

NPDES PERMIT NO. TX0002887
STATEMENT OF BASIS

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

APPLICANT:

Targa Resources
Mont Belvieu Fractionation Plant
P.O. Box 10
Mont Belvieu, Texas 77580

ISSUING OFFICE:

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

June 9, 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 May 29, 2015.

RECEIVING WATER – BASIN

Unnamed tributary of Cedar Bayou Tidal in Waterbody Segment Code No. 0901 of the Trinity – San Jacinto Coastal Basin; 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
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
Menu 9	Intermittent water body within 3 miles of a tidal water body
MGD	Million gallons per day
MSGP	Multi-Sector General Permit
NPDES	National Pollutant Discharge Elimination System
MLQ	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

1. Internal Outfall 101 has been eliminated since process wastewater will be conveyed to Outfall 002 and internal Outfall 103
2. Internal Outfall 103 and Outfall 003 have been established in the draft permit based on new application information.
3. Biomonitoring requirements as well as limitations and monitoring requirements for total aluminum and a monitoring only requirement for total zinc have been established for Outfall 001 based on new application information.
4. Discharge point for Outfall 002 is being modified to allow for a submerged discharge at the normal stage elevation for Cedar Bayou
5. Monitoring requirements for total copper and total zinc have been established for Outfall 002 based on BPJ.
6. Chronic WET test as well as WET limit for *Mysidopsis bahia* have been established for Outfall 002 based on new application and past WET test data.
7. Electronic monitoring report requirement has been included in the draft permit.

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 10119 Hwy 146 North, Mont Belvieu, Chambers County, Texas. The plant consists of approximately 86 acres in Mont Belvieu quadrangle. Wastewater discharges from the facility are as follows:

Discharges from Outfall 001 consist of stormwater, fire testing water & safety water (safety water is limited to periodic testing of eye wash and safety showers) which flows into unnamed tributary of Cedar Bayou Tidal in Waterbody Segment Code No. 0901 of the Trinity – San Jacinto Coastal Basin.

Discharges are located on that water at:

Outfall 001: Latitude 29° 50' 14.85"N; Longitude 94° 54' 15.91"W

Discharges from Outfall 002 consist of existing process wastewater outfall which flows directly into Cedar Bayou Tidal via a dedicated pipe in Waterbody Segment Code No. 0901 of the Trinity – San Jacinto Coastal Basin at the following:

Outfall 002: Latitude 29° 49' 44.84"N; Longitude 94° 54' 43.33"W

Process wastewater from Outfall 002 is currently sampled on-site near the Cedar Bayou Fractionator (CBF).

Discharges from internal Outfall 103 (discharges from Train 5 plus LEP2 as well as train 6) will flow to an existing stormwater diversion ditch and flows west through the proposed Outfall 003

toward the Union Pacific railroad right-of-way, prior to flowing into an unnamed tributary of Cedar Bayou in Waterbody Segment Code No. 0901 of the Trinity – San Jacinto Coastal Basin. at the following:

Outfall 103: Latitude 29° 50' 2.14"N; Longitude 94° 53' 59.54"W

Discharges from Outfall 003 consist of a process wastewater plus stormwater which ultimately flows into Cedar Bayou Tidal in Waterbody Segment Code No. 0901 of the Trinity – San Jacinto Coastal Basin at the following:

Outfall 003: Latitude 29° 50' 1.82"N; Longitude 94° 54' 0.65"W

The facility anticipates that the quality and quantity of wastewater discharged from Train 5 and Train 6 respectively will be identical to that discharged from Train 4. The makeup water for processes in Train 5 will come from well water.

III. PERMIT ACTION

EPA proposes to revoke and reissue the NPDES permit for the current permit issued on October 31, 2012, with an effective date of November 1, 2012, and an expiration date of October 31, 2017.

This permit reissuance is prepared in response to Targa Resources Fractionation Plant, Mont Belvieu's decision to withdraw the July 1, 2014, permit application and the submittal of the December 8, 2014, permit application to authorize discharges from recently approved facility expansions (i.e. Trains 5 and 6). In a letter dated April 20, 2015, the facility requested that the application dated December 8, 2014, be handled as a revoke and reissue rather than as a modification. 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. The requirement to submit a new application is covered in the permittee's April 20, 2015, letter to EPA.

