NPDES PERMIT NO. TX0085928
STATEMENT OF BASIS

FOR THE DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

APPLICANT:

Phillips 66 Gulf Coast Fractionators
9500 FM 1942
P.O. Box 845
Mont Belvieu, TX 77580

ISSUING OFFICE:

U.S. Environmental Protection Agency
Region 6
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DATE PREPARED:

June 6, 2016

PERMIT ACTION:

The Environmental Protection Agency (EPA) has made a tentative determination, after consultation with the Railroad Commission of Texas to modify the current National Pollutant Discharge Elimination (NPDES) issued on June 26, 2015, with an effective date of August 1, 2015, and an expiration date of July 31, 2020.

40 CFR CITATIONS: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations, revised as of May 27, 2016. This permit modification is proposed in accordance to 40 CFR 124.5 and124.19. In accordance with 40 CFR 124.5(C)(2), only the modifications proposed are open for comment.

RECEIVING WATER – BASIN:
Unnamed ditch, thence to Cedar Bayou above tidal, Segment No. 0902 of the Trinity-San Jacinto coastal River Basin.

DOCUMENT ABBREVIATIONS

For brevity, Region 6 used acronyms and abbreviated terminology in this Statement of Basis document whenever possible. The following acronyms were used frequently in this document:

BAT	Best Available Technology Economically Achievable)
BOD5	Biochemical oxygen demand (five-day unless noted otherwise)
BPJ	Best professional judgment
CFR	Code of Federal Regulations
cfs	Cubic feet per second
COD	Chemical oxygen demand
COE	United States Corp of Engineers
CWA	Clean Water Act
DMR	Discharge monitoring report
ELG	Effluent limitation guidelines
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
F&WS	United States Fish and Wildlife Service
GPD	Gallon per day
IP	Procedures to Implement the Texas Surface Water Quality Standards
µg/l	Micrograms per liter (one part per billion)
mg/l	Milligrams per liter (one part per million)
Menu 7	Intermittent stream with perennial pools
MMCFD	Million cubic feet per day
MGD	Million gallons per day
MSGP	Multi-Sector General Permit
NPDES	National Pollutant Discharge Elimination System
MQL	Minimum quantification level
O&G	Oil and grease
RRC	Railroad Commission of Texas
RP	Reasonable potential
SIC	Standard industrial classification
s.u.	Standard units (for parameter pH)
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TDS	Total dissolved solids
TMDL	Total maximum daily load
TOC	Total Organic Carbon
TRC	Total residual chlorine
TSS	Total suspended solids
TSWQS	Texas Surface Water Quality Standards
WET	Whole effluent toxicity
WQMP	Water Quality Management Plan
WQS	Water Quality Standards

I. PROPOSED CHANGES FROM CURRENT PERMIT

1. Loading limits for BOD5 have been recalculated based on updated flow data.
2. Limitations and monitoring requirements for total aluminum have been established in the modified permit based on new application information.
3. Monitoring requirements for total copper have been established in the modified permit based on new application information
4. Language on the Sufficiently Sensitive Method has been established in the proposed permit.
5. The effective date of electronic DMR reporting has been included in the modified permit.

II. APPLICANT LOCATION and ACTIVITY

Under the SIC Code 1321, the applicant operated natural gas liquids (NGL) fractionation plant. As described in the application, the facility is located at 9500 FM 1942, Mont Belvieu, Chambers County, Texas.

Wastewater discharges from the facility flows into an unnamed ditch, thence to Cedar Bayou above tidal, Segment No. 0902 of the Trinity-San Jacinto coastal River Basin.

Discharges are located on that water at:

Outfall 001: Latitude 29º 51’ 3.53”; Longitude 94º 55’ 9.31”

Outfall 101: Latitude 29º 51’ 4.95”; Longitude 94º 55’ 6.26”

III. PROCESS AND DISCHARGE DESCRIPTION

The facility fractionates NGL into ethane, propane, butane, and heavier hydrocarbons.

The facility uses municipal water from the Trinity River Canal on the eastern edge of the facility. Source water is treated in a clarifier where coagulant is added, and then flows through a sand filter for further purification. The treated source water is then stored in a storage tank until used for the cooling tower, boiler sample coolers, fire water system, and the boilers. Water undergoes further treatment by demineralizer resin before being used in the boiler system. Blowdown from the boilers, sand filter backwash, clarifier blowdown, and backwash from the neutralization tank flow to settling pond Pit #1 and is then discharged via Outfall 101 to Outfall 001 and then to the unnamed ditch. Stormwater flows through Pit #2 where inverted siphons skim and catch any oil before discharging to the unnamed ditch via Outfall 001.

Sewage wastewater from the facility is discharged into a septic system which is disposed of off-site.

The following analytical sample results are listed below:

Outfall 101 – 0.254 MGD

Parameter	Max. Daily Value (mg/l)	Average Daily Value (mg/l)
BOD	13	5.9
TSS	5.6	
COD	70	
TOC	26	
Ammonia (as N)	<0.067	
Discharge Flow, MGD	1.251	0.254
pH, SU	6.53 min; 8.30 max	
Aluminum	2.2	0.57
Total Copper	0.016	0.006

Outfall 001 – 0.247 MGD

Parameter	Max. Daily Value (mg/l)	Average Daily Value (mg/l)
BOD	<2.4	
TSS	17	
TRC	0.00	
COD	55	
TOC	19	
Ammonia (as N)	<0.067	
Nitrogen, Total Organic	1.8	
Oil & Grease	<1.1	
Temperature, ^{o}F	80	
Discharge Flow, MGD	1.61	0.247
pH, SU	6.57 min – 8.50 max	
Total Phosphorus	6.6	
Aluminum	1.238	
Total Arsenic	0.00663	
Total Barium	0.12	
Total Cyanide	0.0064	
Total Selenium	0.00074	
Total Zinc	0.0564	
Total Iron	1.4	
Total Magnesium	10	
Manganese	0.06	
Sulfates	540	
sulfide	0.038	
Chloride	130	
Total Dissolved Solids	1100	
Hardness (mg/L as CaCO3)	340	
Calcium	120	
Chromium	0.003275	
Chromium VI (ug/L)	<57	

