# NPDES PERMIT NO. TX0134083
# STATEMENT OF BASIS

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

**APPLICANT**:

INEOS
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**ISSUING OFFICE**:

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**DATE PREPARED:**

June 17, 2019

**PERMIT ACTION**

It is proposed that the facility be issued an NPDES permit for a 2-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 June 17, 2019.

**RECEIVING WATER – BASIN**

Discharges from Outfall 001 and 002 flow into an unnamed intermittent ditch in Harris & Galveston County, Texas and thence to Clear Lake (classified, estuary, Texas Segment 2425).

## 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 |
| 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) |
| 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 PREVIOUS PERMIT

This is a first time permit.

## II. APPLICANT LOCATION and ACTIVITY

Under the SIC Code 4619, the applicant operates a transmission pipeline under Clear Creek. The proposed permit is for the discharge of hydrostatic test water.

The facility is located under Clear Creek in Harris and Galveston Counties in Kemah and Seabrook, Texas. Discharges are located .7 miles from post office located at 1129 TX-146, Kemah, TX 77565 and .2 miles from post office located at 1600 Main St., Seabrook TX 77586

## III. DISCHARGE LOCATION

The discharge points showing Outfall number, discharge coordinates: latitude and longitude, county, average flow rate in millions gallons per day (MGD), receiving water, and the waterbody identification numbers are shown in the following table:

| Outfall Reference Number | Discharge Coordinates Latitude Deg° Min' Sec" Longitude Deg° Min' Sec" | County | Average Flow MGD | Receiving Water | Segment # |
|---|---|---|---|---|---|
| 001 | 29° 33' 41.29" N 95° 1' 34.25" W | Harris | .72 | Clear Lake | 2425 |
| 002 | 29° 32' 42.51" N 95° 1' 22.68" W | Harris | .72 | Clear Lake | 2425 |

## IV. DISCHARGE DESCRIPTION

The project application is for the discharge of hydrostatic test water from new pipeline. INEOS is extending its pipeline system by adding 6,500 feet of new highly volatile liquid pipeline under Clear Creek. The discharge from the facility will entirely be made up of hydrostatic test waters. No chemicals will be added to the test waters and source water will be municipal water obtained from a fire hydrant. INEOS will perform two hydrostatic tests ( a pre-hydro test and another test after the bore piping is in place). The test will discharge approximately 40,000 gallons of water per test. Discharge will be anywhere from 2 to 4 hours.
After the test, the water will be discharged continuously through two frac tanks. The first will settle any suspended solids. From the frac tanks water will go through three layers of filtration namely filter socks, wattles and hay bales. Frac tanks will have certification from the supplier stating the tanks are clean.

### Table 1: Discharge Characteristics for Outfall 001 & 002

The table below shows facility's pollutant concentrations contained in the NPDES application.

| Parameter | Max. Daily Value (mg/l) | Average Daily Value (mg/l) |
|---|---|---|
| Flow, GPM | 500 | |

| | | |
|---|---|---|
| pH, su | ~7.5 | |
| Oil & Grease | ~0 | ~0 |
| TDS | 328 mg/l | 328 mg/l |

## 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 issued for a 2-year term following regulations promulgated at 40 CFR 122.46(a). This is a first-time permit issuance. An NPDES Application for a Permit to Discharge (Form 1 & 2E) was received on June 14, 2019. The application as deemed administratively complete on June 14, 2019.

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

### 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. There are no published

ELG's for this type of activity. Permit limits are proposed based on BPJ. Since hydrostatic test water discharges are batch discharges of short term duration, limits in this Permit will be expressed in terms of daily maximum concentrations rather than in terms of mass limitations, as allowed by 40 CFR 122.45(e) and (f). Numerical water quality based limitations have been placed in the permit for pH, TRC, & benzene. Technology-based effluent limitations are established in the proposed draft permit for TSS, oil & grease, BTEX, & TOC. The permittee shall not discharge if Benzene, BTEX, & TOC limits cannot be met. Narrative standards for oil, grease, or related residue have has been placed in the proposed permit. The proposed limitation for TSS is 45 mg/l maximum, 30 mg/l average, TOC is 50 mg/L, and Oil & Grease is 15 mg/l maximum. Concentration limits will be protective of the stream uses.

