October 1, 2019

Texas Commission on Environmental Quality
Applications Review and Processing Team (MC 148)
Building F, Room 2101
12100 Park 35 Circle
Austin, Texas 78753

Subject: Submittal of TPDES Permit Renewal Application
WQ0005219000, Gregory Power Partners LLC
4633A Texas Highway 361, Gregory, Texas 78359
CN 604378208; RN 102547957

To Whom It May Concern:

NRG Texas LLC (NRG Texas), on behalf of Gregory Power Partners LLC (Gregory) is submitting the enclosed application for renewal of Texas Pollutant Discharge Elimination System (TPDES) permit No. WQ0005219000 re-authorizing wastewater discharge from the Gregory Power Plant.

One original and three additional copies of this application are enclosed and each includes the following:

- Industrial Administrative Report 1.0;
- SPIF;
- Industrial Technical Report 1.0;
- Worksheets 1.0, 2.0, and 4.0;
- Core Data Form;
- USGS Map;
- Flow Diagram and Water Balance;
- Site Drawing; and
- Supporting Attachments.

As noted in Question 4 of the Technical Report, a flow meter will be added at Outfall 001 to measure the discharge rather than the current method of calculating the flow based on the sum of internal Outfalls 101, 201, and 301. Gregory believes use of the flow meter will provide a more accurate representation of the Outfall 001 discharge flow.

If you have any questions regarding this renewal application, please contact Mr. Carl Burch, NRG Environmental Manager, at 713-537-2333.

Sincerely,

C. R. Eckberg

Craig Eckberg
Director, Environmental Services

cc: Carl Burch, NRG
Amanda Ragatz, ERM

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

TCEQ INDUSTRIAL WASTEWATER PERMIT APPLICATION

INDUSTRIAL ADMINISTRATIVE REPORT

Complete and submit this checklist with the application.

APPLICANT: Gregory Power Partners LLC

PERMIT NUMBER: WQ0005219000

Indicate if each of the following items is included in your application.

	Y	N		Y	N
Administrative Report 1.0	☒	☐	Worksheet 8.0	☐	☒
Administrative Report 1.1	☐	☒	Worksheet 9.0	☐	☒
SPIF	☒	☐	Worksheet 10.0	☐	☒
Core Data Form	☒	☐	Worksheet 11.0	☐	☒
Technical Report 1.0	☒	☐	Worksheet 11.1	☐	☒
Worksheet 1.0	☒	☐	Worksheet 11.2	☐	☒
Worksheet 2.0	☒	☐	Worksheet 11.3	☐	☒
Worksheet 3.0	☐	☒	Original USGS Map	☒	☐
Worksheet 3.1	☐	☒	Affected Landowners Map	☐	☒
Worksheet 3.2	☐	☒	Landowner Disk or Labels	☐	☒
Worksheet 3.3	☐	☒	Flow Diagram	☒	☐
Worksheet 4.0	☒	☐	Site Drawing	☒	☐
Worksheet 4.1	☐	☒	Original Photographs	☐	☒
Worksheet 5.0	☐	☒	Solids Management Program	☐	☒
Worksheet 6.0	☐	☒	Water Balance	☒	☐
Worksheet 7.0	☐	☒			

For Commission Use Only:
Segment Number: _____ County: _____ Expiration Date: _____
Proposed/Current Permit Number: _____ Region: _____

INDUSTRIAL ADMINISTRATIVE REPORT 1.0

The following information **is required** for **all** applications—renewals, new, and amendments.

1. TYPE OF APPLICATION AND FEES (Instructions, Page 21)

Permit No.: WQ0005219000

EPA ID No.: TX0137502

- ☐ New TPDES permit
- ☐ New TLAP permit
- ☐ Major Amendment with Renewal
- ☐ Major Amendment without Renewal
- ☒ Renewal of existing permit
- ☐ Stormwater only discharge
- ☐ Minor Amendment to permit
- ☐ Minor modification to permit

If applying for an **amendment** or modification of a permit, please describe the request in detail.

N/A

Please indicate by a check mark the amount submitted for the application fee:

EPA Classification	New	Major Amendment (With or Without Renewal)	Renewal Only	Minor Amendment/ Minor Modification
Minor facility not subject to EPA categorical effluent guidelines (*40 CFR Parts 400-471*)	☐ $350	☐ $350	☐ $315	☐ $150
Minor facility subject to EPA categorical effluent guidelines (*40 CFR Parts 400-471*)	☐ $1,250	☐ $1,250	☒ $1,215	☐ $150
Major facility	N/A *	☐ $2,050	☐ $2,015	☐ $450

* All facilities are designated as minors until formally classified as a major by EPA.

Payment Information:

Mailed — Check or Money Order Number: 01093112

Check or Money Order Amount: $1,215.00

Named Printed on Check or Money Order: Gregory PowerPartners LLC

EPAY — Voucher Number: Click here to enter text

Copy of Voucher Enclosed? ☐ Yes

Attachment: A

2. APPLICANT INFORMATION (Instructions, Pages 21-22)

a. Facility Owner

(Owner of the facility must apply for the permit.)

What is the Legal Name of the entity (applicant) applying for this permit?

Gregory Power Partners LLC

(The legal name must be spelled exactly as filed with the Texas Secretary of State, County, or in the legal documents forming the entity.)

If the applicant is currently a customer with the TCEQ, what is the Customer Number (CN)? You may search for your CN on the TCEQ website at http://www15.tceq.texas.gov/crpub/index.cfm?fuseaction=cust.CustSearch

CN: 604378208

What is the name and title of the person signing the application? The person must be an executive official meeting signatory requirements in *30 TAC § 305.44*.

First/Last Name: Craig Eckberg

Title: Director, Environmental Services Credential: Click here to enter text.

b. Co-applicant Information

What is the Legal Name of the co-applicant applying for this permit?

N/A

(The legal name must be spelled exactly as filed with the TX SOS, with the County, or in the legal documents forming the entity.)