Parameter	Max. Daily Value (mg/l)	Average Daily Value (mg/l)
Total Mercury (ug/L)	0.00001	
Total Copper	0.009141	
Total Lead	0.001009	
Total Nickel	0.007294	

IV. REGULATORY AUTHORITY/PERMIT ACTION

In November 1972, Congress passed the Federal Water Pollution Control Act establishing the NPDES permit program to control water pollution. These amendments established technology-based or end-of-pipe control mechanisms and an interim goal to achieve "water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water;" more commonly known as the "swimmable, fishable" goal. Further amendments in 1977 of the CWA gave EPA the authority to implement pollution control programs such as setting wastewater standards for industry and established the basic structure for regulating pollutants discharges into the waters of the United States. In addition, it made it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit was obtained under its provisions. Regulations governing the EPA administered NPDES permit program are generally found at 40 CFR §122 (program requirements & permit conditions), §124 (procedures for decision making), §125 (technology-based standards) and §136 (analytical procedures). Other parts of 40 CFR provide guidance for specific activities and may be used in this document as required.

This is a modification to a current permit issued on June 26, 2015, with an effective date of August 1, 2015, and an expiration date of July 31, 2020. The permit expiration date remains July 31, 2020. An NPDES Application for a Permit to Discharge (Form 1 & 2C) dated January 29, 2016, was received on February 1, 2016. Additional permit application information was received on May 3, 2016, and via email on May 16, 2016. The permit application was deemed administratively complete on May 18, 2016.

V. DRAFT PERMIT RATIONALE AND PROPOSED PERMIT CONDITIONS

A. OVERVIEW of TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITION FOR PERMIT ISSUANCE

Regulations contained in 40 CFR §122.44 NPDES permit limits are developed that meet the more stringent of either technology-based effluent limitation guidelines, numerical and/or narrative water quality standard-based effluent limits, on best professional judgment (BPJ) in the absence of guidelines, and/or requirements pursuant to 40 CFR 122.44(d), whichever are more stringent. Technology-based effluent limitations are established in the proposed draft permit for BOD. Water quality-based effluent limitations are established in the proposed draft permit for pH, and total residual chlorine.

B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

Regulations promulgated at 40 CFR §122.44 (a) require technology-based effluent limitations to be placed in NPDES permits based on ELGs where applicable, on BPJ in the absence of guidelines, or on a combination of the two. In the absence of promulgated guidelines for the discharge, permit conditions may be established using BPJ procedures. EPA establishes limitations based on the following technology-based controls: BPT, BCT, and BAT. These levels of treatment are:

BPT - The first level of technology-based standards generally based on the average of the best existing performance facilities within an industrial category or subcategory.
BCT - Technology-based standard for the discharge from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and O&G.

BAT - The most appropriate means available on a national basis for controlling the direct discharge of toxic and non-conventional pollutants to navigable waters. BAT effluent limits represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

The narrative limitation for Oil & Grease is continued in the draft permit based on the TCEQ narrative standard to limit Oil & Grease. Oil and grease is also limited based on Best Professional Judgment (BPJ), and similar treatment technology as representing best conventional pollutant control technology (BCT).

Technology requirements in the previous permit are based on Best Available Technology Economically Achievable (BAT) and/or TCEQ water quality standards for Segment No. 0902, of the Trinity-San Jacinto coastal River Basin.

Limitations for BOD_5 are proposed in the permit and are expressed in terms of both mass and concentration. This is consistent with both EPA and TCEQ permits for similar facilities and is also consistent with 40 CFR 122.45(f). The proposed limitation for BOD5 at Outfall 101 is 30 mg/l maximum and 20 mg/l average. The effluent loadings, lbs/day, were calculated using the treatment facility's highest monthly average flow over the most recent 24-months of 0.254 MGD provided by the permittee, the respective pollutant's daily average concentration (mg/l), and the conversion facto of 8.34.

Loading, lbs/day = Flow (MGD) * 8.34 lb/gal * 20 mg/l

Daily average (lbs /day) BOD = 0.254 MGD * 8.34 lb/day * 20 mg/L = 42.37 lbs/day

EPA calculates the daily maximum value by multiplying the daily average by 1.5, which in this case is 63.55 lbs/day.

C. WATER QUALITY BASED LIMITATIONS

1. General Comments

Water quality based requirements are necessary where effluent limits more stringent than technology-based limits are necessary to maintain or achieve federal or state water quality limits. Under Section 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations based on federal or state WQS. Effluent limitations and/or conditions established in the draft permit are in compliance with applicable State WQS and applicable State water quality management plans to assure that surface WQS of the receiving waters are protected and maintained, or attained.

2. Implementation

The NPDES permits contain technology-based effluent limitations reflecting the best controls available. Where these technology-based permit limits do not protect water quality or the designated uses, additional water quality-based effluent limitations and/or conditions are included in the NPDES permits. State narrative and numerical water quality standards are used in conjunction with EPA criteria and other available toxicity information to determine the adequacy of technology-based permit limits and the need for additional water quality-based controls.