## 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.

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 March 6, 2014.

### 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 Clear Lake, Segment 2425 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.

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 Outfall 001 & 002 flows into Clear Lake (Segment No. 2425), which has Texas WQS of 6.5 – 9.0 s.u., pH shall be limited to 6.5 – 9.0 s.u, the criteria listed for Segment 2425.

b. Benzene

Frac tanks that have been previously used will be employed to hold hydrostatic test waters prior to discharge. Because, there is potential for contamination from used frac tanks, Benzene limits will be required. Studies also show that the daily maximum level of benzene representing BAT is selected as 50 µg/L. The TCEQ WQS standard for Benzene is 0.005 mg/l (5 µg/l). Since the TCEQ WQS is more stringent than the BAT, benzene limit of 5 µg/l is proposed in the draft permit.

c. BTEX

Benzene, toluene, ethylbenzene, and xylenes are among the hydrocarbons typically found in water contaminated by liquid or gaseous petroleum hydrocarbons. Hydrocarbon condensates left by the natural gas are the major source of toxic pollutants in hydrostatic test water discharges from existing natural gas pipelines. The daily maximum level of BTEX representing BAT is 100µg/l. The TCEQ does not have BTEX standard. As a result, a BTEX daily maximum limit of 100µg/l is proposed in the draft permit.

d. Total Residual Chlorine

TRC shall be limited to 0.011 mg/l in Outfall 001 because the source water is from municipal water supply. 19µg/L is EPA's acute chlorine criteria 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.

Critical Dilution is 100%

The effluent TRC concentration after allowing for dilution is: 11µg/L ÷ 1.0= 11.0 µg/L. Since this value is less than the 19µg/L end-of-pipe acute standard, the 11.0 µg/L is more stringent and will be more protective. The draft permit shall establish 11.0 µg/L limit. However, TRC is toxic at measurable amounts, so in addition to the 11.0 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

e. 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 all Outfalls:

"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."

f. 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 criterion, the permit must contain an effluent limit for that pollutant.

The applicant proposes to draw water from a municipal water supply, to conduct its hydrostatic testing.

The 7Q2 critical low flow for the receiving stream is not applicable. Discharge is to unnamed intermittent ditch thence to Clear Lake (intermittent waterbody within 3 miles of a lake)

Based on the TCEQ's implementation procedure, Outfall 001 & 002 is MENU 8 (Discharge is to intermittent waterbody within 3 miles of a lake). The Outfall discharges into an unnamed ditch The ditch flows into Clear Lake.

7Q2 for Segment No.160, based on the implementation procedures, is 16 cfs, while harmonic mean is 1.4 cfs. Water quality screening performed for Outfall 001 shows that none of the pollutants shows reasonable potential to exceed Texas Water Quality Standards. (See attached spreadsheet).

TDS Calculations

$C_{TDS}$ = (Cc* 2500 mg/L) / 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 = 12876 mg/L

$C_{TDS}$ = (12876/ 500 mg/L) * 2,500 mg/L = 64,230 mg/L

According to page 186 of the IP, if $C_{TDS}$ is greater than 6,000 mg/L, then 6,000 mg/L is used as the screening value. Since the effluent concentration (328 mg/L) from Outfall 001 & 002 is less than the TDS screening value (6,000 mg/L), TDS limitations and monitoring requirements are not required.

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 IP as shown below:

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

$C_{SO4}$ $C_{SV}$= (6,000/12,876) * 100 mg/L = 363 mg/L;
$C_{Cl}$ $C_{SV}$ = (6,000 /12,8760 mg/L) * 200 mg/L = 2,802 mg/L

The effluent concentrations for Outfall 001 &002, $SO_4$= 55.0 mg/L and Cl = 59 mg/L are both less than their screening value of 363 mg/L and 2,802 mg/L respectively. As a result, the proposed permit does not established limitation and monitoring requirements for $SO_4$ and Cl.