IV. PROCESS AND DISCHARGE DESCRIPTION

The facility receives natural gas liquids (NGLs) via pipeline and truck. The NGLs are fractionated into ethane, ethane/propane mix, propane, normal butane, isobutene, and natural gasoline.

Process water is generated from cooling tower blowdown, boiler blowdown, reverse osmosis flush water, emergency water/plant service water and stormwater runoff. The average flow from Outfall 001 over the past 2 years is 0.126 MGD, with a maximum 30 day value of 0.317 MGD. Similarly, the updated combined flow (Outfall 002 and Train 4) for Outfall 002, are the average flow of 0.428 MGD, with a maximum 30 day value of 0.649 MGD. The estimated average flow from Outfall 103 is 0.411 MGD, with a maximum 30 day value of 0.715 MGD.

Targa Resources is requesting the elimination of internal Outfall 101, since process wastewater will now be conveyed to the existing Outfall 002. In addition, the discharge point for Outfall 002 into Cedar Bayou will be modified to allow for a submerged discharge at the normal stage elevation for Cedar Bayou, which will affect the mixing zone for the discharge. Wastewater from internal Outfall 101 currently consists of wastewaters from LEP1/Train 4 and LEP2, which drains through the existing Outfall 001. Wastewater from LEP1 will be redirected through

Outfall 002 while wastewater from LEP2 will be redirected through internal outfall 103. The facility also plans to construct Train 5 and Train 6 and proposes an internal Outfall 103. Upon authorization to discharge, internal Outfall 103 will receive wastewater from Train 5 (including LEP2) and future Train 6. Process wastewater from LEP1/Train 4 will be redirected to the pipe transporting process wastewater from the existing Cedar Bayou Fractionator (CBF) to Cedar Bayou (i.e. Outfall 002). The facility plans to install a new metering and sampling station to measure the total of the two process wastewater discharges (i.e CBF and Train 4). The proposed sampling location for Outfall 002 will be near Latitude 29° 50' 21.34" N and Longitude 94° 54' 8.45" W.

The existing evaporative cooling unit (referred to as LEP2) currently discharges to Outfall 101. Discharges from LEP2 will be incorporated into Train 5 expansion. Discharges from internal Outfall 103 (discharges from Train 5 plus LEP2 as well as train 6) will flow to an existing stormwater diversion ditch and flows west through the proposed Outfall 003 toward the Union Pacific railroad right-of-way, prior to flowing into an unnamed tributary of Cedar Bayou in Waterbody Segment Code No. 0901 of the Trinity – San Jacinto Coastal Basin.

Table 1: Discharge Characteristics

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

Outfall 001:

Parameter	Max Concentration, mg/L unless noted	Average Concentration, mg/L unless noted
Flow, MGD	0.317	0.126
pH, su	6.46	8.97
TSS	26.2	26.2
TOC	6.0	6.0
COD	37	37
BOD	13.0	4.14
Oil & grease	<2.98	<2.98
Bromide	2.23	2.23
Flouride	5.18	5.18
Ammonia (as Nitrogen)	<0.1	<0.1
Nitrogen, Total Organic	0.64	0.64
Sulfate	28.7	28.7
Cadmium	<0.01	<0.01
Chromium	<0.01	<0.01
Iron	1.410	1.410
Magnesium	2.619	2.619
Phosphorus	0.22	0.22
Aluminum	1.879	1.879
Arsenic	<0.01	<0.01
Barium	0.100	0.100
Nickel	<0.01	<0.01
Manganese	0.031	0.031
Molybdenum	<0.02	<0.02
Copper	0.02	0.0057

Parameter	Max Concentration, mg/L unless noted	Average Concentration, mg/L unless noted
Zinc	0.079	0.079
Phenols	<0.05	<0.05
Benzene	<0.01	<0.01
Bromoform	<0.005	<0.005
Chloroform	<0.01	<0.01
Ethylbenzene	<0.005	<0.005
Toluene	<0.005	<0.005

Outfall 002:

	Max Concentration, mg/L unless noted	Average Concentration, mg/L unless noted
Flow, MGD	0.649	0.428
pH, su I	7.19 min – 8.42 max	
TSS	5.7	5.7
TOC	18.5	18.5
BOD ₅	12	3.27
COD	106	106
TOC	18.5	18.5
TSS	5.7	5.7
TDS	3,456	3,456
Oil & grease	<2.98	<2.98
Chromium	<0.01	<0.01
Ammonia (as Nitrogen)	<0.1	<0.1
Bromide	35.7	35.7
Fluoride	10.4	10.4
Chloride	683	683
Nitrogen, Total Organic	1.0	1.0
Total Kjeldahl Nitrogen	1.0	1.0
Sulfate	566	566
Cadmium	<0.01	<0.01
Iron	0.395	0.395
Phosphorus	1.92	1.92
Aluminum	0.143	0.143
Arsenic	0.016	0.016
Barium	0.531	0.531
Boron	2.291	2.291
Copper	0.0683	0.0118
Nickel	<0.01	<0.01
Magnesium	9.612	9.612
Molybdenum	0.073	0.073
Manganese	0.024	0.024
Zinc	0.109	0.0140
Phenols	<0.05	<0.05
Benzene	<0.01	<0.01
Bromoform	0.012	0.012

	Max Concentration, mg/L unless noted	Average Concentration, mg/L unless noted
Chloroform	<0.01	<0.01
Ethyl Benzene	<0.005	<0.005
Toluene	<0.005	<0.005

Outfall 103:

Parameter	Max Concentration, mg/L unless noted	Average Concentration, mg/L unless noted
Flow, MGD	0.846	0.411
pH, su I	7.8 min – 8.34 max	
Temperature, °F	23.9	22.4
TSS	6.8	4.4
TOC	14.7	14.7
BOD ₅	4.7	2.2
COD	95	87.5
Oil & grease	6.7	4.075
Chromium	0.0068	0.0039
Ammonia (as Nitrogen)	<0.1	<0.1
Bromide	29.6	29.5
Fluoride	13.7	12.1
Nitrogen, Total Organic	1.5	1.05
Sulfate	1,580	1,306
Cadmium	<0.002	<0.002
Iron	0.2724	0.24465
Phosphorus	4.6192	3.897
Aluminum	0.0868	0.0856
Arsenic	0.0055	0.0052
Barium	0.3558	0.33905
Boron	2.979	2.632
Copper	<0.002	<0.002
Nickel	0.0028	0.0027
Magnesium	7.3081	6.594
Molybdenum	0.0727	0.0682
Manganese	0.0199	0.0187
Zinc	1.9191	1.4011
Phenols	<0.05	<0.05
Benzene	<0.01	<0.004
Bromoform	0.011	0.0096
Chloroform	<0.01	<0.01
Ethyl Benzene	<0.005	<0.005
Toluene	<0.005	<0.005

Outfall 003:

	Max Concentration, mg/L unless noted	Average Concentration, mg/L unless noted
Flow, MGD	0.571	0.571
pH, su I	7.80	7.80
TSS	190.7	171.4
Total Nitrogen	0.5	0.4
BOD ₅	2.7	1.85
COD	43	36
Oil & grease	<3.08	<3.06
Chromium	0.013	0.0125
Bromide	<0.1	<0.1
Fluoride	0.473	0.407
Sulfate	218	182.5
Cadmium	<0.01	<0.01
Iron	5.794	4.518
Total Phosphorus	<0.05	<0.05
Aluminum	8.831	6.32
Arsenic	<0.01	<0.01
Barium	0.116	0.0975
Boron	0.101	0.088
Copper	0.013	0.009
Magnesium	3.188	2.7125
Molybdenum	0.027	0.0185
Manganese	0.099	0.08
Nickel	<0.01	<0.01
Zinc	0.054	0.06
Phenols	<0.05	<0.05
Benzene	<0.01	<0.01
Bromoform	<0.005	<0.005
Chloroform	<0.01	<0.01
Ethyl Benzene	<0.005	<0.005
Toluene	<0.005	<0.005

V. DRAFT PERMIT RATIONALE AND PROPOSED PERMIT CONDITIONS**A. OVERVIEW of TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITION FOR PERMIT ISSUANCE**

Regulations contained in 40 CFR §122.44 NPDES permit limits are developed that meet the more stringent of either technology-based effluent limitation guidelines, numerical and/or narrative water quality standard-based effluent limits, on best professional judgment (BPJ) in the absence of guidelines, and/or requirements pursuant to 40 CFR 122.44(d), whichever are more stringent. Technology-based effluent limitations are established in the proposed draft permit for BOD₅. Water quality-based effluent limitations are established in the proposed draft permit for pH, zinc and aluminum.