3. State Water Quality Standards

The Clean Water Act in Section 301 (b) requires that effluent limitations for point sources include any limitations necessary to meet water quality standards. Federal regulations found at 40 CFR 122.44(d) state that if a discharge poses the reasonable potential to cause an in-stream excursion above a water quality criterion, the permit must contain an effluent limit for that pollutant. If the discharge poses the reasonable potential to cause an in-stream violation of narrative standards, the permit must contain prohibitions to protect that standard. Additionally, the TWQS found at 30 TAC Chapter 307 states that "surface waters will not be toxic to man from ingestion of water, consumption of aquatic organisms, or contact with the skin, or to terrestrial or aquatic life." The methodology outlined in the "Procedures to Implement the Texas Surface Water Quality Standards" (IP) is designed to ensure compliance with 30 TAC Chapter 307. Specifically, the methodology is designed to ensure that no source will be allowed to discharge any wastewater which: (1) results in instream aquatic toxicity; (2) causes a violation of an applicable narrative or numerical state water quality standard; (3) results in the endangerment of a drinking water supply; or (4) results in aquatic bioaccumulation which threatens human health.

The IP document is not a state water quality standard, but rather, a non-binding, non-regulatory guidance document. See IP at page 2 stating that "this is a guidance document and should not be interpreted as a replacement to the rules. The TWQS may be found in 30 TAC Sections (§§) 307.1-.10."). EPA does not consider the IP to be a new or revised water quality standard and has never approved it as such. EPA did comment on and conditionally “approve” the IP as part of the Continuing Planning Process (CPP) required under 40 CFR §130.5(c) and the Memorandum of Agreement between TCEQ and EPA, but this does not constitute approval of the IP as a water quality standard under CWA section 303(c). Therefore, EPA is not bound by the IP in establishing limits in this permit – but rather, must ensure that the limits are consistent with the

EPA-approved state WQS. However, EPA has made an effort, where we believe the IP procedures are consistent with all applicable State and Federal regulations, to use those procedures.

The general criteria and numerical criteria which make up the stream standards are provided in the 2014 EPA-approved Texas Water Quality Standards, Texas Administrative Code (TAC), 30 TAC Sections 307.1 - 307.9, effective September 23, 2014.

The designated uses of Segment 0902 are primary contact recreation, high aquatic life, and public water supply.

4. Reasonable Potential- Procedures

EPA develops draft permits to comply with State WQS, and for consistency, attempts to follow the IP where appropriate. However, EPA is bound by the State's WQS, not State guidance, including the IP, in determining permit decisions. EPA performs its own technical and legal review for permit issuance, to assure compliance with all applicable State and Federal requirements, including State WQS, and makes its determination based on that review. Waste load allocations (WLA's) are calculated using estimated effluent dilutions, criteria outlined in the TWQS, and partitioning coefficients for metals (when appropriate and designated in the implementation procedures). The WLA is the end-of-pipe effluent concentrations that can be discharged and still meet instream criteria after mixing with the receiving stream. From the WLA, a long term average (LTA) is calculated, for both chronic and acute toxicity, using a log normal probability distribution, a given coefficient of variation (0.6), and either a 90th or a 99th percentile confidence level. The 90th percentile confidence level is for discharges to rivers, freshwater streams and narrow tidal rivers with upstream flow data, and the 99th percentile confidence level is for the remainder of cases. For facilities that discharge into receiving streams that have human health standards, a separate LTA will be calculated. The implementation procedures for determining the human health LTA use a 99th percentile confidence level, along with a given coefficient of variation (0.6). The lowest of the calculated LTA; acute, chronic and/or human health, is used to calculate the daily average and daily maximum permit limits.

Procedures found in the IP for determining significant potential are to compare the reported analytical data either from the DMR history and/or the application information, against percentages of the calculated daily average water quality-based effluent limitation. If the average of the effluent data equals or exceeds 70% but is less than 85% of the calculated daily average limit, monitoring for the toxic pollutant will usually be included as a condition in the permit. If the average of the effluent data is equal to or greater than 85% of the calculated daily average limit, the permit will generally contain effluent limits for the toxic pollutant. The permit may specify a compliance period to achieve this limit if necessary.

Procedures found in the IP require review of the immediate receiving stream and effected downstream receiving waters. Further, if the discharge reaches a perennial stream or an intermittent stream with perennial pools within three-miles, chronic toxicity criteria apply at that confluence.

5. Permit-Action - Water Quality-Based Limits

Regulations promulgated at 40 CFR §122.44(d) require limits in addition to, or more stringent than effluent limitation guidelines (technology based). State WQS that are more stringent than effluent limitation guidelines are as follows:

a. pH

Wastewater discharges from the facility flow into Outfall 001. Wastewater discharges from the facility flow into an unnamed ditch, thence to Cedar Bayou above tidal, Segment No. 0902 of the Trinity-San Jacinto coastal River Basin. The limitation of pH for Outfall 001 shall be limited to the standards for waterbody Segment 0902 of Cedar Bayou above tidal of 6.5 to 9.0 su's. pH for internal Outfall 101 shall continue to be limited by technology-based requirements to the range of 6.0 to 9.0.

b. Narrative Limitations

Narrative protection for aesthetic standards will propose that surface waters shall be maintained so that oil, grease, or related residue will not produce a visible film or globules of grease on the surface or coat the banks or bottoms of the watercourse; or cause toxicity to man, aquatic life, or terrestrial life.

The discharge shall not present a hazard to humans, wildlife, or livestock.
The following narrative limitations in the proposed permit represent protection of water quality for Outfall 001:

"The effluent shall contain no visible film of oil or globules of grease on the surface or coat the banks or bottoms of the watercourse."

c. Toxics

Wastewater discharges from the facility flow into an unnamed ditch, thence to Cedar Bayou above tidal, Segment No. 0902 of the Trinity-San Jacinto coastal River Basin. It is located on an unnamed ditch 1.85 miles upstream of Cedar Bayou above Tidal, a perennial stream. Since the unnamed ditch is intermittent within 3 miles of a perennial freshwater stream, Cedar Bayou, TEXTOX Menu 2 is appropriate for the discharge. The following information was used to calculate reasonable potential: 7Q2=2.23 cfs (1.44 MGD), HM=3.83 cfs (2.47 MGD).