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 outfalls 001 & 002 monitoring for flow, TSS, Oil & Grease, benzene, BTEX, TOC, and pH shall be daily by grab sample, when discharging.

E. WHOLE EFFLUENT TOXICITY LIMITATIONS

Biomonioring is the most direct measure of potential toxicity which incorporates both the effects of synergism of effluent components and receiving stream water quality characteristics. The facility indicated that it is planning to use Frac tanks, that have been previously used, to hold the water prior to discharge, therefore, it appears that the discharge will have a potential for toxicity. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity.

OUTFALL 001 & 002

According to TCEQ implementation procedures, permittees that discharge into intermittent streams within three miles of a lake will conduct acute testing with a CD of 100%. In Section V.C.5.d. above; "Toxics", it was stated that the critical dilution, CD, for the facility is 100%. Based on the nature of the discharge; industrial, the estimated average flow; .72 MGD, the TDS concentration of the receiving water; marine receiving water; WET will be a one time 48 hour acute test using *Mysidopsis bahia* and *Menidia beryllina* one time at the first discharge. If any WET test fails, permittee must contact EPA, for modification of testing frequency for the duration 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 32%, 42%, 56%, 75%, and 100%.

EPA concludes based on the nature of the discharge described as hydrostatic test wastewater, 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 the effective date of the permit and lasting through the expiration date of the permit, the permittee is authorized to discharge from Outfall 001 & 002 - the discharge to Unnamed Ditch to Clear Lake (Segment 2425) of the Rio Grande Basin. Discharges shall be limited and monitored by the permittee as specified below:

| EFFLUENT CHARACTERISTIC | MONITORING REQUIREMENTS | |
|---|---|---|
| | FREQUENCY | TYPE |
| Whole Effluent Toxicity Testing (7 Day Static Renewal) 1/ | | |
| *Ceriodaphnia dubia* | One time test | 24-Hr. Composite |
| *Pimephales promelas* | One time test | 24-Hr. Composite |

FOOTNOTES

1 WET test shall be performed during the first discharge. 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.

## 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.

Electronic Reporting Rule

Discharge Monitoring Report (DMR) results shall be electronically reported to EPA per 40 CFR 127.16. To submit electronically, access the NetDMR website at https://netdmr.epa.gov. Until approved for Net DMR, the permittee shall request temporary or emergency waivers from electronic reporting. To obtain the waiver, please contact: U.S. EPA - Region 6, Water Enforcement Branch, Texas State Coordinator (6EN-WC), (214) 665-8582. If paper reporting is granted temporarily, 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 copies to RRC as required (See Part III.D.IV of the permit). Reports shall be submitted quarterly. Each quarterly submittal shall include separate forms for each month of the reporting period.

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

According to the 2016 State of Texas 303(d) List for Assessed River/Stream Reaches Requiring Total Maximum Daily Loads (TMDLs), the receiving stream for Outfall 001 & 002, Clear Lake Texas Segment 2425, is listed as impaired for copper, dioxin and PCB's in edible tissue. A TMDL is currently underway for dioxin and PCBs

Because of the type of discharge, the facility is not likely to contribute to these impairments. 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.

## 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.

## 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.

## X. ENDANGERED SPECIES

The effects of EPA's permitting action are considered in the context of the environmental baseline. The environmental baseline is established by the past and present impacts of all Federal, State, or private actions and other human activities in an action area; the anticipated impacts of all proposed Federal projects in an action area that have already undergone formal or early ESA §7 consultation; and the impact of State or private actions that are contemporaneous with the consultation in process (50 CFR §402.02). No construction activities are planned, therefore the scope of the evaluation of the effects of the discharge authorized by this permit is limited to the effects related to the authorized discharge. According to the US Fish and Wildlife Service (USFWS), According to the most recent county listing available at US Fish and Wildlife Service (USFWS), eleven species are listed as threatened or endangered: West Indian Manatee (T), Attwater's Greater Prarie-chicken (E), Least Tern (E), Piping Plover(T), Red Knot (T), Green Sea Turtle (T), Hawksbill Sea Turtle (E), Kemp's Ridley Sea Turtle (E), Leatherback Sea Turtle (E), Loggerhead Sea Turtle (T) and the Texas Prarie Dawn Flower (E).