If the co-applicant is currently a customer with the TCEQ, what is the Customer Number (CN)? You may search for your CN on the TCEQ website at http://www15.tceq.texas.gov/crpub/index.cfm?fuseaction=cust.CustSearch:

CN: N/A

What is the name and title of the person signing the application? The person must be an executive official meeting signatory requirements in *30 TAC § 305.44*.

First/Last Name: N/A

Title: N/A Credential: Click here to enter text.

Provide a brief description of the need for a co-permittee:

N/A

c. Core Data Form

Complete the Core Data Form for each customer and include as an attachment. If the customer type selected on the Core Data Form is **Individual**, complete **Attachment 1** of Administrative Report 1.0.

Attachment: B

3. APPLICATION CONTACT INFORMATION (Instructions, Page 22)

If the TCEQ needs additional information regarding this application, who should be contacted?

a. First/Last Name: Carl Burch Credential: Click here to enter text.
Organization Name: NRG Title: Environmental Manager
Mailing Address: 910 Louisiana St, 7th floor Environmental Dept.
City: Houston State: TX ZIP Code: 77002
Phone No.: 713-537-2333 Ext.: Click here to enter text. Fax No.: Click here to enter text.
E-mail Address: carl.burch@nrg.com
Check one or both: ☒ Administrative Contact ☒ Technical Contact

b. First/Last Name: Craig Eckberg Credential: Click here to enter text.
Organization Name: NRG Title: Director, Environmental Services
Mailing Address: 910 Louisiana St, 7th floor Environmental Dept.
City: Houston State: TX ZIP Code: 77002
Phone No.: 713-537-2776 Ext.: Click here to enter text. Fax No.: Click here to enter text.
E-mail Address: craig.eckberg@nrg.com
Check one or both: ☒ Administrative Contact ☐ Technical Contact

Attachment: N/A

4. PERMIT CONTACT INFORMATION (Instructions, Page 22)

Provide two names of individuals that can be contacted throughout the permit term.

a. First/Last Name: Carl Burch Credential: Click here to enter text.
Organization Name: NRG Title: Environmental Manager
Mailing Address: 910 Louisiana St, 7th floor Environmental Dept.
City: Houston State: TX ZIP Code: 77002
Phone No.: 713-537-2333 Ext.: Click here to enter text. Fax No.: Click here to enter text.
E-mail Address: carl.burch@nrg.com

b. First/Last Name: Craig Eckberg Credential: Click here to enter text.
Organization Name: NRG Title: Director, Environmental Services
Mailing Address: 910 Louisiana St, 7th floor Environmental Dept.
City: Houston State: TX ZIP Code: 77002
Phone No.: 713-537-2776 Ext.: Click here to enter text. Fax No.: Click here to enter text.
E-mail Address: craig.eckberg@nrg.com

Attachment: N/A

5. BILLING CONTACT INFORMATION(Instructions, Page 22)

The permittee is responsible for paying the annual fee. The annual fee will be assessed to permits **in effect on September 1 of each year**. *The TCEQ will send a bill to the address provided in this section. The permittee is responsible for terminating the permit when it is no longer needed (using form TCEQ-20029).*

First/Last Name: Lawrence Penn Credential: Click here to enter text.

Organization Name: NRG Title: Plant Manager

Mailing Address: PO Box 36

City: Gregory State: TX ZIP Code: 78539

Phone No.: 361-777-3061 Ext.: Click here to enter text. Fax No.: Click here to enter text.

E-mail Address: lawrence.penn@nrg.com

6. DMR/MER CONTACT INFORMATION (Instructions, Pages 22-23)

Provide the name and complete mailing address of the person delegated to receive and submit Discharge Monitoring Reports (EPA 3320-1) or Monthly Effluent Reports.

First/Last Name: Carl Burch Credential: Click here to enter text.

Organization Name: NRG Title: Environmental Manager

Mailing Address: 910 Louisiana St, 7th floor Environmental Dept.

City: Houston State: TX ZIP Code: 77002

Phone No.: 713-537-2333 Ext.: Click here to enter text. Fax No.: Click here to enter text.

E-mail Address: carl.burch@nrg.com

You can submit DMR data on the TCEQ website at https://www.tceq.texas.gov/field/netdmr/netdmr.html. Establish an electronic reporting account with the permit number.

7. NOTICE INFORMATION (Instructions, Pages 23-24)

a. Individual Publishing the Notices

First/Last Name: Carl Burch Credential: Click here to enter text.

Organization Name: NRG Title: Environmental Manager

Mailing Address: 910 Louisiana St, 7th floor Environmental Dept.

City: Houston State: TX ZIP Code: 77002

Phone No.: 713-537-2333 Ext.: Click here to enter text. Fax No.: Click here to enter text.

E-mail Address: carl.burch@nrg.com

b. Method for Receiving Notice of Receipt and Intent to Obtain a Water Quality Permit Package

Indicate by a check mark the preferred method for receiving the first notice and instructions:

☒ E-mail Address: carl.burch@nrg.com

☐ Fax No.:

☐ Regular Mail:

Mailing Address: Click here to enter text.

City: Click here to enter text. State: Click here to enter text. ZIP Code: Click here to enter text.

Phone No.: Click here to enter text. Ext.: Click here to enter text. Fax: Click here to enter text.

c. Contact in the Notice

First/Last Name: Carl Burch Credential: Click here to enter text.

Organization Name: NRG Title: Environmental Manager

Phone No.: 713-537-2333 Ext.: Click here to enter text. E-mail: carl.burch@nrg.com

d. Public Place Information

If the facility or outfall is located in more than one county, a public viewing place for each county must be provided.

Public building name: Bell Whittington Public Library

Location within the building: Reference Desk

Physical Address of Building: 2400 Memorial Parkway

City: Portland County: San Patricio

Contact Name: Click here to enter text.

Phone No.: 361-777-0921 Ext.: Click here to enter text.

e. Bilingual Notice Requirements:

This information **is required** for **new, major amendment, and renewal applications**. It is not required for minor amendment or minor modification applications.

This section of the application is only used to determine if alternative language notices will be needed. Complete instructions on publishing the alternative language notices will be in your public notice package.

Please call the bilingual/ESL coordinator at the nearest elementary and middle schools and obtain the following information to determine whether an alternative language notices are required.

