyl Chloride	0.050
Methylene Chloride	0.020
Tetrachloroethylene	0.010
Toluene	0.010
1,2-trans-Dichloroethylene	0.010
1,1,1-Trichloroethane	0.010
1,1,2-Trichloroethane	0.010
Trichloroethylene	0.010
Vinyl Chloride	0.010

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 (0) 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 (0) 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 (0) 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 (0) may not be used.

- Process wastewater is typically routed to the ExxonMobil Baytown Refinery (TPDES Permit No. WQ000592000) for treatment and discharge. *De minimis* quantities of process wastewater may commingle with stormwater and discharge via Outfalls 003 and 007 as a result of excessive storm events, or succession of storm events. Process wastewater is not authorized to be discharged under any conditions other than those storm events described below.

Discharges of *de minimis* quantities of process wastewater from Outfall 003 are only authorized following an excessive storm event or succession of storm events which results in runoff volumes that exceed the capabilities of the process wastewater lift station pumps and exceed the storage capacity of the stormwater retention ponds for the Butyl Polymers plant and/or the Northwest

Chemical facility, or the Synthesis Gas Unit's first flush sump. The permittee shall take all reasonable steps to minimize these discharges from Outfall 003.

Discharges of de minimis quantities of process wastewater from Outfall 007 are only authorized following an excessive storm event or succession of storm events which results in runoff volumes that exceed the capabilities of the process wastewater lift station pumps and/or exceed the storage capacity of the stormwater detention pond for the Performance Polymers Unit (PPU) and Monomer Preparation Facility (MPF) Unit. The permittee shall take all reasonable steps to minimize these discharges from Outfall 007.

Oral notification shall be provided to the TCEQ Region 12 Office prior to or within 24 hours of a discharge of process wastewater, as described above, that occurs via Outfall 003 or Outfall 007. Within five working days following such a discharge, the permittee shall notify the TCEQ Region 12 office in writing and include a description of the events and circumstances which resulted in the discharge.

5. STORMWATER-CONTRIBUTING SOURCES and MISCELLANEOUS NON-STORMWATERS

Stormwater and miscellaneous non-stormwaters are defined as follows:

- A. Stormwater runoff is defined as rainfall runoff, snow melt runoff, and surface runoff and drainage.
- B. Stormwater associated with industrial activity is defined as the discharge from any conveyance that is used for collecting and conveying stormwater and that is directly related to manufacturing, processing or raw materials storage areas at an industrial facility. For the purpose of this permit, the term includes, but is not limited to, refuse/waste disposal of process wastewaters, and stormwater discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling areas; sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and disposal areas; sites used for the application or receiving areas; manufacturing buildings; storage areas (including tank farms) for intermediate products, and final products; similar areas where storm water can contact pollutants related to industrial activity; and areas where industrial activity have taken place in the past and significant materials remain and are exposed to stormwater. For the purposes of this definition, materials handling areas include storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, by-product or waste product. The term excludes areas located at industrial sites that are separate from the facility's industrial activities, such as office buildings and accompanying parking lots, as long as the drainage from the excluded areas is not mixed with stormwater drained from areas of a facility that are covered by this permit.
- C. Construction stormwater is defined as discharges of stormwater runoff from construction activities, which includes soil disturbance activities, including clearing, grading, excavating, construction-related activity (e.g., stockpiling of fill material, demolition), and construction support activities (that specifically supports construction activity, which can involve earth disturbance or pollutant-generating activities of their own and can include, but are not limited to, activities associated with concrete or asphalt batch plants, rock crushers, equipment staging or storage areas, chemical storage areas, material storage areas, material borrow areas, and excavated material disposal areas). Construction-related activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the site (e.g., the routine grading of existing dirt

roads, asphalt overlays of existing roads, the routine clearing of existing rights-of-way, and similar maintenance activities).

D. Miscellaneous non-stormwaters (as included under the *Multi-Sector General Permit for Industrial Stormwater* (TXR050000, Part II, Section A, Item 6):

- (1) discharges from emergency firefighting activities (includes fire prevention actions taken to control other dangerous high heat conditions such as smoldering and emergency cooling of equipment) and uncontaminated fire hydrant flushings (excluding discharges of hyperchlorinated water, unless the water is first dechlorinated and discharges are not expected to adversely affect aquatic life);
- (2) potable water sources (excluding discharges of hyperchlorinated water, unless the water is first dechlorinated and discharges are not expected to adversely affect aquatic life);
- (3) lawn watering and similar irrigation drainage, provided that all pesticides, herbicides, and fertilizer have been applied in accordance with the approved labeling;
- (4) water from the routine external washing of buildings, conducted without the use of detergents or other chemicals;
- (5) 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);
- (6) uncontaminated air conditioner condensate, compressor condensate, and steam condensate, and condensate from the outside storage of refrigerated gases or liquids;
- (7) water from foundation or footing drains where flows are not contaminated with pollutants (e.g., process materials or solvents);
- (8) uncontaminated water used for dust suppression;
- (9) uncontaminated springs and other uncontaminated groundwater; and
- (10) incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but excluding intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdown or drains).