**WEST INDIAN MANATEE** (*Trichechus manatus*)

Manatees have large, seal-shaped bodies with paired flippers and a round, paddle-shaped tail. They are typically grey in color (color can range from black to light brown) and occasionally spotted with barnacles or colored by patches of green or red algae. The muzzle is heavily whiskered and coarse, single hairs are sparsely distributed throughout the body. Adult manatees, on average, are about nine feet long and weigh about 1,000 pounds. Hunting is thought to be largely responsible for the initial decline of the species. Today, the greatest threats to manatee survival are collisions with boats.

**ATTWATER'S GREATER PRARIE-CHICKEN** (*Tympanuchus cupido attwateri*)

The Attwater's prairie chicken is a small, brown bird about 17 inches long, with short, rounded, dark tail. Males have large orange air sacs on the sides of their necks. During mating season, males make a "booming" sound, amplified by inflating the air sacs on their necks, that can be heard 1/2 mile away.

**LEAST TERN** (*Sterna Antillarum*)

The Least tern populations have declined due to habitat destruction by permanent inundation, destruction by reservoir releases, channelization projects, alterations of Natural River or lake dynamics resulting in vegetational succession of potential nesting sites, and recreational use of potential nesting sites. Issuance of this permit is found to have no impact on the habitat of this species, as none of the aforementioned listed activities is authorized by this permitting action.

**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. EPA has determined that the re-issuance of the permit will have "no effect" on the piping plover.

**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). EPA has determined that the re-issuance of the permit will have “no effect” on the red knot.

**GREEN SEA TURTLE** (*Chelonia mydas*)

The green sea turtle grows to a maximum size of about 4 feet and a weight of 440 pounds. It has a heart-shaped shell, small head, and single-clawed flippers. Color is variable. Hatchlings generally have a black carapace, white plastron, and white margins on the shell and limbs. The adult carapace is smooth, keelless, and light to dark brown with dark mottling; the plastron is whitish to light yellow. Adult heads are light brown with yellow markings. Identifying characteristics include four pairs of costal scutes, none of which borders the nuchal scute, and only one pair of prefrontal scales between the eyes. The cause for decline of this species includes modification to nesting areas, artificial lighting, beach driving, commercial exploitation, activities in open water, and marine debris.

**HAWKSBILL SEA TURTLE** (*Eretmochelys imbricata*)

The endangered Hawksbill Sea Turtle is one of seven species of sea turtles found throughout the world. One of the smaller sea turtles, it has overlapping scutes (plates) that are thicker than those of other sea turtles. This protects them from being battered against sharp coral and rocks during storm events.

Adults range in size from 30 to 36 inches (0.8-1.0 meters) carapace length, and weigh 100 to 200 pounds (45-90 kilograms). Its carapace (upper shell) is an attractive dark brown with faint yellow streaks and blotches and a yellow plastron (under shell). The name "hawksbill" refers to the turtle's prominent hooked beak.

**KEMP’S RIDLEY SEA TURTLE** (*Lepidochelys kempii*)

The Kemp's ridley turtle is the smallest of the sea turtles, with adults reaching about 2 feet in length and weighing up to 100 pounds. The adult Kemp's ridley has an oval carapace that is almost as wide as it is long and is usually olive-gray in color. The carapace has five pairs of costal scutes. In each bridge adjoining the plastron to the carapace, there are four inframarginal

scutes, each of which is perforated by a pore. The head has two pairs of prefrontal scales. Hatchlings are black on both sides. The Kemp's ridley has a triangular-shaped head with a somewhat hooked beak with large crushing surfaces. This turtle is a shallow water benthic feeder with a diet consisting primarily of crabs.