1. Is a bilingual education program required by the Texas Education Code at the elementary or middle school nearest to the facility or proposed facility?

   ☒ Yes ☐ No

   If **no**, publication of an alternative language notice is not required; **skip to** Item 8 (REGULATED ENTITY AND PERMITTED SITE INFORMATION.)

2. Are the students who attend either the elementary school or the middle school enrolled in a bilingual education program at that school?

   ☐ Yes ☒ No

3. Do the students at these schools attend a bilingual education program at another location?

   ☒ Yes ☐ No

4. Would the school be required to provide a bilingual education program but the school has waived out of this requirement under 19 TAC §89.1205(g)?

   ☐ Yes ☒ No

5. If the answer is yes to question 1, 2, 3, or 4, public notices in an alternative language are required. Which language is required by the bilingual program? Spanish

8. REGULATED ENTITY AND PERMITTED SITE INFORMATION (Instructions Pages 24-26)

If the site of your business is part of a larger business site, a Regulated Entity Number (RN) may already be assigned for the larger site. Use the RN assigned for the larger site. Search the TCEQ's Central Registry at http://www15.tceq.texas.gov/crpub/index.cfm?fuseaction=regent.RNSearch to determine the RN or to see if the larger site may already be registered as a regulated site:

If the site is found, provide the assigned Regulated Entity Number and provide the information for the site to be authorized through this application below. The site information for this authorization may vary from the larger site information.

TCEQ issued Regulated Entity Number (RN): **RN** 102547957

a. State/TPDES Permit No.: WQ0005219000 Expiration Date: April 1, 2020

   EPA Identification No. (TPDES Permits only): TX 0137502

b. Name of project or site (the name known by the community where located): Gregory Power Plant

c. Is the location address of the facility in the existing permit the same?

   ☒ Yes ☐ No

d. If the facility is located in Bexar, Comal, Hays, Kinney, Medina, Travis, Uvalde, or Williamson County, additional information concerning protection of the Edwards Aquifer may be required.

e. Owner of treatment facility: Gregory Power Partners LLC

   Ownership of Facility: ☐ Public ☒ Private ☐ Both ☐ Federal

f. Owner of land where treatment facility is or will be:

   First/Last Name: Corpus Christi Alumina LLC

   Mailing Address: c/o Glencore Ltd., 330 Madison Avenue

   City: New York State: NY ZIP Code: 10017

   Phone No.: 646-949-2420 E-mail Address: cheryl.driscoll@glencore-us.com

If not the same as the facility owner, there must be a long-term lease agreement in effect for at least six years. In some cases, a lease may not suffice - see instructions.

Attachment: C

g. Owner of effluent disposal site:

First/Last Name: N/A

Mailing Address: Click here to enter text.

City: Click here to enter text. State: Click here to enter text. ZIP Code: Click here to enter text.

Phone No.: Click here to enter text. E-mail Address: Click here to enter text.

If not the same as the facility owner, there must be a long-term lease agreement in effect for at least six years.

Attachment: N/A

h. Owner of sewage sludge disposal site:

First/Last Name: N/A

Mailing Address: Click here to enter text.

City: Click here to enter text. State: Click here to enter text. ZIP Code: Click here to enter text.

Phone No.: Click here to enter text. E-mail Address: Click here to enter text.

If not the same as the facility owner, there must be a long-term lease agreement in effect for at least six years.

Attachment: N/A

(This information is required only if authorization is sought in the permit for sludge disposal on property owned or controlled by the applicant.)

9. DISCHARGE/ DISPOSAL INFORMATION (Instructions, Pages 26-28)

a. Is the facility located on or does the treated effluent cross American Indian Land?

☐ Yes ☒ No

b. Provide an **original** full size USGS Topographic Map with all required information. Indicate by a check mark that the following information is provided.

See Attachment D

☒ Applicant's property boundary

☐ Treatment facility boundaries

☒ Labeled point(s) of discharge and highlighted discharge route(s)

☐ Sewage sludge disposal site

☐ Effluent disposal site boundaries

☐ New and future construction

☒ One-mile radius and three-miles downstream information

☐ All ponds

c. Is the location of the sewage sludge disposal site in the existing permit accurate?

☐ Yes ☐ No

If **no**, **or a new permit application**, please give an accurate description:

N/A

d. Are the point(s) of discharge and the discharge route(s) in the existing permit correct?

☒ Yes ☐ No

If **no**, **or a new or amendment permit application**, provide an accurate description:

N/A

e. City nearest the outfall(s): Gregory

f. County in which the outfalls(s) is/are located: San Patricio

g. Outfall Latitude: 27.878369 Longitude: -97.257809

h. Is or will the treated wastewater discharge to a city, county, or state highway right-of-way, or a flood control district drainage ditch?

☐ Yes ☒ No

If **yes**, indicate by a check mark if:

☐ Authorization granted ☐ Authorization pending

For **new and amendment** applications, provide copies of letters that show proof of contact and the approval letter upon receipt.

Attachment: N/A

i. For all applications involving an average daily discharge of 5 MGD or more, provide the names of all counties located within 100 statute miles downstream of the point(s) of discharge.

N/A

j. For TLAPs, is the location of the effluent disposal site in the existing permit accurate?

☐ Yes ☐ No

If **no, or a new or amendment permit application**, provide an accurate description:

N/A

k. City nearest the disposal site: N/A

l. County in which the disposal site is located: N/A

m. Disposal Site Latitude: N/A Longitude: N/A

n. For **TLAPs**, describe the routing of effluent from the treatment facility to the disposal site:

N/A

o. For **TLAPs**, please identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained:

N/A

10. MISCELLANEOUS INFORMATION (Instructions, Pages 28-29)

a. Did any person formerly employed by the TCEQ represent your company and gert paid for service regarding this application?

☐ Yes ☒ No

List each person formerly employed by the TCEQ who represented your company and was paid for service regarding the application:

N/A

b. Do you owe any fees to the TCEQ?

☐ Yes ☒ No

If **yes**, provide the following information:

Account number: Click here to enter text. Amount past due: Click here to enter text.

c. Do you owe any penalties to the TCEQ?