B. REASON FOR PERMIT ISSUANCE

EPA proposes to revoke and reissue the NPDES permit for the current permit issued on October 31, 2012, with an effective date of November 1, 2012, and an expiration date of October 31, 2017. It is proposed that the permit be revoked and reissued based on a request from Targa Resources, Mont Belvieu to modify the current permit.

An NPDES Application for a Permit to Discharge (Form 1 & 2C) dated December 11, 2014, and a clarification letter dated April 20, 2015, was received on April 22, 2015. The application was deemed administratively complete on April 29, 2015.

C. 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.

The current permit established an internal Outfall 101 with limitations and monitoring requirements for BOD₅ of 20 mg/l monthly average and 30 mg/l daily maximum. The respective loading limits were 72 lbs/day and 108 lbs/day. Internal Outfall 101 is removed from the current permit, since wastewater from the internal Outfall 101 which consist of wastewaters from LEP1/Train 4 and LEP2 will be redirected through Outfall 002 and internal outfall 103 respectively.

The current permit also established limitations and monitoring requirements for BOD₅ of 20 mg/l monthly average and 30 mg/l daily maximum at Outfall 002. These requirements shall be continued in the draft permit.

Since flow is continuous, mass limits were also established and will be established in the draft permit as follows:

Outfall 001:

The draft permit established limitations and monitoring requirements for BOD₅ of 20 mg/l monthly average and 30 mg/l daily maximum at Outfall 001. The loading limits are calculated below:

lbs/day = Concentration of pollutant (mg/l) multiplied by 8.34 multiplied by Flow (MGD)
BOD₅ monthly average: 20 mg/l x 8.34 x 0.126 MGD = 21.02 lbs/day

EPA calculates the daily maximum values by multiplying the daily average by 1.5.

BOD₅ daily maximum = 31.53 lbs/day

Outfall 002:

lbs/day = Concentration of pollutant (mg/l) multiplied by 8.34 multiplied by Flow (MGD)
BOD₅ monthly average: 20 mg/l x 8.34 x 0.428 MGD = 71.39 lbs/day

EPA calculates the daily maximum values by multiplying the daily average by 1.5.

BOD₅ daily maximum: = 107.09 lbs/day

Internal Outfall 103:

The draft permit established a new internal Outfall 103 with limitations and monitoring requirements for BOD₅ of 20 mg/l monthly average and 30 mg/l daily maximum. The respective loading limits are 68.55 lbs/day and 102.83 lbs/day

lbs/day = Concentration of pollutant (mg/l) multiplied by 8.34 multiplied by Flow (MGD)

BOD₅ monthly average: 20 mg/l x 8.34 x 0.411 MGD = 68.55 lbs/day

BOD₅ daily maximum: = 102.83 lbs/day.

Stormwater has been identified by the permittee as a component of the discharge through Outfall Nos. 001 and 003. A requirement to develop a Stormwater Pollution Prevention Plan (SWP3) is continued in the 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 draft 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.

D. WATER QUALITY BASED LIMITATIONS

1. 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 current permit established pH limits of 6.5 - 9 at Outfalls 001 and 002, and is also continued in the draft permit. A pH limits of 6.5 – 9 is also established in the draft permit for Outfall 003.

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 draft permit represent protection of water quality for Outfalls 001, 002 and 003:

“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 current permit established the rationale that the discharge via Outfall 001 enters a freshwater streambed, and then within three-miles, enters an estuarine system. As a result, the discharge via Outfall 001 and 003 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 0902, Cedar Bayou above Tidal, will be 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.

For Outfall 001, the facility discharges into unnamed tributary of Cedar Bayou Tidal in Waterbody Segment Code No. 0901 of the Trinity- San Jacinto Coastal Basin. The critical low flow, 7Q2 for Segment 0901, Cedar Bayou Tidal is 6.32 cfs (4.08 MGD), while the harmonic mean is 13.99 cfs (9.03 MGD). 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.

For Outfall 002, discharge is directly to a tidal water body, Cedar Bayou Tidal in Segment 0901. The segment specific values for Cedar Bayou Tidal, Segment 0901 are TSS of 18 mg/l, hardness is 930 mg/l, pH is 7.4 s.u., and chloride is 2875 mg/l. The critical low flow, 7Q2 for Segment 0901, Cedar Bayou Tidal is 6.39 cfs (4.12MGD), while the harmonic mean is 14.34 cfs (9.25 MGD). TCEQ'S TEXTOX Menu 6 (Discharge is directly to a tidal water body (<400 ft) with upstream flow information) is appropriate for evaluating the discharge.