In addition, consistent with the IP, table D-9, segment specific values for pH, TSS, total hardness, TDS, chloride, and sulfate values were used in Menu 2 to calculate reasonable potential. For Cedar Bayou above tidal, segment specific values for pH, TSS, total hardness, TDS, chloride, and sulfate are 7.1, 3 mg/L, 40 mg/L as CaCO3, 373 mg/L, 83 mg/L, and 17 mg/L respectively.

The facility is a minor industrial with the highest monthly average flow over the most recent 24-months for Outfall 001 as 0.247 MGD (0.159 cfs). The highest monthly average flow over the most recent 24- months for Outfall 101 is 0.254 MGD (0.164 cfs). For industrial facilities, the

highest monthly average flow over the most recent 24-months is used for reasonable potential calculations.

Water Quality screening was performed for reported parameters. Total Aluminum showed reasonable potential to exceed TWQS, and as a result limitations and monitoring requirements are established in the modified permit for total Aluminum at Outfall 001. In addition total copper concentration lie between 70% and 85% of the daily concentration. As a result, monitoring requirements are imposed for total copper at Outfall 001.

The current permit had limitations and monitoring requirements for total residual chlorine. Total residual chlorine is continued in the modified permit because of the potential for TRC in the effluent. EPA's acute chlorine criteria is 19µg/L and 11µg/L is EPA's chronic chlorine criteria. Limits must be protective of WQS per 40 CFR 122.4(d) and 122.44(d). Since the acute conditions do not allow dilution; the limit must be met at end-of-pipe but chronic standards do allow dilution, the permit shall use the most stringent WQS for the permit limit.

The critical dilution is calculated as follows:

$$\text{Critical Dilution} = \frac{\text{Effluent Flow}}{\text{Effluent flow} + 7Q2}$$

$$= \frac{0.247}{0.247 + 1.439}$$

$$= 0.147 = 14.7\ \%$$

The in-stream TRC concentration after allowing for dilution is: 11µg/L ÷ 0.147 = 74.83 µg/L. Since this value is greater than the19µg/L end-of-pipe acute standard, the19 µg/L is more stringent and will be more protective. The draft permit shall establish the 19µg/L limit. However TRC is toxic at measurable amounts, so in addition to the 19 µg/L chemical specific limitation, the narrative limit for TRC shall be "No Measurable." Hence, the effluent shall contain NO MEASURABLE TRC at any time. NO MEASURABLE will be defined as no quantifiable level of TRC as determined by any approved method established in 40 CFR 136 that is greater than the established MQL. The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes. TRC shall be measured within fifteen (15) minutes of sampling. In addition, EPA has established a MQL for TRC at 33µg/l. Values less than 33µg/L can be reported as zero.

Average concentration of TDS obtained from the permit application was screened using the procedures found on pages 175/176 of the ITWQS. Using these procedures, the daily average effluent concentration of TDS obtained from the permit application (1,100 mg/L) was compared to the screening value to determine whether a TDS permit limit is needed. The screening procedure follows:

C_{TDS} = (Cc / 500 mg/L) * 2,500 mg/L

where: C_{TDS} = TDS concentration (mg/L) used to determine the TDS screening value
C_C = TDS criterion (mg/L) at the first downstream Segment = 700 mg/L

C_{TDS} = (700 / 500 mg/L) * 2,500 mg/L = 3,500 mg/L

According to page 176 of ITWQS, if C_{TDS} is greater than or equal to 2,500 mg/L, but less than 6,000 mg/L, then, $C_{SV} = C_{TDS}$ = 3,500 mg/L, where C_{SV} is the TDS screening value. Since the effluent concentration (1100 mg/L) is less than the TDS screening value (3,500 mg/L), TDS limitations and monitoring requirements are not established in the draft permit.

TDS screening guidelines for intermittent streams are intended to protect livestock, wildlife, shoreline vegetation, and aquatic life during periods when the stream is flowing; the screening is also intended to preclude excessive TDS loading in watersheds that could eventually impact distant downstream perennial waters.

Similarly, sulfate and chloride concentrations were also screened using equation 1b found on page 177 of the ITWQS as shown below:

Cl or SO_4 C_{SV} = (TDS C_{SV}/ TDS Criterion) * Cl or SO_4 Criterion

C_{SO4} = (3,500/700) * 150 mg/L = 750 mg/L;
C_{Cl} = (3,500 / 700 mg/L) * 200 mg/L = 1000 mg/L

According to page 175 of ITWQS, the values of 750 mg/L and 1000 mg/L are both less than 3,500 mg/L. As a result, 3,500 mg/L is their respective screening value. But their respective effluent concentrations of 540 mg/L for SO4 and 130 mg/L Cl are less than their respective screening values of 3,500 mg/L. As a result, the proposed permit did not established limitation and monitoring requirements for sulfate and chloride.

d. Whole Effluent Toxicity Testing

Biomonitoring is continued in the proposed permit because the facility continue to use additives which could become toxic to aquatic life uses of the receiving water. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity.

Following the Texas IP, a discharge to an intermittent stream within three miles of a perennial stream will conduct either a 48-hour acute or a chronic test. The IP requires chronic WET testing if the effluent flow equals or exceeds 10% of the low-flow of the perennial water and 48-hour acute WET testing if the effluent flow is less than 10% of the low-flow in the perennial stream. The low flow of Cedar Bayou above Tidal is 2.23 cfs (1.44 MGD). The average flow rate reported in the permit application is 0.247 MGD. As a result, the effluent flow is greater than 10% of the low flow, hence the facility shall conduct a 7-day chronic toxicity test, with quarterly monitoring according to the provisions indicated in Parts I and II of this permit.