☐ Yes ☒ No

If **yes**, please provide the following information:

Enforcement order number: Click here to enter text. Amount past due: Click here to enter text.

11. SIGNATURE PAGE (Instructions, Page29)

Permit Number: WQ0005219000

Applicant: Gregory Power Partners LLC

Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I further certify that I am authorized under 30 Texas Administrative Code §305.44 to sign and submit this document, and can provide documentation in proof of such authorization upon request.

Signatory name (typed or printed): Craig Eckberg

Signatory title: Director, Environmental Services

Signature: C.R.E. Date: Oct 1, 2019

(Use blue ink)

Subscribed and Sworn to before me by the said Craig Eckberg

on this 1st day of October, 20 19.

My commission expires on the 29th day of November, 20 19.

Elizabeth Wolford

Notary Public

ELIZABETH WOLFORD
Notary Public, State of Texas
Comm. Expires 11-28-2022
Notary ID 125874473
[SEAL]

Harris

County, Texas

If co-applicants are necessary, each entity must submit an original, separate signature page.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

FOR AGENCIES REVIEWING INDUSTRIAL TPDES WASTEWATER PERMIT APPLICATIONS

TCEQ USE ONLY:

Application type: ____Renewal _____Major Amendment _____Minor Amendment _____New

County: _____ Segment Number: _____

Admin Complete Date: _____

Agency Receiving SPIF:

_____ Texas Historical Commission _____ U.S. Fish and Wildlife

_____ Texas Parks and Wildlife Department _____ U.S. Army Corps of Engineers

This form applies to TPDES permit applications only. (Instructions, Page 33)

The SPIF must be completed as a separate document. The TCEQ will mail a copy of the SPIF to each agency as required by the TCEQ agreement with EPA. If any of the items are not completely addressed or further information is needed, you will be contacted to provide the information before the permit is issued. Each item must be completely addressed.

Do not refer to a response of any item in the permit application form. Each attachment must be provided with this form separately from the administrative report of the application. The application will not be declared administratively complete without this form being completed in its entirety including all attachments.

The following applies to all applications:

1. Permittee: Gregory Power Partners LLC

2. Permit No. WQ00 05219000 EPA ID No. TX 0137502

3. Address of the project (location description that includes street/highway, city/vicinity, and county):
   4633A Texas Highway 361, Gregory, TX 78359

4. Provide the name, address, phone and fax number of an individual that can be contacted to answer specific questions about the property.

   First/Last Name: Carl Burch Credential: Click here to enter text

   Organization Name: NRG Title: Environmental Manager

   Mailing Address: 910 Louisiana St, 7th floor Environmental Dept.

   City: Houston State: TX ZIP Code: 77002

   Phone: 713-537-2333 Fax: Click here to enter text E-mail Address: carl.burch@nrg.com

5. List the county in which the facility is located: San Patricio

6. If the property is publicly owned and the owner is different than the permittee/applicant, please list the owner of the property.

N/A

7. Provide a description of the effluent discharge route. The discharge route must follow the flow of effluent from the point of discharge to the nearest major watercourse (from the point of discharge to a classified segment as defined in *30 TAC Chapter 307*). If known, please identify the classified segment number.

Via Outfall 001 directly to Corpus Christi Bay in Segment No. 2481 of the Bays and Estuaries

8. Please provide a separate 7.5-minute USGS quadrangle map with the project boundaries plotted and a general location map showing the project area. Please highlight the discharge route from the point of discharge for a distance of one mile downstream. (This map is required in addition to the map in the administrative report).

9. Provide original photographs of any structures 50 years or older on the property.

10. Does your project involve any of the following? Check all that apply.

☐ Proposed access roads, utility lines, construction easements

☐ Visual effects that could damage or detract from a historic property's integrity

☐ Vibration effects during construction or as a result of project design

☐ Additional phases of development that are planned for the future

☐ Sealing caves, fractures, sinkholes, other karst features

☐ Disturbance of vegetation or wetlands

11. List proposed construction impact (surface acres to be impacted, depth of excavation, sealing of caves, or other karst features):

