

NPDES PERMIT NO. TX0140082
STATEMENT OF BASIS

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

APPLICANT:

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ISSUING OFFICE:

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DATE PREPARED:

May 4, 2015

PERMIT ACTION

It is proposed that the facility be reissued an NPDES permit for a 5-year term in accordance with regulations contained in 40 Code of Federal Regulations (CFR) 122.46(a).

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 April 24, 2015.

RECEIVING WATER – BASIN

Unnamed tributary of Cedar Bayou Tidal in Waterbody Segment Code No. 0901 of the Trinity – San Jacinto Coastal 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)
BOD ₅	Biochemical Oxygen Demand (five-day unless noted otherwise)
BPJ	Best Professional Judgment
BPT	Best Practicable Control Technology
BCT	Best Conventional Pollutant Control Technology
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 6	Narrow Tidal Water
MGD	Million gallons per day
MSGP	Multi-Sector General Permit
MZ	Mixing Zone
NOEC	No Observed Effect Concentration
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
TRE	Toxicity Reduction Evaluation
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
ZID	Zone of Initial Dilution

I. PROPOSED CHANGES FROM PREVIOUS PERMIT

1. The facility changed its address from 10030 A FM 1942, Mont Belvieu, Chambers County, Texas to 9850 FM 1942, Baytown, Chambers County, Texas.
2. Addition of a fractionator (FRAC III) and associated wet surface cooling (WASC) units to the Outfall 001 drainage area.
3. Critical Dilution is changed from 31% to 8% based on the critical low flow of the receiving stream.
4. Monitoring frequency for BOD and pH is changed from daily when discharging to twice a month based on facility's performance history. In addition, the facility is a continuous discharger.

II. APPLICANT LOCATION and ACTIVITY

Under the SIC Code 1321, the applicant operates a natural gas liquid plant.

As described in the application, the facility is located at 9850 FM 1942, Baytown, Chambers County, Texas. Wastewater discharges from the facility are as follows:

Discharges are located on that water at:

Outfall 001: Latitude 29° 50' 57.33"N; Longitude 94° 54' 38.81"W

Outfall 002: Latitude 29° 51' 0.33"N; Longitude 94° 54' 41.98"W

Discharges from Outfall 001 and 002 consist of non process cooling water from Wet Air Surface Cooling (WASC). WASC blowdown will be discharged into a detention pond where it will be combined with stormwater prior to being discharged via Outfall 001 and 002 respectively. Discharges flows to a ditch into unnamed tributary of Cedar Bayou Tidal in Waterbody Segment Code No. 0901 of the Trinity – San Jacinto Coastal Basin.

III. PERMIT ACTION

EPA proposes to revoke and reissue the NPDES permit for the current permit issued on October 26, 2012, with an effective date of December 1, 2012, and an expiration date of November 30, 2017.

This permit reissuance is prepared in response to Lone Star NGL, Mont Belvieu L.P. Fractionator's letter dated June 14, 2014, requesting modification of the current permit. Based on a conversation with EPA Permit writer, both the Region and the facility agreed that a revoke and reissue would be preferable to a modification. The facility later submitted a letter dated October 27, 2014, requesting a revoke and reissue of the current permit. The federal regulation at 40 CFR 124.5(c) requires that, if a permit is to be revoked and reissued, the permittee must submit a new application. EPA received a new application from Lone Star NGL on October 30, 2014, and supplemental application information on February 17, 2015.

IV. PROCESS AND DISCHARGE DESCRIPTION

The facility is adding an additional fractionator (FRAC III) and associated wet air surface cooling (WASC) units to Outfall 001. FRAC III and the associated WASC units will discharge

non-contact cooling water to the FRAC 1 pond which is permitted to discharge an average daily flow of 0.19 MGD to Outfall 001. The design, specification and additives used in the FRAC III WASC units are identical to the FRAC I WASC units already permitted to discharge to Outfall 001. Discharges from Outfall 001 consist of stormwater and surface air cooler blowdown which flows to a ditch into unnamed tributary of Cedar Bayou Tidal in Waterbody Segment Code No. 0901 of the Trinity – San Jacinto Coastal Basin.