A semi-annual toxicity test conducted in February 2014 failed to meet the permit standard set forth for *Ceriodaphnia dubia* (water flea). As a result, 3 consecutive tests were conducted and the facility passed the three tests. This information was summarized in DMR reports. Additionally, the lab reports indicated that there were internal quality assurance issue that could affect lab work.

One failure occurred for Pimaphales promelas in August, 2012. The reason for this failure was believed to be a lab issue.

EPA ran the reasonable potential analysis using valid test results from 2010 to 2016 and found that the permit requires WET monitoring but no WET limit. The permittee shall continue biomonitoring at a reduced frequency of semi-annually and there shall be no monitoring frequency reduction during the permit term.

OUTFALL 001

In Section V.C.5.c. above; "Toxics", it was stated that the critical dilution, CD, for the facility is 14.7%. Based on the nature of the discharge; industrial, the estimated average flow; 0.247 MGD, the nature of the receiving water; intermittent water body within three miles of perennial freshwater; and the critical dilution of 14.7%, the 2010 TCEQ IP directs the WET test to be a 7 day chronic test using chronic test species, *Pimephales promelas* and the invertebrate species (*Ceriodaphnia dubia*) at a reduced frequency of once per six months. If any tests fail during that time, the frequency will revert back to the once per three months frequency for the remainder of the permit term. Both test species shall resume monitoring at a quarterly frequency on the last day of the permit.

The proposed permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests based on a 0.75 dilution series. These additional effluent concentrations shall be 6.2%, 8.3%, 11.0%, 14.7%, and 19.6%.

The critical dilution is changed from 19.8% (permit issued 2015) to the proposed critical of the modified permit, 14.7%.

During the period beginning the effective date of the permit and lasting through the expiration date of the permit, the permittee is authorized to discharge from Outfall 001 - the discharge to unnamed ditch, thence to Cedar Bayou above tidal, Segment No. 0902 of the Trinity-San Jacinto coastal River Basin. Discharges shall be monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE MONITORING	
	30-DAY AVG MINIMUM	7-DAY MINIMUM
Whole Effluent Toxicity Testing (7 Day Static Renewal) 1/		
Ceriodaphnia dubia	REPORT	REPORT
Pimephales promelas	REPORT	REPORT

EFFLUENT CHARACTERISTIC	MONITORING REQUIREMENTS	
	FREQUENCY	TYPE
Whole Effluent Toxicity Testing (7 Day Static Renewal) 1/		
Ceriodaphnia dubia	1/6 months	24-Hr. Composite
Pimephales promelas	1/6 months	24-Hr. Composite

FOOTNOTES

1/ Monitoring and reporting requirements begin on the effective date of this permit. See Part II, Whole Effluent Toxicity Testing Requirements for additional WET monitoring and reporting conditions.

D. FINAL EFFLUENT LIMITATIONS

See the draft permit for limitations.

E. MONITORING FREQUENCY

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity 40 CFR 122.48(b) and to assure compliance with permit limitations 40 CFR 122.44(i)(1). The monitoring frequencies are based on BPJ, taking into account the nature of the discharge.

Flow shall continue to be monitored daily. The permittee shall continue to monitor for pH and BOD5 at Outfall 001, twice per month, using grab samples. Also, total aluminum and total copper shall be monitored twice per month, using grab samples. Biomonitoring testing shall continue be performed semi-annually.

VI. FACILITY OPERATIONAL PRACTICES

A. WASTE WATER POLLUTION PREVENTION REQUIREMENTS

The permittee shall institute programs directed towards pollution prevention. The permittee will institute programs to improve the operating efficiency and extend the useful life of the treatment system.

B. OPERATION AND REPORTING

The permittee must submit Discharge Monitoring Report's (DMR's) quarterly, beginning on the effective date of the permit, lasting through the expiration date of the permit or termination of the permit, to report on all limitations and monitoring requirements in the permit.

The permittee must submit monitoring results to EPA on either the electronic or paper Discharge Monitoring Report (DMR) approved formats. Monitoring results can be submitted electronically

in lieu of the paper DMR Form. All DMRs shall be electronically reported effective December 21, 2016, per 40 CFR 127.16. See 80 FR 64063. To submit electronically, access the NetDMR website at www.epa.gov/netdmr and contact the R6NetDMR@epa.gov in-box for further instructions. Until the permittee is approved for Net DMR, it must report on the Discharge Monitoring Report (DMR) Form EPA. No. 3320-1 in accordance with the "General Instructions" provided on the form. No additional copies are needed if reporting electronically, however when submitting paper form EPA No. 3320-1, the permittee shall submit the original DMR signed and certified as required by Part III.D.11 and all other reports required by Part III.D. to the EPA and other agencies as required. (See Part III.D.IV of the permit.)

Sufficiently Sensitive Analytical Methods (SSM)

The permittee must use sufficiently sensitive EPA-approved analytical methods (SSM) (under 40 CFR part 136 or required under 40 CFR chapter I, subchapters N or O) when quantifying the presence of pollutants in a discharge for analyses of pollutants or pollutant parameters under the permit. In case the approved methods are not sufficiently sensitive to the limits, the most SSM with the lowest method detection limit (MDL) must be used as defined under 40 CFR 122.44(i)(1)(iv)(A). If no analytical laboratory is able to perform a test satisfying the SSM in the region, the most SSM with the lowest MDL must be used after adequate demonstrations by the permittee and EPA approval.

VII. IMPAIRED WATER - 303(d) LIST AND TMDL

Wastewater discharges from the facility flows into an unnamed ditch, thence to Cedar Bayou above tidal, Segment No. 0902 of the Trinity-San Jacinto Coastal River Basin. The receiving stream is not listed on the Texas 2012 Clean Water Act Section 303(d) List. No additional requirements beyond the previously described technology-based or water quality-based effluent limitations and monitoring requirements, are established in the proposed permit.