N/A

12. Describe existing disturbances, vegetation, and land use:

Existing land use is industrial

THE FOLLOWING ITEMS APPLY ONLY TO APPLICATIONS FOR NEW TPDES PERMITS AND MAJOR AMENDMENTS TO TPDES PERMITS

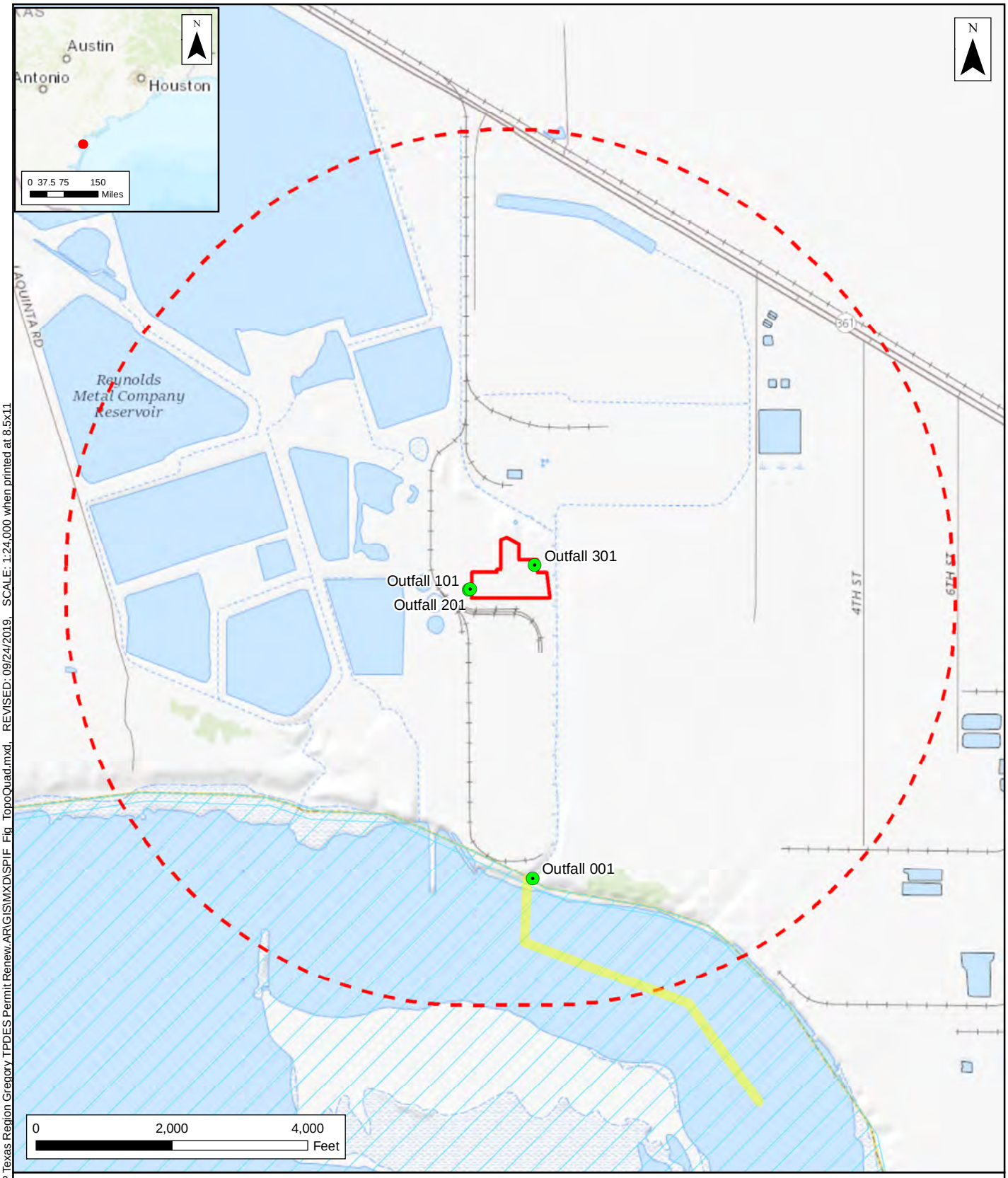
13. List construction dates of all buildings and structures on the property:

N/A

14. Provide a brief history of the property, and name of the architect/builder, if known.

N/A

SPIF ATTACHMENT A USGS FIGURE



Legend

- Property Bounday
- One-mile buffer
- Outfall
- Discharge route
- TCEQ Stream Segment

SPIF Figure Overview
Gregory, Aransas Pass, and Portland
1:24,000 USGS Quadrangles
TPDES Permit Renewal
Gregory Power Partners LLC
San Patricio County, Texas

Environmental Resources Management
www.erm.com

H:\Projects\0498048 NRG Energy AP Texas Region Gregory TPDES Permit Renew.ARGIS\MXD\SPIF_Fig_TopoQuad.mxd, REVISED: 09/24/2019, SCALE: 1:24,000 when printed at 8.5x11

Source: Esri - USGS Topoographic Map; WGS 1984 Web Mercator Auxiliary Sphere

TECHNICAL REPORT 1.0
INDUSTRIAL

This application form is for an industrial wastewater discharge authorization only. Your facility may need additional authorizations from the TCEQ Waste Permitting Division or the TCEQ Air Permitting Division.

The following information is required for **all TPDES** and **TLAP** renewal, new, and amendment applications.

1. FACILITY/SITE INFORMATION (Instructions, Pages 35-36)

a. Describe the type of activity and general nature of your business.

The NRG Gregory Power Plant is a combined cycle natural gas fired facility with a generation capacity of around 388 MW electric and a steam capacity of about 140 MW equivalent.

b. Describe the wastewater-generating processes.

The facility utilizes water supplied by San Patricio Municipal Water District (SPMWD). This water is further processed as needed in support of the power generation operations.
Wastewater is generated from the following operations:
Cooling Tower Blowdown;
Low Volume Waste including gas turbine wash water (no chemicals), neutralized demineralizer regenerant waste and general washdown water via oil/water separator; and
Domestic/Sanitary Wastewater.
Cooling tower blowdown (Internal Outfall 101) and Low Volume Waste (Internal Outfall 201) are collected in the Master Sump before combining with Treated Domestic Wastewater (Internal Outfall 301) and discharged to Outfall 001 (Corpus Christi Bay).

c. Provide a list of raw materials, major intermediates, and products handled at your facility.

Materials List

Raw Materials	Intermediate Products	Final Products
Water, 7732-18-5	Demineralized Water	Electrical Power
Natural Gas, 68410-63-9		Steam
Water Treatment Additives (Attachment H)		

d. Attach a facility map (drawn to scale) with the following information:

- Production areas, maintenance areas, materials-handling areas, and waste-disposal areas
- The location of each unit of the wastewater treatment plant including the location of wastewater collection sumps, impoundments, and outfalls (also include locations of sampling points if significantly different from outfall locations)

Attachment: E

e. Is this a new permit application for an existing facility?

☐ Yes ☒ No

If **yes**, provide background discussion below.

N/A

f. Is the treatment facility/disposal site located above the 100-year frequency flood level?

☒ Yes ☐ No

List source(s) used to determine 100-year frequency flood plain:

FEMA National Flood Insurance Program Map 48409C0445E

If **no**, provide the elevation of the 100-year frequency flood plain and describe what protective measures are in use or planned to be used to prevent flooding of the treatment facility/disposal area.

N/A

g. For new or amendment permit applications, will any construction operations result in a discharge of fill material into a water in the state?

☐ Yes ☐ No

If **no**, proceed to Item 2.

h. If **yes** to the above question, has the applicant applied for a U.S. Army Corps of Engineers 404 Dredge and Fill permit?

☐ Yes ☐ No

If **yes**, provide the permit number: N/A

If **no**, provide the approximate date you anticipate submitting your application to the Corps: N/A

2. TREATMENT SYSTEM (Instructions, Page 36)

a. List any physical, chemical, or biological treatment process that you use for the treatment of wastewater at your facility. Include a description of each treatment process, starting with initial treatment and finishing with the outfall/point of disposal.