The facility will fractionate Y-grade natural gas liquids (NGL) through a series of trayed columns that separate the NGL into the constituent gas products, which include purity ethane, pressure heating medium and cooling will be provided using cooling tower technology. Process equipment will be electric motor driven as needed, with the exception of the following combustion units: hot oil heaters, molecular sieve regeneration units, thermal oxidizer units, and diesel fueled emergency generators. The feedstock and products of the facility will be stored in nearby salt dome caverns and will be taken via pipeline to and from the facility. As a result, the facility will not have feedstock/product storage vessels, but only in-process rundown capacity will be provided in the facility.

Table 1: Discharge Characteristics

The facility submitted technology and water quality-based effluent characteristics, in the both the original application as well as the supplemental application information.

The table below shows facility's pollutant concentrations contained in the NPDES application and additional permit application information submitted to EPA.

Outfall 001:

Parameter	Max Concentration, mg/L unless noted	Average Concentration, mg/L unless noted
Flow, MGD	0.23	0.19
Temperature °C	18.90 winter	18.90 winter
pH, su	8.67	8.67
TSS	24	24
COD	55	55
BOD	3.2	3.2
TOC	18.7	18.7
Oil & grease	<1.4	<1.4
Ammonia (as N)	0.124	0.124
TRC, If used	0.46	0.46
Aluminum	0.2847	0.1921
Arsenic	0.004	0.003
Copper	0.0025	0.0021
Nickel	0.006	0.0044
Zinc	0.0242	0.0234
Chloride	251	176.18
Sulfate	155	98.65
TDS	982	677.85

Outfall 002:

Parameter	Max Concentration, mg/L unless noted	Average Concentration, mg/L unless noted
Flow, MGD	0.23	0.19
Temperature °C	18.90 winter	18.90 winter
pH, su	8.67	8.67
TSS	24	24
COD	55	55
BOD	3.2	3.2
TOC	18.7	18.7
Oil & grease	<1.4	<1.4
Ammonia (as N)	0.124	0.124
TRC, If used	0.46	0.46
Aluminum	0.5813	0.3033
Arsenic	0.0024	0.0023
Copper	0.0038	0.0032
Nickel	0.0062	0.0031
Zinc	0.132	0.060
Chloride	252	106.45
Sulfate	153	63.35
TDS	990	444.46

V. 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.

It is proposed that the permit be revoked and reissued based on a request from Lone Star NGL to modify the current permit. It is proposed that the permit be issued for a 5-year term following regulations promulgated at 40 CFR 122.46(a). An NPDES Application for a Permit to Discharge (Form 1 and Form 2E) was received on October 30, 2014, and was deemed administratively incomplete on December 22, 2014. Additional permit application information was received on February 17, 2015; and was deemed administratively complete on March 11, 2015.

VI. 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 BOD5. Water quality-based effluent limitations are established in the proposed draft permit for pH.

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 proposed permit establishes discharge and monitoring requirements for BOD5 at Outfalls 001 and 002, discharge of stormwater and wet air surface cooling tower blowdown. The proposed permit establishes limitations and monitoring requirements for BOD5 of 20 mg/l monthly average and 30 mg/l daily maximum. The estimated process flow provided in the application for Outfalls 001 and 002 is 0.19 MGD. The draft permit will not propose mass limits since the flow is variable and intermittent. Concentration limits will be protective of the stream uses. These limitations are based on the Best Professional Judgment of the permit writer.

Stormwater has been identified by the permittee as a component of the discharge through Outfalls No. 001 and 002. A requirement to develop a Stormwater Pollution Prevention Plan (SWP3) is proposed in the draft permit. It is proposed that the facility conduct an annual inspection of the facility to identify areas contributing to the storm water discharge and identify potential sources of pollution which may affect the quality of storm water discharges from the facility.

The proposed permit requires the permittee to develop a site map. The site map shall include all areas where storm water may contact potential pollutants or substances which can cause pollution. It is also proposed that all spilled product and other spilled wastes be immediately cleaned up and properly disposed. The permit prohibits the use of any detergents, surfactants or other chemicals from being used to clean up spilled product. Additionally, the permit requires all waste fuel, lubricants, coolants, solvents or other fluids used in the repair or maintenance of vehicles or equipment be recycled or contained for proper disposal. All diked areas surrounding storage tanks or stormwater collection basins shall be free of residual oil or other contaminants so as to prevent the accidental discharge of these materials in the event of flooding, dike failure, or improper draining of the diked area. The permittee shall amend the SWP3 whenever there is a change in the facility or change in operation of the facility.