VIII. ANTIDEGRADATION

The Texas Commission on Environmental Quality, Texas Surface Water Quality Standards, Antidegradation, Title 30, Part 1, Chapter 307, Rule §307.5 sets forth the requirements to protect designated uses through implementation of the State WQS. The limitations and monitoring requirements set forth in the proposed permit are developed from the State WQS and are protective of those designated uses. Furthermore, the policy sets forth the intent to protect the existing quality of those waters, whose quality exceeds their designated use. The permit requirements are protective of the assimilative capacity of the receiving waters, which is protective of the designated uses of that water. There are no increases of pollutants being discharged to the receiving waters authorized in the proposed permit.

IX. ANTIBACKSLIDING

The proposed permit is consistent with the requirements and exemption to meet Antibacksliding provisions of the Clean Water Act, Section 402(o) and 40 CFR Part 122.44(i)(B), which state in part that interim or final effluent limitations must be as stringent as those in the previous permit, unless information is available which was not available at the time of permit issuance. The proposed permit maintains the limitation requirements of the previous permit for pH and BOD.

The modified permit also establishes new limitations and monitoring requirements for total aluminum as well as monitoring requirements for total copper.

X. ENDANGERED SPECIES

According to the most recent county listing available at US Fish and Wildlife Service (USFWS), Southwest Region 2 website, http://ecos.fws.gov/ipac/wizard/chooseLocation!prepare.action, eight species in Chambers County are listed as Endangered or Threatened. The listed species are the Green sea turtle *Chelonia mydas*, the Hawksbill sea turtle *Eretmochelys imbricata*, Kemp's ridley sea turtle *Lepidochelys kempii*, Leatherback sea turtle *Dermochelys coriacea*, Loggerhead sea turtle *Caretta caretta*, West Indian Manatee (*Trichechus manatus*), Red Knot (Calidris canutus)and the Piping Plover *Charadrius melodus*.

Available information from the U.S. Southwest Region Ecological Services web page presents the occurrence of the listed threatened and endangered species in Chambers County as follows:

GREEN SEA TURTLE (Chelonia mydas)
Sea turtles are graceful saltwater reptiles, well adapted to life in their marine world. With streamlined bodies and flipper-like limbs, they are graceful swimmers able to navigate across the oceans. When they are active, sea turtles must swim to the ocean surface to breathe every few minutes. When they are resting, they can remain underwater for much longer periods of time. Although sea turtles live most of their lives in the ocean, adult females must return to land in order to lay their eggs. Sea turtles often travel long distances from their feeding grounds to their nesting beaches. Human threats include: oil spills, live bottom smothering with sediments and drilling fluids, dredging, coastal development, agricultural and industrial pollution, seagrass bed degradation, shrimp trawling and other fisheries, boat collisions, under water explosions, ingestion of marine debris, entanglement in marine debris, and poaching.

HAWKSBILL SEA TURTLE (Eretmochelys imbricata)
The hawksbill is a small to medium-sized sea turtle averaging approximately 2.8 feet in curved carapace length with a weight of approximately 176 pounds. Hawksbills reenter coastal waters when they reach approximately 20-25 cm carapace length. Coral reefs are widely recognized as the resident foraging habitat of juveniles, sub-adults and adults. This habitat association is undoubtedly related to their diet of sponges, which need solid substrate for attachment. The ledges and caves of the reef provide shelter for resting both during the day and night. Hawksbills are also found around rocky outcrops and high energy shoals, which are also optimum sites for sponge growth. Hawksbills are also known to inhabit mangrove-fringed bays and estuaries, particularly along the eastern shore of continents where coral reefs are absent. In Texas, juvenile hawksbills are associated with stone jetties. Hawksbills utilize both low- and high-energy nesting beaches in tropical oceans of the world. Both insular and mainland nesting sites are known. Hawksbills will nest on small pocket beaches and, because of their small body size and great agility can traverse fringing reefs that limit access by other species. They exhibit a wide tolerance for nesting substrate type. Nests are typically placed under vegetation. Threats to this species include: poaching, oil spills, vessel anchoring and groundings, artificial lighting at nesting sites, mechanical beach cleaning, increased human presence, beach vehicular driving, entanglement at sea, ingestion of marine debris, commercial and recreational fisheries, water craft collisions, sedimentation and siltation, and agricultural and industrial pollution.

KEMP'S RIDLEY SEA TURTLE (Lepidochelys kempii)
The Kemp's ridley sea turtles are the smallest of all extant sea turtles. Adult Kemp's ridleys' shells are almost as wide as long. Neonatal Kemp's ridleys feed on the available sargassum and associated infauna or other epipelagic species found in the Gulf of Mexico. In post-pelagic stages, the ridley is largely a crab-eater, with a preference for portunid crabs. Age at sexual maturity is not known, but is believed to be approximately 7-15 years, although other estimates of age at maturity range as high as 35 years. The major nesting beach for Kemp's ridleys is on the northeastern coast of Mexico. This location is near Rancho Nuevo in southern Tamaulipas. The species occurs mainly in coastal areas of the Gulf of Mexico and the northwestern Atlantic Ocean. Hunting of both turtles and eggs contributed to the decline of this species. Existing threats include: development and human encroachment of nesting beaches, erosion of beaches, vehicular traffic on beaches, fisheries, oil spills, floating debris, dredging, and explosive removal of old oil and gas platforms.

LEATHERBACK SEA TURTLE (Dermochelys coriacea)
The leatherback is the largest living turtle, and is so distinctive as to be placed in a separate taxonomicfamily, Dermochelyidae. The carapace is distinguished by a rubber-like texture, about 4 cm thick, and made primarily of tough, oil-saturated connective tissue. No sharp angle is formed between the carapace and the plastron, resulting in the animal being somewhat barrel-shaped. The front flippers are proportionally longer than in any other sea turtle. Nesting occurs from February - July with sites located from Georgia to the U.S. Virgin Islands. During the summer, leatherbacks tend to be found along the east coast of the U.S. from the Gulf of Maine south to the middle of Florida.