All process wastewater is collected in the Master Sump prior to discharge. Intermediate treatment steps include:
- General wastewaters/oily wastewaters are routed through an oil/water separator prior to discharge to the Master Sump.

In the future, domestic wastewater may be treated by an on-site package biological treatment system.

Chemical metal cleaning wastes are collected and hauled off-site for disposal.

b. Attach a flow schematic with a water balance showing each treatment unit and all sources of water and wastewater flow into the treatment plant and to each outfall/point of disposal.

Attachment: F

3. IMPOUNDMENTS (Instructions, Pages 36-39)

Do you use or plan to use any wastewater lagoons, ponds, or impoundments?

☐ Yes ☒ No

If **yes**, complete **Item 3.a** for **existing** impoundments and **Items 3.a-3.h** for **new or proposed** impoundments. If **no**, proceed to Item 4.

Please note: Surface impoundments may also require additional authorizations from the TCEQ Waste Permit Division.

a. Provide the following information in the table provided:

Use Designation: Indicate the appropriate use designation for each pond: Treatment **(T)**, Disposal **(D)**, Containment **(C)**, or Evaporation **(E)**.

Associated Outfall Number: If a discharge occurs from the impoundments, designate the outfall associated with the impoundment.

Liner Type: If the impoundments are lined to comply with specifications outlined for 1) a compacted clay liner (C), 2) an in-situ clay liner (I), or 3) a synthetic/plastic/rubber liner (S), indicate the liner type with the appropriate letter designation **(see instructions for further detail on liner specifications)**. If not, provide a reference to the attachment that provides a description of the alternate liner and any additional technical information necessary for an evaluation.

Dimensions: Provide the dimensions, freeboard, surface area, and storage capacity of the impoundments. For impoundments with irregular shapes, submit surface area (instead of length and width), the average depth, and the maximum depth below natural ground level.

Impoundment Information

Parameter	Pond #	Pond #	Pond #	Pond #
Use Designation: (T) (D) (C) or (E)	N/A			
Associated Outfall Number				
Liner Type (C) (I) or (S)				
Alt. Liner Attachment Reference				
Length (ft)				
Width (ft)				
Depth from Water Surface (ft)				
Avg Depth from Nat. Ground Level (ft)				
Max Depth from Nat. Ground Level (ft)				
Freeboard (ft)				
Surface Area (acres)				
Storage Capacity (gallons)				
Compliance with *40 CFR Chapter 257, Subpart D* is required.	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No

Impoundment Information

Parameter	Pond #	Pond #	Pond #	Pond #
Use Designation: (T) (D) (C) or (E)				
Associated Outfall Number				
Liner Type (C) (I) or (S)				
Alt. Liner Attachment Reference				
Length (ft)				
Width (ft)				
Depth from Water Surface (ft)				
Avg Depth from Nat. Ground Level (ft)				
Max Depth from Nat. Ground Level (ft)				
Freeboard (ft)				
Surface Area (acres)				
Storage Capacity (gallons)				
Compliance with *40 CFR Chapter 257, Subpart D* is required.	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No

The following information (b - h) is required only for **new or proposed** impoundments.

b. Indicate if any of the following data was provided with the application:

☐ Compacted clay liner data

☐ Synthetic/plastic/rubber liner data

☐ In-situ clay liner data

Attachment: N/A

c. Are there any leak detection systems or groundwater monitoring wells in place or planned?

☐ Yes ☐ No

If **yes**, attach information on the leak detection system for each pond and groundwater monitoring well data.

Attachment: N/A

d. Is the bottom of the pond above the seasonal high water table in the shallowest waste-bearing zone?

☐ Yes ☐ No

If **no**, attach additional information describing the depth of the seasonal high water table in the shallowest waste-bearing zone in relation to the depth of the bottom of the new or proposed impoundment and how this may or may not impact groundwater.

Attachment: N/A

e. Attach a USGS quadrangle map or a color copy of original quality and scale which accurately locates and identifies water supply wells and monitor wells within ½ mile radius of the impoundments

Attachment: N/A

f. Attach copies of State Water Well Reports (driller's logs, completion data), and data on depths to groundwater for water supply wells including a description of how the depths to groundwater were obtained

Attachment: N/A

g. For TLAP permit applications: Are new or proposed impoundment(s) and the land application disposal area are located in the same general area?

☐ Yes ☐ No

If **yes**, provide information for this item in Worksheet 3.0 (Item 5).

h. Attach information pertaining to the groundwater, soils, geology, etc. used to assess the potential for migration of wastes from the impoundments or the potential for contamination of groundwater or surface water.

Attachment: N/A

4. OUTFALL/DISPOSAL METHOD INFORMATION (Instructions, Pages 39-40)

Complete the following tables to describe the location and wastewater discharge or disposal operations for each outfall for discharge operations and for each point of disposal for TLAP operations.

For TLAP permit applications: Indicate the disposal method and each individual irrigation area (I), evaporation pond (E), or subsurface drainage system (S) by providing the appropriate letter designation for the disposal method followed by a numerical designation for each disposal area in the space provided for "Outfall" designation (e.g. "E1" for evaporation pond 1, "I2" for irrigation area No. 2, etc.).

Outfall Latitude and Longitude

Outfall Number	Latitude-degrees	Latitude-minutes	Latitude-seconds	Longitude-degrees	Longitude-minutes	Longitude-seconds
101	27	53	19	-97	15	37
201	27	53	19	-97	15	37
301	27	53	22	-97	15	28
001	27	52	42	-97	15	28

Outfall Location Description

Outfall Number	Location Description
101	Cooling Tower Blowdown Effluent to Master Sump
201	Low Volume Waste Effluent to Master Sump
301	Domestic Wastewater Package Treatment Plant Effluent
001	Concrete spillway ~200 feet north of La Quinta Channel/Corpus Christi Bay

Description of Sampling Points (if different from Outfall location)

Outfall Number	Description of Sampling Point
101	Sample tap in Cooling Tower Blowdown line leading to Master Sump
201	Sample tap in Low Volume Waste line leading to Master Sump
301	Domestic Wastewater Package Treatment Plant discharge clearwell
001	After the exit from the Master Sump and prior to discharge to the East Ditch