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 2000 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 Cedar Bayou Tidal, Segment 0901 are primary contact recreation and high aquatic life.

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 Cedar Bayou Tidal in Waterbody Segment Code No. 0901 of the Trinity-San Jacinto Coastal Basin. The designated uses of Segment 0901, Cedar Bayou Tidal are primary contact recreation and high aquatic life. The instream pH standards for the Cedar Bayou Tidal, waterbody Segment 0901 is in the range of 6.5 to 9.0 su's. The draft permit establishes pH limits of 6.5 - 9 at both Outfalls.

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 following narrative limitations in the proposed permit represent protection of water quality for Outfall 001 and 002:

“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

The CWA 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 criteria, the permit must contain an effluent limit for that pollutant.

The discharge via Outfalls 001 and 002 enters into a ditch to unnamed tributary, approximately 2 miles upstream of Cedar Bayou below Tidal (Texas Segment 0901). The segment specific values for Cedar Bayou Tidal, Segment 0901 (Table D-9 of the IP) are TSS of 18 mg/l, hardness is 930 mg/l, pH is 7.4 s.u., and chloride is 2,875 mg/l. The critical low flow, 7Q2 for Segment 0901, Cedar Bayou above Tidal is 6.18 cfs, while the harmonic mean is 43.6 cfs. The facility's effluent flow is 0.19 MGD (0.295 cfs). TCEQ'S TEXTOX Menu 9 – discharge to an intermittent water body within 3 miles of a tidal water body (< 400 ft) with upstream flow information) is appropriate for evaluating the discharge.

The effects of the discharge into Cedar Bayou Tidal, E_F , are based on a narrow tidal river. The Texas implementation Standards identifies two separate effluent fractions, E_F 's that are evaluated. One E_F is at the edge of the mixing zone (MZ), and the second E_F at the zone of initial dilution (ZID). For perennial streams and narrow tidal rivers, 25% of the 7Q2 is used to calculate the dilution at the edge of the ZID. The dilutions are determined as follows:

Q_{eff} = permitted average effluent flow = 0.29 cfs

$$\% \text{ effluent, Mixing Zone (MZ)} = \frac{Q_{eff}}{Q_{eff} + 7Q2} \times 100 = 0.29 / (0.29 + 6.18) \times 100 = 4.48 \%,$$

but MZ cannot be below 8%, therefore **MZ = 8% (Critical Dilution)**

$$\% \text{ effluent, Zone of Initial Dilution (ZID)} = \frac{Q_{eff}}{Q_{eff} + 0.25(7Q2)} \times 100 = 0.29 / (0.29 + 0.25 \times 6.18)$$

= 15.80%, but ZID cannot be below 30%, therefore **ZID = 30%**.

$$\% \text{ effluent, Human Health (HH)} = \frac{Q_{eff}}{Q_{eff} + HM} \times 100 = 0.29 / (0.29 + 43.6) = 0.66 \%, \text{ but HH}$$

cannot be below 4%, therefore **HH = 4%**.

Human health criteria apply for Saltwater Fish Tissue. Chronic Toxic Criteria apply.

The draft permit established the rationale that the discharge via Outfall 001 and 002 enters a freshwater streambed, and then within three-miles, enters an estuarine system. As a result, the discharge via Outfall 001 and 002 must first protect freshwater acute WQS, and human health and chronic protection shall be based on estuarine WQS. TSS, pH, hardness, and chlorides data for the freshwater Segment 902, Cedar Bayou above Tidal, were used for the freshwater acute conditions. These values are 3 mg/l, 7.1 s.u., 40 mg/l, and 83 mg/l respectively for Segment 0902, Cedar Bayou above Tidal.

Discharges from Outfall 001 and 002 consist of non process cooling water from Wet Air Surface Cooling (WASC). WASC blowdown will be discharged into a detention pond where it will be combined with stormwater prior to being discharged via Outfall 001 and 002 respectively. Water quality screening performed for Outfall 001 and 002 shows that none of the pollutants shows reasonable potential to exceed Texas water Quality Standards.