Leatherbacks become entangled in longlines, fish traps, buoy anchor lines and other ropes and cables. This can lead to serious injuries and/or death by drowning. Leatherback turtles eat a wide variety of marine debris such as plastic bags, plastic and styrofoam pieces, tar balls, balloons and plastic pellets. Effects of consumption include interference in metabolism or gut function, even at low levels of ingestion, as well as absorption of toxic byproducts. Leatherbacks are vulnerable to boat collisions and strikes, particularly when in waters near shore. Marine turtles are at risk when encountering an oil spill. Respiration, skin, blood chemistry and salt gland functions are affected.

LOGGERHEAD SEA TURTLE (Caretta caretta)
Loggerheads are the most abundant species in U.S. coastal waters, and are often captured incidental to shrimp trawling. Shrimping is thought to have played a significant role in the population declines observed for the loggerhead. Maturity is reached at between 16-40 years. Mating takes place in late March-early June, and eggs are laid throughout the summer. Loggerheads are circumglobal, inhabiting continental shelves, bays, estuaries, and lagoons in temperate, subtropical, and tropical waters. In the United States, killing of nesting loggerheads is infrequent. However, in a number of areas, egg poaching is common. Erosion of nesting beaches can result in loss of nesting habitat. Loggerhead turtles eat a wide variety of marine debris such as plastic bags, plastic and styrofoam pieces, tar balls, balloons and raw plastic pellets. Effects of consumption include interference in metabolism or gut function, even at low levels of ingestion, as well as absorption of toxic byproducts. Turtles are taken by gillnet fisheries in the Atlantic and Gulf of Mexico. Several thousand vessels are involved in hook and line fishing for various coastal species. Sea turtles are at risk when encountering an oil spill. Respiration, skin, blood chemistry and salt gland functions are affected. Pesticides, heavy metals and PCB's have been

detected in turtles and eggs, but the effect on them is unknown. Turtles have been caught in saltwater intake systems of coastal power plants. The mortality rate is estimated at 2%. Underwater explosions can kill or injure turtles, and may destroy or damage habitat. The effects of offshore lights are not known. They may attract hatchlings and interfere with proper offshore orientation, increasing the risk from predators. Turtles get caught in discarded fishing gear. The number affected is unknown, but potentially significant.

WEST INDIAN MANATEE *(Trichechus manatus)*
West Indian manatees are large, gray aquatic mammals with bodies that taper to a flat, paddle-shaped tail. They have two forelimbs, called flippers, with three to four nails on each flipper. Their head and face are wrinkled with whiskers on the snout. The manatee's closest relatives are the elephant and the hyrax. Manatees are believed to have evolved from a wading, plant-eating animal. The average adult manatee is about 10 feet long and weighs between 800 and 1,200 pounds.
Manatees can be found in shallow, slow-moving rivers, estuaries, saltwater bays, canals, and coastal areas — particularly where seagrass beds or freshwater vegetation flourish. Manatees are a migratory species.

Manatees are gentle and slow-moving animals. Most of their time is spent eating, resting, and traveling. Manatee are mostly herbivorous, however small fish and invertebrates can sometimes be ingested along with a manatee's normal vegetation diet.

West Indian manatees have no natural enemies, and it is believed they can live 60 years or more. As with all wild animal populations, a certain percentage of manatee mortality is attributed to natural causes of death such as cold stress, gastrointestinal disease, pneumonia, and other diseases. A high number of additional fatalities are from human-related causes. Most human-related manatee fatalities occur from collisions with watercraft. Other causes of human-related manatee mortality include being crushed and/or drowned in canal locks and flood control structures; ingestion of fish hooks, litter, and monofilament line; and entanglement in crab trap lines. Ultimately, loss of habitat is the most serious threat facing manatees in the United States today.

RED KNOT (Calidris canutus)
Red Knot is a medium-sized shorebird and the largest of the "peeps" in North America, and one of the most colorful. It makes one of the longest yearly migrations of any bird, traveling 15,000 km (9,300 mile) from its Arctic breeding grounds to Tierra del Fuego in southern South America.

Their diet varies according to season; arthropods and larvae are the preferred food items at the breeding grounds, while various hard-shelled molluscs are consumed at other feeding sites at other times.

The Red Knot nests on the ground, near water, and usually inland. The nest is a shallow scrape lined with leaves, lichens and moss. Males construct three to five nest scrapes in their territories prior to the arrival of the females. The female lays three or more usually four eggs, apparently laid over the course of six days. Both parents incubate the eggs, sharing the duties equally. The incubation period last around 22 days.

The birds have become threatened as a result of commercial harvesting of horseshoe crabs in the Delaware Bay which began in the early 1990s. Delaware Bay is a critical stopover point during spring migration; the birds refuel by eating the eggs laid by these crabs (with little else to eat in the Delaware Bay).

PIPING PLOVER (Charadrius melodus)
A small plover has wings approximately 117 mm; tail 51 mm; weight 46-64 g (average 55 g); length averages about 17-18 cm. Inland birds have more complete breast band than Atlantic coast birds. The nonbreeding plovers lose the dark bands. In Laguna Madre, Texas, non-breeding home ranges were larger in winter than in fall or spring. The breeding season begins when the adults reach the breeding grounds in mid- to late-April or in mid-May in northern parts of the range. The adult males arrive earliest, select beach habitats, and defend established territories against other males. When adult females arrive at the breeding grounds several weeks later, the males conduct elaborate courtship rituals including aerial displays of circles and figure eights, whistling song, posturing with spread tail and wings, and rapid drumming of feet. The plovers defend territory during breeding season and at some winter sites. Nesting territory may or may not contain the foraging area. Home range during the breeding season generally is confined to the vicinity of the nest. Plovers are usually found in sandy beaches, especially where scattered grass tufts are present, and sparsely vegetated shores and islands of shallow lakes, ponds, rivers, and impoundments.