Outfall Flow Information – Permitted and Proposed

Outfall Number	Permitted Daily Avg Flow (MGD)	Permitted Daily Max Flow (MGD)	Proposed Daily Avg Flow (MGD)	Proposed Daily Max Flow (MGD)
101	0.832	0.999		
201	0.085	1.105		
301	0.001	0.002		
001	0.918	2.11		

Outfall Discharge – Method and Measurement

Outfall Number	Pumped Discharge? Y/N	Gravity Discharge? Y/N	Type of Flow Measurement Device Used
101	Y	N	Magnetic flow meter
201	Y	N	Magnetic flow meter
301	N	Y	Open channel/weir meter
001	Y	N	Flow meter

Outfall Discharge – Flow Characteristics

Outfall Number	Intermittent Discharge? Y/N	Seasonal Discharge? Y/N	Continuous Discharge? Y/N	Discharge Duration (hours/ day)	Discharge Duration (days/ month)	Discharge Duration (months/ year)
101	N	N	Y	24	30	12
201	Y	N	N	24	30	12
301	N	N	Y	24	30	12
001	N	N	Y	24	30	12

Wastestream Contributions

Outfall No.: 101

Contributing Wastestreams	Volume (MGD)	% of Total Flow
Cooling Tower Blowdown	0.832	100
Stormwater	Variable	Variable

Outfall No.: 201

Contributing Wastestreams	Volume (MGD)	% of Total Flow
Low Volume Waste	0.085	100
Stormwater	Variable	Variable

Outfall No.: 301

Contributing Wastestreams	Volume (MGD)	% of Total Flow
Domestic Wastewater	0.001	100

Additional Outfall wastestream contributions included as **Attachment:** G

5. BLOWDOWN AND ONCE-THROUGH COOLING WATER DISCHARGES (Instructions, Pages 40-41)

a. Does your facility use any cooling towers or boilers that discharge blowdown or other wastestreams to the outfall(s)?

☒ Yes ☐ No

b. Does your facility discharge once-through cooling water to the outfall(s)?

☐ Yes ☒ No

c. If **yes** to either Item a **or** b, attach the appropriate SDS with the following information for each chemical additive.

- Manufacturers Product Identification Number
- Product use (e.g., biocide, fungicide, corrosion inhibitor, etc.)
- Chemical composition including CASRN for each ingredient
- Classify product as non-persistent, persistent, or bioaccumulative
- Product or active ingredient half-life
- Frequency of product use (e.g., 2 hours/day once every two weeks)
- Product toxicity data specific to fish and aquatic invertebrate organisms
- Concentration of whole product in wastestream (if above item is for whole product)
- Concentration of active ingredient in wastestream (if above item is for active ingredient)

Please provide a summary attachment of this information in addition to the submittal of the SDS for each specific wastestream and the associated chemical additives and specify which outfalls are affected.

Attachment: H

d. Cooling Towers and Boilers

Cooling Towers and Boilers

Type of Unit	Number of Units	Dly Avg Blowdown (gallons/day)	Dly Max Blowdown (gallons/day)
Cooling Towers	2	832,300	999,000
Boilers	2 HRSGs + 2 Aux Boilers	49,000	59,000

6. STORMWATER MANAGEMENT (Instructions, Page 41)

Are there any existing or proposed outfalls which discharge stormwater runoff commingled with other wastestreams?

☐ Yes ☒ No

If **no**, proceed to Item 7.

If **yes**, briefly describe the industrial processes and activities that occur outdoors or in some manner that may result in exposure of the materials to precipitation or runoff in areas where runoff is generated.

7. DOMESTIC SEWAGE, SEWAGE SLUDGE, AND SEPTAGE MANAGEMENT AND DISPOSAL (Instructions, Pages 41-42)

a. Please check the appropriate method(s) of domestic sewage and domestic sewage sludge treatment/disposal and complete Worksheet 5.0 or Item 7.b if directed to do so.

- ☒ Facility is connected to a wastewater treatment plant permitted to receive domestic sewage, or the domestic sewage is transported off-site to a permitted facility for treatment, disposal, or both. COMPLETE ITEM 7.b BELOW.
- ☐ Domestic sewage is disposed of by an on-site septic tank and drainfield system. COMPLETE ITEM 7.b BELOW.
- ☐ Both domestic and industrial treatment sludge ARE commingled prior to use or disposal.
- ☐ Industrial wastewater and domestic sewage are treated separately, and the respective sludge IS NOT commingled prior to sludge use or disposal. COMPLETE WORKSHEET 5.0 OF THIS APPLICATION.
- ☐ Facility is a POTW. COMPLETE WORKSHEET 5.0 OF THIS APPLICATION.
- ☐ Domestic sewage is not generated on-site.
- ☒ Other (e.g., portable toilets): Please provide a detailed description:

Domestic sewage is collected and hauled off site by a licensed septage hauler for the near term operation; in the long term, a Domestic Wastewater Package Treatment Plant may be installed.

b. Provide the name and TCEQ, NPDES, or TPDES Permit No. of the waste-disposal facility which receives the domestic sewage/septage. If hauled by motorized vehicle, provide the name and TCEQ Registration No. of the hauler.

Domestic Sewage Plant/Hauler Name

Plant/Hauler Name	Permit/Registration No.
Texas Throne, LLC	24337

8. IMPROVEMENTS OR COMPLIANCE/ENFORCEMENT REQUIREMENTS (Instructions, Page 42)

Is the permittee currently required to meet any implementation schedule for compliance or enforcement?

☐ Yes ☒ No

If **yes**, provide a brief summary of the requirements and a status update.

N/A

9. TOXICITY TESTING (Instructions, Pages 42-43)

Have any biological tests for acute or chronic toxicity been made on any of your discharges or on a receiving water in relation to your discharge within the last three years?

☐ Yes ☒ No

If **yes**, identify the tests and describe their purposes below. Please attach a copy of all tests performed that have not been previously sent to the TCEQ or the EPA.