6. FACILITY WASTEWATERS:

The following are authorized for discharge as facility wastewater:

- A. fire water control system test and flush water, and *de minimis* losses from the fire water control system (e.g., freeze protection, minor leaks awaiting repair);
- B. *de minimis* losses from the decorative ponds (the permittee shall not use copper sulfate as an additive to the decorative ponds without prior written approval from the Executive Director of the TCEQ);
- C. hydrostatic test water (new or clean equipment);
- D. potable water system flush water;
- E. irrigation water from the landscape sprinkler system;
- F. steam condensate and air conditioner condensate;
- G. utility wastewater;
- H. *de minimis* losses of potable water;
- I. *de minimis* losses of clarified water;

- J. stormwater that may contain deicing chemicals; and
- K. wash water that may contain deicing chemicals.

7. POND REQUIREMENTS

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

- A. A wastewater pond **subject to 40 CFR Part 257, Subpart D** (related to coal combustion residuals) must comply with those requirements in lieu of the requirements in B through G of POND REQUIREMENTS.
- B. An **existing** wastewater pond must be maintained to meet or exceed the original approved design and liner requirements; or, in the absence of original approved requirements, must be maintained to prevent unauthorized discharge 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. 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 TCEQ Industrial Permits Team (MC-148).

- D. For a pond that must be lined according to subparagraph C (including ponds with in-situ soil liners), the permittee shall provide a 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 Section (MC-224), and TCEQ Regional Office. A copy of the liner certification and construction details (i.e., as-built drawings, construction quality assurance/quality control 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 an 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 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.
- 8. With the exception of Other Requirement 5.D.3, the permit neither authorizes nor prohibits the use of herbicides at the facility. If herbicides are used at the facility, the permittee shall either obtain coverage under TCEQ General Permit TXG870000 or submit Safety Data Sheets and product labels within 30 days prior to the use of any herbicides to the TCEQ Region 12 Office and Industrial Permits Team of the Water Quality Division (MC 148). Herbicides shall be used strictly in accordance with the manufacturer's requirements and with any applicable local, state, or federal regulations and may be discharged via Outfalls 003 and 007. Dosage calculations and records shall be kept in accordance with TXG870000 requirements and/or on site for no less than three years. The effluent discharged shall comply with 30 TAC Chapter 307 of this title (relating to Texas Surface Water Quality Standards), specifically 30 TAC § 307.4(b)(5), which states "Waste discharges must not cause substantial and persistent changes from ambient conditions of turbidity or color."
- 9. This permit does not authorize the discharge of sanitary sewage (domestic wastewater). All sanitary sewage shall be routed to the ExxonMobil Baytown Refinery (TPDES Permit No. WQ0000592000) or another authorized third party for treatment and disposal.
- 10. The permittee shall provide written notification to the TCEQ Industrial Permits Team (MC 148) and Region 12 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.

11. For Outfall 003, the chronic aquatic life mixing zone is defined as a volume within a radius of 20 feet from the point of discharge. Chronic toxic criteria apply at the edge of the chronic aquatic life mixing zone.

For Outfall 007, there is no mixing zone established for this discharge to an intermittent stream. Acute toxic criteria apply at the point of discharge.

12. SCHEDULE OF COMPLIANCE FOR WATER QUALITY-BASED EFFLUENT LIMITS

The permittee shall comply with the following schedule of activities for the attainment of the water quality-based effluent limitations for total copper, total zinc, acrylonitrile, hexachlorobenzene, and vinyl chloride at Outfall 003; and acrylonitrile, benzo(a)anthracene, benzo(a)pyrene, bis(2-ethylhexyl) phthalate (only the daily maximum effluent limitation applies), carbon tetrachloride, hexachlorobenzene, hexachloroethane, and vinyl chloride at Outfall 007:

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

The permittee shall submit quarterly progress reports in accordance with the schedule below. The requirement to submit quarterly progress reports expires three years from the date of permit issuance.