For Outfalls 003 &103, the facility discharges into unnamed tributary of Cedar Bayou Tidal in Waterbody Segment Code No. 0901 of the Trinity- San Jacinto Coastal Basin. The critical low flow, 7Q2 for Segment 0901, Cedar Bayou above Tidal is 6.56 cfs (4.23 MGD), while the harmonic mean is 15.14 cfs (9.77 MGD). 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.

For Outfall 001, the reasonable potential calculations were performed based on data obtained from the permit application using Menu 9 model run. The reasonable potential calculations performed for Outfall 001 show that total aluminum is greater than 85% of the calculated daily average limit. As a result, total aluminum shows reasonable potential to violate TSWQS at Outfall 001. The proposed permit establishes limitations and monitoring requirements for total aluminum at Outfalls 001. The permit also establishes a monitoring requirements for total zinc at Outfall 001 based on the BPJ of the permit writer.

The reasonable potential calculations were also performed for Outfall 002, discharges into the Cedar Bayou Tidal in Waterbody Segment Code No. 0901 of the Trinity-San Jacinto Coastal using TCEQ'S TEXTOX Menu 6. Results of the model run for Outfall 002 reveal that none of the pollutants show reasonable potential to violate TSWQS. Although, total zinc and total copper did not show reasonable potential to violate Texas WQS, reporting requirements for total zinc and total copper are established in the draft permit based on BPJ of the permit writer.

For internal Outfall 103, results of the model run reveals that total Zinc show reasonable potential to violate WQS. Since Outfall 103 contains process wastewater, it is the BPJ of the permit writer to establish reporting requirements for total Aluminum and total copper, prior to the process wastewater mixing with stormwater at Outfall 003.

Solids and Foam

The prohibition of the discharge of floating solids or visible foam in other than trace amount is continued in the draft 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.

E. 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 continuously using a recording flow meter. For Outfalls 001, 002, and 003, pH shall be measured and recorded once per two weeks, using grab samples. For Outfalls 001, 002, and internal Outfall 103, BOD₅ and total zinc shall be measured and reported once per two weeks, using grab sample. For Outfall 001 and 103, total aluminum shall be measured and recorded once per two weeks. For Outfalls 002 and 103, total copper shall be measured and reported once per two weeks using grab sample. For any reporting period, aluminum, copper, zinc, pH and BOD₅ samples shall be taken at least seven (7) days from the first sample of the previous reporting period.

F. WHOLE EFFLUENT TOXICITY LIMITATIONS

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.

WET is removed from internal Outfall 101 since Outfall101 has been eliminated. WET is continued at Outfall 002 in the draft permit because of the potential for toxicity. Because Outfall 001 requires effluent limits based on aquatic life water quality criteria and because the effluent analysis exceeds the screening criteria for aluminum, biomonitoring is established in Outfall 001. WET is also established for 103 because of the potential for toxicity.

OUTFALL 001

The 2010 TCEQ Implementation Plan directs the WET test to be a 7 day chronic test using *Mysidopsis bahia* and *Menidia beryllina* at a once per 3 months 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 the either or both test species for the following 2-5 years of the permit. The vertebrate species (*Menidia beryllina*) may be reduced to once per year. The invertebrate species (*Mysidopsis bahia*) may be reduced to twice 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 species shall resume quarterly monitoring at a once per three months frequency on the last day of the permit.

The permitted average flow from the facility is 0.234 MGD (0.362 cfs) and the bayou is approximately 53 feet wide at the Discharge point (which is less than 400 feet and considered narrow tidal). Critical Conditions are calculated for these values as follows:

Mixing Zone (MZ) = $100 \times \text{Average Flow} / (7Q^2 + \text{Avg Flow}) = 100 \times 0.362 / (0.362 + 6.32) = 5.4\%$.
 Since MZ cannot go below 8%, MZ (Critical dilution) = 8%.

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.

Since Outfall 001 did not have biomonitoring in the previous permit and also since internal Outfall 101 that had biomonitoring has been eliminated, there is no DMR information to perform the EPA Reasonable Potential. As a result, the draft permit establishes biomonitoring in the draft 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 Internal Outfall 001 - the discharge to an 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) 1/

<i>Mysidopsis bahia</i>	REPORT	REPORT
<i>Menidia beryllina</i>	REPORT	REPORT

<u>EFFLUENT CHARACTERISTIC</u>	<u>MONITORING REQUIREMENTS</u>	
	<u>FREQUENCY</u>	<u>TYPE</u>

Whole Effluent Toxicity Testing
(7 Day Static Renewal) 1/

<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.