**LEATHERBACK SEA TURTLE** (*Dermochelys coriacea*)

The leatherback is the largest, deepest diving, and most migratory and wide ranging of all sea turtles. The adult leatherback can reach 4 to 8 feet in length and 500 to 2000 pounds in weight. Its shell is composed of a mosaic of small bones covered by firm, rubbery skin with seven longitudinal ridges or keels. The skin is predominantly black with varying degrees of pale spotting; including a notable pink spot on the dorsal surface of the head in adults. A toothlike cusp is located on each side of the gray upper jaw; the lower jaw is hooked anteriorly. The paddle-like clawless limbs are black with white margins and pale spotting.

**LOGGERHEAD SEA TURTLE** (*Caretta caretta*)

Loggerheads were named for their relatively large heads, which support powerful jaws and enable them to feed on hard-shelled prey, such as whelks and conch. The carapace (top shell) is slightly heart-shaped and reddish-brown in adults and sub-adults, while the plastron (bottom shell) is generally a pale yellowish color. The neck and flippers are usually dull brown to reddish brown on top and medium to pale yellow on the sides and bottom. Mean straight carapace length of adults in the southeastern U.S. is approximately 36 in (92 cm); corresponding weight is about 250 lbs (113 kg). The cause for decline of this species includes modification to nesting areas, artificial lighting, beach driving, commercial exploitation, activities in open water, and marine debris.

**TEXAS PRARIE DAWN FLOWER** (*Hymenoxys texana*)

A delicate annual herb, 5-15 cm high, with small yellow flower heads (only the disc flowers are readily visible) in bloom March-early April. Habitat consists of Poorly drained, sparsely vegetated areas ("slick spots") at the bases of small mounds (mima or pimple mounds) in open grassland or in almost barren areas.

The Environmental Protection Agency has evaluated the potential effects of issuance of this permit upon listed endangered or threatened species. After review, EPA has determined that the issuance of this permit will have "*no effect*" on listed threatened and endangered species nor will adversely modify designated critical habitat. EPA makes this determination based on the following:

No pollutants are identified by the permittee-submitted application at levels which might affect species habitat or prey species. Issuance of this permit is found to have no impact on the habitats of these species.

Based on the 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.

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.

Operators have an independent ESA obligation to ensure that any of their activities do not result in prohibited "take" of listed species. Section 9 of the ESA prohibits any person from "taking" a listed species, e.g., harassing or harming it, with limited exceptions. See ESA Sec 9; 16 U.S.C. §1538. This prohibition generally applies to "any person," including private individuals, businesses and government entities. Operators who intend to undertake construction activities in areas that harbor endangered and threatened species may seek protection from potential "take" liability under ESA section 9 either by obtaining an ESA section 10 permit or by requesting coverage under an individual permit and participating in the section 7 consultation process with the appropriate FWS or NMFS office. Operators unsure of what is needed for such liability protection should confer with the appropriate Services.

## XI. HISTORICAL AND ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

INEOS received clearance from the Texas Historical Commission on June 18 ,2019. There were no underwater archaeological sites, historic shipwrecks and/or significant remote sensing targets present or affected. In addition, no historic properties were identified as present. As a result, the issuance of the permit should not have any impact on historical and/or archeological sites.

## 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

This proposed permit is a first-time permit issuance.

## XV. CERTIFICATION

This permit is in the process of certification by the Railroad Commission of Texas 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 and Form 2E were received on June 14, 2019 and was deemed administratively complete on June 14, 2019 Additional permit application information (Form 2E) was received June 17, 2019 and June 18, 2019.

B. State of Texas References

"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.

C. 40 CFR CITATIONS

Sections 122, 124, 125, 133, and 136

D. MISCELLANEOUS CORRESPONDENCE

Email from Mr Chock Ganapathy, INEOS, to Nichole Young, EPA, received February June 18, 2019 on additional facility information.

Email from Michael Daniel, EPA, to Nichole Young, EPA, dated June 17, 2019 on critical conditions information.