PROGRESS REPORT DATE

January 1
April 1
July 1
October 1

The quarterly progress reports must include a discussion of the interim requirements that have been completed at the time of the report and must address the progress towards attaining the final water quality-based effluent limitations for total copper, total zinc, acrylonitrile, hexachlorobenzene, and vinyl chloride at Outfall 003; and acrylonitrile, benzo(a)anthracene, benzo(a)pyrene, bis(2-ethylhexyl) phthalate (only the daily maximum effluent limitation applies), carbon tetrachloride, hexachlorobenzene, hexachloroethane, and vinyl chloride at Outfall 007.

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date. Any reports of noncompliance must include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement. All reports must be submitted to the Region 12 Office and to the Enforcement Division (MC 224) of the TCEQ.

13. Reporting requirements pursuant to 30 TAC Sections 319.1-319.12 and any additional effluent reporting requirements contained in this permit at Outfall 007 are suspended from the effective date of the permit until facility area startup or discharge from Outfall 007, whichever occurs first. The permittee shall provide written notice to the TCEQ Region 12 Office and the Applications Review and Processing Team (MC-148) of the Water Quality Division at least forty-five days prior to facility area startup or anticipated discharge of wastewaters not authorized by

TCEQ construction storm water permit or multi-sector storm water permit from Outfall 007, whichever occurs first, on Notification of Completion Form 20007.

14. Wastewater discharged via Outfall 003 must be sampled and analyzed as directed below for the parameters listed in Table 1. Sample collection for Outfall 003 must be completed within 60 days of initial discharge. If there are insufficient discharges to collect the required number of samples within 60 days, the sampling period may be extended to the shortest time needed to collect the required number of samples. Results of the analytical testing for Outfall 003 must be submitted within 90 days of obtaining and compiling the required analytical data from the final sample to the TCEQ Industrial Permits Team (MC-148). Based on a technical review of the submitted analytical results, an amendment may be initiated by TCEQ staff to include additional effluent limitations, monitoring requirements, or both.

Table 1: Analysis is required for all pollutants in Table 1. Wastewater must be sampled and analyzed for those parameters listed in Table 1 for a minimum of four sampling events, with each occurring at least one week apart.

Table 1

Outfall No.: <input type="checkbox"/> C <input type="checkbox"/> G ¹	Effluent Concentration (µg/L)					MAL ² (µg/L)
Pollutants	Samp.	Samp.	Samp.	Samp.	Average	
Flow (MGD)						N/A
Cyanide, Free						2

¹ Indicate Composite Sample (C) or Grab Sample (G).

² Minimum Analytical Level.

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

15. Wastewater discharged via Outfall 007 must be sampled and analyzed as directed below for the parameters listed in Tables 2, 3, 4, and 5. Sample collection for Outfall 007 must be completed within 60 days of initial discharge. If there are insufficient discharges to collect the required number of samples within 60 days, the sampling period may be extended to the shortest time needed to collect the required number of samples. Results of the analytical testing for Outfall 007 must be submitted within 90 days of obtaining and compiling the required analytical data from the final sample, to the TCEQ Industrial Permits Team (MC-148). Based on a technical review of the submitted analytical results, an amendment may be initiated by TCEQ staff to include additional effluent limitations, monitoring requirements, or both.

Table 2: Analysis is required for all pollutants in Table 2. Wastewater must be sampled and analyzed for those parameters listed in Table 2 for a minimum of four sampling events, with each occurring at least one week apart.

Table 3: Analysis is required for all pollutants in Table 3. Wastewater must be sampled and analyzed for those parameters listed in Table 3 for a minimum of four sampling events, with each occurring at least one week apart.

Table 4: Analysis is required for those pollutants in Table 4 that are used at the facility that could in any way contribute to contamination in discharges made via Outfall 007. Sampling and analysis must be conducted for a minimum of four sampling events, with each occurring at least one week apart.

Table 5: For all pollutants listed in Table 5, the permittee shall indicate whether each pollutant is believed to be present or absent in the discharge. Sampling and analysis must be conducted for each pollutant believed present for a minimum of one sampling event.

Table 2

Outfall No.:	<input type="checkbox"/> C <input type="checkbox"/> G ¹	Effluent Concentration (mg/L)				
Pollutants		Samp.	Samp.	Samp.	Samp.	Average
Flow (MGD)						
BOD (5-day)						
CBOD (5-day)						
Chemical Oxygen Demand						
Total Organic Carbon						
Dissolved Oxygen						
Ammonia Nitrogen						
Total Suspended Solids						
Nitrate Nitrogen						
Total Organic Nitrogen						
Total Phosphorus						
Oil and Grease						
Total Residual Chlorine						
Total Dissolved Solids						
Sulfate						
Chloride						
Fluoride						
Temperature (°F)						
Total Alkalinity (mg/L as CaCO ₃)						
pH (Standard Units; min/max)						