Average concentration of TDS obtained from the permit application was screened using the procedures found on page 175/176 of the ITWQS. Using these procedures, the geometric mean of the effluent concentrations of TDS obtained from the permit application (982 mg/L from Outfall 001; and 990 mg/L from Outfall 002) were compared to the screening value to determine whether a TDS permit limit is needed.

$$C_{TDS} = (C_c / 500 \text{ mg/L}) * 2,500 \text{ mg/L}$$

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

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

According to page 176 of ITWQS, if C_{TDS} is less than or equal to 2,500 mg/L, then 2,500 mg/L is used as the screening value. But if $C_{TDS} > 2,500 \text{ mg/L}$ but $\leq 6,000 \text{ mg/L}$, then $C_{SV} = C_{TDS} =$

3,500 mg/L, where C_{sv} is the TDS screening value. Since the effluent concentration (677.85 mg/L from Outfall 001; and 444.46 mg/L from Outfall 002) are both less than the TDS screening value (3,500 mg/L), TDS limitations and monitoring requirements are not established in the proposed 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:

$$Cl \text{ or } SO_4 C_{sv} = (TDS C_{sv} / TDS \text{ Criterion}) * Cl \text{ or } SO_4 \text{ Criterion}$$

$$C_{SO_4} = (3,500/700) * 150 \text{ mg/L} = 750 \text{ mg/L};$$
$$C_{Cl} = (3,500 / 700 \text{ mg/L}) * 200 \text{ mg/L} = 1000 \text{ mg/L}$$

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 (for Outfall 001 and 002, $SO_4=98.65$ mg/L and 63.35 mg/L respectively; $Cl = 176.18$ mg/L and 106.45 mg/L respectively) are all less than their screening value of 3,500 mg/L. As a result, the proposed permit did not established limitation and monitoring requirements for sulfate and chloride.

Solids and Foam

The prohibition of the discharge of floating solids or visible foam in other than trace amounts is continued in the proposed permit. In addition, there shall be no discharge of visible films of oil, globules of oil, grease or solids in or on the water, or coatings on stream banks.

D. MONITORING FREQUENCY FOR LIMITED PARAMETERS

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 facility, the previous permit, and past compliance history.

For all Outfalls, flow shall be monitored daily, when discharging using a recording flow meter, BOD₅ and pH shall also be measured and reported twice a month, using grab sample.

E. WHOLE EFFLUENT TOXICITY TESTING

Biomonitoring is the most direct measure of potential toxicity which incorporates both the effects of synergism of effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity.

OUTFALLS 001 and 002

In Section V.C.5.c. above; “Critical Conditions”, it was shown that the critical dilution, CD, for the facility is 8%. Based on the nature of the discharge; industrial, the estimated average flow; 0.19 MGD, the nature of the receiving water; narrow tidal stream; TDS = 8,400 mg/L and the critical dilution; 8%, the 2010 TCEQ IP directs the WET test to be a 7 day chronic test using marine test species *Mysidopsis bahia* and *Menidia beryllina* at a quarterly frequency for the first year of the permit. If all WET tests pass during the first year, the permittee may request a monitoring frequency reduction for either or both of the test species for the following 2-5 years of the permit. The invertebrate species (*Mysidopsis bahia*) may be reduced to twice per year and the vertebrate species (*Menidia beryllina*) may be reduced to once per year. 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 3%, 5%, 6%, 8%, and 11%. The low-flow effluent concentration (critical low-flow dilution) is defined as 8% effluent.

This is a revoke and reissue of the permit issued on October 26, 2012, with an effective date of December 1, 2012, and an expiration date of November 30, 2017. Results of the DMR shows that the facility is in compliance with the biomonitoring tests performed during the 2 years period (from the time the permit was issued until the application period). EPA will not perform reasonable potential analysis during this permitting period because the permittee has only 2 years of WET data. EPA concludes based on the nature of the discharge described in activity section of this document that this effluent will not cause or contribute to an exceedance of the State water quality standards. Therefore WET limits will not be established in the proposed permit.