OUTFALL 002

Guidance in the ITWQS requires that a discharge to a narrow tidal river conduct chronic WET tests based on upstream flow data whenever flow information is available. Previously, the critical dilution for the discharge (MZ) was shown to be 3%, additional guidance in the ITWQS allows a 10:1 acute-to-chronic ratio when the critical dilution is less than 5%. The previous draft permit required an acute test to be run using a 30% critical dilution. The current permit established WET biomonitoring with CD = 31%, using 48 Hr. acute test. The CD dilution in the proposed permit is 10.9%. The 2010 TCEQ Implementation Plan directs the WET test to be a 7 day chronic test for narrow tidal river using *Mysidopsis bahia* at a once per 3 months 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 the following 2-5 years of the permit. The invertebrate species (*Mysidopsis bahia*) may be reduced to twice 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. The species shall resume quarterly monitoring at a once per three months frequency on the last day of the permit.

The current permit granted the permittee three years to come into compliance with the Whole Effluent Toxicity limit for the *Mysidopsis bahia* test species. An updated RPA performed indicates that reasonable potential exist for the invertebrate species, *Mysidopsis bahia*, using the using chronic data (i.e. reverting test data to chronic by dividing test data by 10). As a result, WET limit for *Mysidopsis bahia* is established in the draft permit, with a one year compliance schedule.

The low-flow effluent concentration (critical low-flow dilution) is defined as 10.9 % effluent. The draft 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 4.60%, 6.13%, 8.18%, 10.90%, and 14.53%.

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 002 - the discharge to

Cedar Bayou Tidal in Waterbody Segment Code No. 00901 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 LIMITATIONS</u>	
	<u>30-DAY AVG MINIMUM</u>	<u>7-DAY MINIMUM</u>
Whole Effluent Toxicity (PCS 22414) (7-Day NOEC) 2/	10.90%	10.90 %
<u>Mysidopsis bahia</u>	REPORT	REPORT

<u>EFFLUENT CHARACTERISTIC</u>	<u>MONITORING REQUIREMENTS</u>	
	<u>FREQUENCY</u>	<u>TYPE</u>
Whole Effluent Toxicity (7-Day NOEC) 2/		
<u>Mysidopsis bahia</u>	1/Quarter	24-Hr. Composite

FOOTNOTES

- 2/ Monitoring and reporting requirements begin on the effective date of this permit. Compliance with the Whole Effluent Toxicity limitations is required one year from the permit effective date. See PART I, Compliance Schedules, and Part II, Whole Effluent Toxicity Testing Requirements for additional WET monitoring and reporting conditions.

OUTFALL 002

The 2010 TCEQ Implementation Plan directs the WET test to be a 7 day chronic test for narrow tidal river using *Menidia beryllina* at a once per 3 months 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 the following 2-5 years of the permit. 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. The test species shall resume quarterly monitoring at a once per three months frequency on the last day of the permit.

The low-flow effluent concentration (critical low-flow dilution) is defined as 10.9 % effluent. The draft 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 4.60%, 6.13%, 8.18%, 10.90%, and 14.53%.

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 002 - the discharge to Cedar Bayou Tidal in Waterbody Segment Code No. 00901 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 LIMITATIONS</u>	
	<u>30-DAY AVG MINIMUM</u>	<u>7-DAY MINIMUM</u>

Whole Effluent Toxicity (PCS 22414)
(7-Day NOEC) 2/

Menidia beryllina

REPORT

REPORT

<u>EFFLUENT CHARACTERISTIC</u>	<u>MONITORING REQUIREMENTS</u>	
	<u>FREQUENCY</u>	<u>TYPE</u>

Whole Effluent Toxicity
(7-Day NOEC) 2/

Menidia beryllina

1/Quarter

24-Hr. Composite

FOOTNOTE

2/ 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.

OUTFALL 103

The 2010 TCEQ Implementation Plan directs the WET test to be a 7 day chronic test using *Mysidopsis bahia* and *Menidia beryllina* at a once per 3 months 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 the either or both test species for the following 2-5 years of the permit. The vertebrate species (*Menidia beryllina*) may be reduced to once per year. The invertebrate species (*Mysidopsis bahia*) may be reduced to twice 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 species shall resume quarterly monitoring at a once per three months frequency on the last day of the permit.