Table 3

Outfall No.:	<input type="checkbox"/> C <input type="checkbox"/> G ¹	Effluent Concentration (µg/L)					MAL ² (µg/L)
Pollutants		Samp.	Samp.	Samp.	Samp.	Average	
Flow (MGD)							N/A
Total Aluminum							2.5
Total Antimony							5
Total Arsenic							0.5
Total Barium							3
Total Beryllium							0.5
Total Cadmium							1
Total Chromium							3
Trivalent Chromium							N/A
Hexavalent Chromium							3
Total Copper							2
Cyanide							10
Total Lead							0.5
Total Mercury							0.005
Total Nickel							2
Total Selenium							5
Total Silver							0.5
Total Thallium							0.5
Total Zinc							5.0

¹ Indicate Composite Sample (C) or Grab Sample (G).² Minimum Analytical Level.

Table 4

Outfall No.:	<input type="checkbox"/> C <input type="checkbox"/> G ¹	Samp. 1 (µg/L) ²	Samp. 2 (µg/L) ²	Samp. 3 (µg/L) ²	Samp. 4 (µg/L) ²	Avg. (µg/L) ²	MAL (µg/L)
Pollutant							
Acrylonitrile							50
Anthracene							10
Benzene							10
Benzidine							50
Benzo(a)anthracene							5
Benzo(a)pyrene							5
Bis(2-chloroethyl)ether							10
Bis(2-ethylhexyl)phthalate							10
Bromodichloromethane [Dichlorobromomethane]							10
Bromoform							10
Carbon Tetrachloride							2
Chlorobenzene							10
Chlorodibromomethane [Dibromochloromethane]							10
Chloroform							10
Chrysene							5
m-Cresol [3-Methylphenol]							10
o-Cresol [2-Methylphenol]							10
p-Cresol [4-Methylphenol]							10
1,2-Dibromoethane							10
m-Dichlorobenzene [1,3- Dichlorobenzene]							10
o-Dichlorobenzene [1,2- Dichlorobenzene]							10
p-Dichlorobenzene [1,4- Dichlorobenzene]							10
3,3'-Dichlorobenzidine							5
1,2-Dichloroethane							10
1,1-Dichloroethene [1,1-Dichloroethylene]							10
Dichloromethane [Methylene chloride]							20
1,2-Dichloropropane							10
1,3-Dichloropropene [1,3-Dichloropropylene]							10
2,4-Dimethylphenol							10
Di-n-Butyl Phthalate							10
Ethylbenzene							10
Fluoride							500
Hexachlorobenzene							5
Hexachlorobutadiene							10
Hexachlorocyclopentadiene							10
Hexachloroethane							20
Methyl Ethyl Ketone							50
Nitrobenzene							10
N-Nitrosodiethylamine							20
N-Nitroso-di-n-Butylamine							20
Nonylphenol							333

Outfall No.:	<input type="checkbox"/> C <input type="checkbox"/> G ¹	Samp. 1 (µg/L) ²	Samp. 2 (µg/L) ²	Samp. 3 (µg/L) ²	Samp. 4 (µg/L) ²	Avg. (µg/L) ²	MAL (µg/L)
Pollutant							
Pentachlorobenzene							20
Pentachlorophenol							5
Phenanthrene							10
Polychlorinated Biphenyls ³							0.2
Pyridine							20
1,2,4,5-Tetrachlorobenzene							20
1,1,2,2-Tetrachloroethane							10
Tetrachloroethene [Tetrachloroethylene]							10
Toluene							10
1,1,1-Trichloroethane							10
1,1,2-Trichloroethane							10
Trichloroethene [Trichloroethylene]							10
2,4,5-Trichlorophenol							50
Total Trihalomethanes							10
Vinyl Chloride							10

¹ Indicate Composite Sample (C) or Grab Sample (G).

² Indicate units if different from µg/L.

³ Total of detects for PCB-1242, PCB-1254, PCB-1221, PCB-1232, PCB-1248, PCB-1260, and PCB-1016. If all non-detects, enter the highest non-detect preceded by a "<".

Table 5

Outfall No.:	<input type="checkbox"/> C <input type="checkbox"/> G ¹	Believed Present	Believed Absent	Effluent Concentration (mg/L)		No. of Samples	MAL (µg/L) ¹
Pollutant				Average	Maximum		
Bromide							400
Color (PCU)							-
Nitrate-Nitrite (as N)							-
Sulfide (as S)							-
Sulfite (as SO ₃)							-
Surfactants							-
Boron, Total							20
Cobalt, Total							0.3
Iron, Total							7
Magnesium, Total							20
Manganese, Total							0.5
Molybdenum, Total							1
Tin, Total							5
Titanium, Total							30

¹ Indicate units if different from µg/L.