During the period beginning on the effective date of the permit and lasting through the expiration date of the permit, the permittee is authorized to discharge from Outfall 001 and 002 - the discharge to unnamed tributary of Cedar Bayou Tidal in Waterbody Segment Code No. 0901 of the Trinity – San Jacinto Coastal Basin. Discharges shall be limited and monitored by the permittee as specified below:

<u>EFFLUENT CHARACTERISTIC</u>	<u>DISCHARGE MONITORING</u>	
	<u>30-DAY AVG MINIMUM</u>	<u>7-DAY MINIMUM</u>
Whole Effluent Toxicity Testing (7 Day Static Renewal) <u>1/</u>		
<i>Mysidopsis bahia</i>	REPORT	REPORT
<i>Menidia beryllina</i>	REPORT	REPORT

EFFLUENT CHARACTERISTICMONITORING REQUIREMENTS

	<u>FREQUENCY</u>	<u>TYPE</u>
Whole Effluent Toxicity Testing (7 Day Static Renewal) <u>1/</u>		
<i>Mysidopsis bahia</i>	1/Quarter	24-Hr. Composite
<i>Menidia beryllina</i>	1/Quarter	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.

F. FINAL EFFLUENT LIMITATIONS

See the draft permit for limitations.

VII. 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.

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

Wastewater discharges from the facility flows into a ditch to unnamed tributary, thence to Cedar Bayou Tidal in Waterbody Segment Code No. 0901 of the Trinity – San Jacinto Coastal Basin. The receiving stream is listed as impaired for bacteria (Category 5c), dioxin in edible tissue (Category 5a), and PCBs in edible tissue (Category 5a) in the 2012 State of Texas 303(d) List for Assessed River/Stream Reaches Requiring Total Maximum Daily Loads (TMDLs). These impairments are under TCEQ's category 5a and 5c. Category 5a implies that a TMDL is underway, scheduled, or will be scheduled while Category 5c implies that additional data and information will be collected before a TMDL is scheduled. The facility does not plan to discharge bacteria, dioxin and PCBs. If the waterbody is listed at a later date for additional pollutants, and a total maximum discharge loading determined for the segment, the standard reopener clause would allow the permit to be revised and additional pollutants and/or limits added. No additional requirements beyond the already proposed technology-based and/or water-quality based requirements are needed in the proposed permit.

IX. 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.

X. 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. This is a revoke and reissue permit.

XI. 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 taxonomic family, 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 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 draft permit contains controls to limit the quantity of pollutants which are discharged and prevent toxic effects in the receiving waters. The draft permit has limits for Biochemical Oxygen Demand, flow and pH. The draft 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.

XII. HISTORICAL AND ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

The issuance of the permit should have no impact on historical and/or archeological preservation. Although construction activities are planned in the issuance, there are no historical and archeological preservation nearby or the facility believes that its construction activities will not be impacted by any known historical and archeological preservation.

XIII. 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.

XIV. VARIANCE REQUESTS

No variance requests have been received.

XV. COMPLIANCE HISTORY

This is a revoke and re-issue permit. During the two years that the facility has discharged, it is in compliance with all of its permit requirements. The facility requested a reduction in the BOD monitoring frequency at Outfalls 001 and 002. The current permit have a BOD monitoring of once per day at each outfall, when discharging. Since the facility discharges continuously, BOD and pH shall be monitored twice a month.

XVI. 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.

XVII. FINAL DETERMINATION

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

XVIII. ADMINISTRATIVE RECORD

The following information was used to develop the proposed permit:

A. APPLICATION

NPDES Application for Permit to Discharge, Form 1 & 2E, received on October 30, 2014, and was deemed administratively incomplete on December 22, 2014. Supplemental application information was received on February 17, 2015, and March 9, 2015. The application was deemed administratively complete on March 11, 2015.

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, 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 Ms. Cynthia L. Pate, Energy transfer dated March 11, 2015 informing applicant that its NPDES application received October 30, 2014, is administratively complete.

Letter from Dorothy Brown, EPA, to Ms. Cynthia L. Pate, Energy transfer dated December 22, 2014 informing applicant that its NPDES application received October 30, 2014, is administratively incomplete.

Email and letter from Christopher McFarlane, Consultant for Lone Star NGL dated February 10, 2015, and February 11, 2015, respectively to Maria Okpala, EPA, on additional facility information.

Email from Robert Kirkland, EPA, to Maria Okpala, EPA, dated September 26, 2014, on critical conditions information.

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