Food consists of worms, fly larvae, beetles, crustaceans, mollusks, and other invertebrates. The plovers prefer open shoreline areas, and vegetated beaches are avoided. It also eats various small invertebrates. It obtains food from surface of substrate, or occasionally probes into sand or mud.

Strong threats related primarily to human activity; disturbance by humans, predation, and development pressure are pervasive threats along the Atlantic coast.

Potential Effects of Discharges Authorized by this Permit Issuance

Many of the threats to listed threatened or endangered species will not be affected by the proposed discharges. Those threats include: poaching of turtles and eggs, development and human encroachment of nesting beaches, erosion of beaches, vehicular traffic on beaches, beach armoring, artificial lighting, mechanical beach cleaning, marina and dock development, coastal development, increased human presence, dredging, non-native vegetation, seagrass bed degradation, and agricultural pollution. Other threats which may occur in the area covered under the proposed permit, which are not related to the proposed discharges are: entanglement at sea, commercial and recreational fisheries, and shrimp trawling. The discharges proposed to be authorized by the permit renewal will not affect those threats to threatened or endangered species.

Threats to species which could be related to Natural Gas Liquids in the area covered under the proposed permit include: oil spill, industrial pollution, and boat collisions. Of those potential threats, only oil spill is directly relevant to the proposed discharges. The proposed permit contains controls to limit the quantity of pollutants which are discharged and prevent toxic effects in the receiving waters. The proposed permit has limits for Biochemical Oxygen Demand, total aluminum and pH. The proposed permit is written to include limitations and monitoring requirements on those parameters as a permit conditions.

Determination

EPA is unaware, at this time, of any service concerns regarding this discharge and believes the limitations proposed in this permit are adequate to protect the listed species for Chambers County.

Based on information described above, EPA Region 6 has determined that discharges proposed to be authorized by the proposed permit will have no effect on the listed species in Chambers County.

The standard reopener clause in the permit will allow EPA to reopen the permit and impose additional limitations if it is determined that changes in species or knowledge of the discharge would require different permit conditions.

XI. HISTORICAL AND ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

The reissuance of the permit should have no impact on historical and/or archeological sites since no construction activities are planned in the reissuance.

XII. PERMIT REOPENER

The permit may be reopened and modified during the life of the permit if relevant portions of the Texas WQS are revised or remanded. In addition, the permit may be reopened and modified during the life of the permit if relevant procedures implementing the WQS are either revised or promulgated. Should the State adopt a new WQS, and/or develop a TMDL, this permit may be reopened to establish effluent limitations for the parameter(s) to be consistent with that approved State standard and/or water quality management plan, in accordance with 40 CFR §122.44(d). Modification of the permit is subject to the provisions of 40 CFR §124.5.

XIII. VARIANCE REQUESTS

No variance requests have been received.

XIV. COMPLIANCE HISTORY

The effluent from the facility has been monitored under the conditions of the current permit with a May 1, 2010, effective date. Five years of Discharge Monitoring Report data has been reviewed and the facility was in violation with its TRC limit during the quarter beginning October 1, 2013 to December 31, 2013. The facility believed that the reason for the TRC exceedance was the analysis of grab sample instead of the required composite sample. Subsequent composite samples analyzed for TRC were below the permit limit of 0.019 mg/l. Also, in June 24, 2014, there was a spill of boiler feed water contaminated with Sodium Hydroxide which resulted in the exceedance of pH effluent limits. The facility stated that the contaminated water did not reach Cedar Bayou.

Furthermore, there was total aluminum exceedance on January 8, 2015, with a reported total aluminum concentration of 2.2 mg/L; total aluminum limit was 1.766 mg/L. There were also BOD5 exceedances which occurred in November and December of 2015.

XV. CERTIFICATION

This permit is in the process of certification by the State agency following regulations promulgated at 40 CFR 124.53. A draft permit and draft public notice will be sent to the District Engineer, Corps of Engineers; to the Regional Director of the U.S. Fish and Wildlife Service and to the National Marine Fisheries Service prior to the publication of that notice.

XVI. FINAL DETERMINATION

The public notice describes the procedures for the formulation of final determinations.

XVII. ADMINISTRATIVE RECORD

The following information was used to develop the proposed permit:

A. APPLICATION

NPDES Application for Permit to Discharge, Form 1 & 2C, dated October 30, 2014.

B. State of Texas References

The State of Texas Water Quality Inventory, 13th Edition, Publication No. SFR-50, Texas Commission on Environmental Quality, December 1996.

"Procedures to Implement the Texas Surface Water Quality Standards via Permitting," Texas Commission on Environmental Quality, June, 2010.

Texas Surface Water Quality Standards, 30 TAC Sections 307.1 - 307.9, effective September 23, 2014.

http://ecos.fws.gov/ipac/wizard/chooseLocation!prepare.action

C. 40 CFR CITATIONS

Sections 122, 124, 125, 133, and 136

D. MISCELLANEOUS CORRESPONDENCE

Letter from Dorothy Brown, EPA, to Mr. Tom C. Claret, Superintendent -GCF dated May 18, 2016, informing applicant that its NPDES application received February 1, 2016, is administratively complete.

Emails from Michael Zhang, Gulf Coast Fractionators, to Maria Okpala, EPA, dated 5/10/16, 5/11/16, 5/16/16 and 5/27/16, on additional permit application information.

Email from Allen C. Eggen, Environmental Director, Midstream Operations, to Maria Okpala, EPA, dated 5/9/16 & 4/8/16 on clarification of additional permit application information required.

Email from Robert Kirkland, EPA, to Maria Okpala, EPA, dated May 24, 2016, on critical conditions information.