The permitted average flow from the facility is 0.0432 MGD (0.0668 cfs) and the bayou is approximately 53 feet wide at the Discharge point (which is less than 400 feet and considered narrow tidal). Critical Conditions are calculated for these values as follows:

Mixing Zone (MZ) = $100 \times \text{Average Flow} / (7Q_2 + \text{Avg Flow}) = 100 \times 0.0668 / (0.0668 + 6.56) = 1.0\%$. Since MZ cannot go below 8%, MZ (Critical dilution) = 8%.

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.

Since internal Outfall 103 is a new Outfall, there is no DMR information to perform the EPA Reasonable Potential. As a result, the draft permit establishes biomonitoring in the draft 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 Internal Outfall 103 then to

Outfall 003, which ultimately flows into 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) 1/		
<i>Mysidopsis bahia</i>	REPORT	REPORT
<i>Menidia beryllina</i>	REPORT	REPORT

<u>EFFLUENT CHARACTERISTIC</u>	<u>MONITORING REQUIREMENTS</u>	
	<u>FREQUENCY</u>	<u>TYPE</u>
Whole Effluent Toxicity Testing (7 Day Static Renewal) 1/		
<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.

G. 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.

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

Wastewater discharges from the facility flows into 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 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.

VIII. ANTIDegradation

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

IX. ANTIBACKSLIDING

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

X. ENDANGERED SPECIES

According to the most recent county listing available at US Fish and Wildlife Service (USFWS), Southwest Region 2 website, at <http://ecos.fws.gov/ipac/project/5BKUKGAGXVA7PPSHH4RAGZJQA4/resources>, 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 imbricate*), 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 rufa*) and the Piping Plover (*Charadrius melodus*).

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 reissuance 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:

1. 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.
2. EPA has received no additional information since the current permit was issued October 31, 2012, which would lead to revision of its determinations.
3. EPA determines that Items 1, 2, and 3 result in no change to the environmental baseline established by the previous permit, therefore, EPA concludes that reissuance of this permit will have “*no effect*” on listed species and designated critical habitat.

XI. HISTORICAL AND ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

The reissuance of the permit should have no impact on historical and/or archeological preservation. The facility has consulted with the local historical and archeological preservation office and has concluded that its construction activities will not have any impact on historical and archeological preservation.

XII. PERMIT REOPENER

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

XIII. VARIANCE REQUESTS

No variance requests have been received.

XIV. COMPLIANCE HISTORY

The effluent from the facility has been monitored under the conditions of the current permit. DMR reports reveal failing WET tests for both test species during the last permit term. The EPA Reasonable Potential Analyzer (See Appendix) indicates that RP exists for *Mysidopsis bahia*. EPA concludes that this effluent has and will cause or contribute to an exceedance of the State water quality standards. Therefore WET limit for *Mysidopsis bahia* has been established in the draft permit.

XV. CERTIFICATION

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

XVI. FINAL DETERMINATION

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

XVII. ADMINISTRATIVE RECORD

The following information was used to develop the proposed permit:

A. APPLICATION

NPDES Application for Permit to Discharge, Form 1 & 2C, dated December 11, 2014, and a clarification letter dated April 20, 2015, was received on April 22, 2015, and was deemed administratively complete on April 29, 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, effective September 23, 2014.

http://www.fws.gov/southwest/es/ES_Lists_Main.cfm

C. 40 CFR CITATIONS

Sections 122, 124, 125, 133, and 136

D. MISCELLANEOUS CORRESPONDENCE

Letter from Dorothy Brown, EPA, to Mr David McQuade, P. E., P.G., Targa Resources dated April 29, 2015, informing applicant that its NPDES application dated December 11, 2014, and a clarification letter dated April 20, 2015, received on April 22, 2015, was deemed administratively complete.

Email from Brian Thomas, P.E., Pastor, Behling & Wheeler, LLC to Maria Okpala dated April 20, 2015, on June additional permit application information.

Email from Zach Stornant, Senior Environmental Specialist, Targa Resources, to Maria Okpala, EPA dated April 20, 2015, and June 4, 2015, on revoke and reissue as well as permit application clarification.

Email from Robert Kirkland, EPA, to Maria Okpala, EPA, dated May 8, 2015, June 1, 2015, on critical conditions information.