Attachment: N/A

10. OFF-SITE/THIRD PARTY WASTES (Instructions, Page 43)

Do you receive wastes from off-site sources for any or all of the following: treatment in your facility, disposal on-site via land application, or discharge via a permitted outfall?

☐ Yes ☒ No

If **no**, proceed to Item 11.

If **yes**, provide responses to Items a, b, and c below.

a. Attach the following information to the application:

- List of wastes received
- Characterization of wastes received
- Volumes of each waste received
- Information on compatibility with on-site wastes
- Identified sources of wastes received
- Name and addresses of generators
- Description of the relationship of waste source(s) with your facility's activities

Attachment: N/A

b. Is wastewater from a TCEQ, NPDES, or TPDES permitted facility commingled with your wastewater after your final treatment and prior to discharge via your final outfall/point of disposal?

☐ Yes ☐ No

If **yes**, provide the name, address, and TCEQ, NPDES, or TPDES permit number of the contributing facility and a copy of any agreements or contracts relating to this activity.

Attachment: N/A

c. Is your facility a Publicly Owned Treatment Works (POTW) that accepts process wastewater from any Significant Industrial User (SIU) and has or is required to have an approved pretreatment program under the NPDES/TPDES program?

☐ Yes ☐ No

If **yes**, complete **Worksheet 6.0** of this application.

11. RADIOACTIVE MATERIALS (Instructions, Page 44)

a. Are radioactive materials mined, used, stored, or processed at this facility?

☐ Yes ☒ No

If **yes**, use the following table to provide the results of one analysis of your effluent for all radioactive materials that may be present. Provide results in picocuries per liter (pCi/L).

Radioactive Materials Mined, Used, Stored, or Processed

Radioactive Material	Concentration (pCi/L)
N/A	

b. Do you have any knowledge or reason to believe that radioactive materials may be present in the discharge, including naturally occurring radioactive materials in the source waters or on the facility property?

☐ Yes ☒ No

If **yes**, use the following table to provide the results of one analysis of your effluent for all radioactive materials that may be present. Provide results in picocuries per liter (pCi/L). Do not include information provided in response to Item 11.a.

Radioactive Materials Present in the Discharge

Radioactive Material	Concentration (pCi/L)
N/A	

12. COOLING WATER INTAKE STRUCTURES (Instructions, Pages 44-46)

a. The facility uses or proposes to use water for cooling purposes?

☒ Yes ☐ No

If **yes**, complete this item (12. Cooling Water Intake Structures); otherwise, stop here.

b. Cooling Water Supplier

1. Complete the following table with information regarding the Cooling Water Intake Structure(s) owner(s), operator(s), and location

Cooling Water Intake Structure(s) Owner(s), Operator(s), and Location

CWIS ID	W.A. Edwards Nueces River Raw Water Pump Station			
Owner	San Patricio Municipal Water District			
Operator	San Patricio Municipal Water District			
Latitude	27°52'56.30"N			
Longitude	97°37'36.86"W			

2. Cooling water is obtained from a Public Water Supplier (PWS)

☒ Yes ☐ No

If **yes**, provide the Public Water Supplier Registration No. for the entity providing cooling water in the space provided, and stop here.

- PWS Registration Number: 2050011

3. Cooling water is obtained from an Independent Supplier

☐ Yes ☐ No

If **no**, proceed to section c; otherwise, if **yes** provide the following:

- Independent Supplier's TPDES permit number: N/A

  If the Independent Supplier holds a TPDES Industrial Wastewater Permit, provide the permit number in the space provided. Otherwise enter N/A and continue.

- Independent Supplier's CWIS AIF (in MGD): N/A

  Enter the Independent Supplier's CWIS actual intake flow (AIF) in million gallons per day in the space provided, and continue.

- The facility uses or proposes to use less than 25% of the Independent Supplier's CWIS AIF for cooling purposes?

  ☐ Yes ☐ No

  If **yes**, stop here. If **no**, proceed to section c.

c. 316(b) General Criteria

Compete all questions in this section unless otherwise directed.

1. The CWIS(s) have or will have a design intake flow of 2 MGD or greater

   ☐ Yes ☐ No

2. At least 25% of the total water withdrawn by the CWIS is used or will be used exclusively for cooling purposes on an annual average basis

   ☐ Yes ☐ No

3. The facility withdraws or proposes to withdraw water for cooling purposes from surface waters that meet the definition of Waters of the United States in *40 CFR § 122.2*

   ☐ Yes ☐ No

   If **no**, provide an explanation of how the waterbody does not meet the definition of Waters of the United States in *40 CFR § 122.2* in the space provided. If additional space is needed for the explanation, include the information as an attachment to the application and provide the attachment number in the space instead.

   Explanation:

   N/A

If **yes** to all three questions in section c above, proceed to section d. If **no** to any of the questions in section c above the facility does not meet the minimum criteria to be subject to the full requirements of 316(b). Complete Worksheet 11.0, items 1(a), 1(b)(i-iii) and (vi), 2(b)(i), and 3(a) to allow for a determination based upon best professional judgement (BPJ).

d. Phase I vs Phase II Facilities

1. Existing facility (Phase II)

   ☐ Yes ☐ No

   If **yes**, complete Worksheets 11.0 through 11.3, as applicable. Otherwise, continue.

2. New Facility – (Phase I)

   ☐ Yes ☐ No

   If **yes**, continue.

3. Compliance track selection (For Phase I only; must choose one of the following)

   ☐ Track I - AIF greater than 2 MGD, but less than 10 MGD

   If selected, include information required under *40 CFR §§ 125.86(b)(2)-(4)* as an attachment and complete Worksheet 11.0, items 2 and 3, and Worksheet 11.2.

   ☐ Track I - AIF greater than 10 MGD

   If selected, include information required under *40 CFR § 125.86(b)* as an attachment and complete Worksheet 11.0, items 2 and 3, and Worksheet 11.2.

   ☐ Track II

   If selected, include information required under *40 CFR § 125.86(c)* as an attachment and complete Worksheet 11.0, items 2 and 3, and Worksheet 11.2.

Attachment: N/A

Note: Items 12, 13, and 14 are required only for **existing permitted** facilities.

13. MAJOR AMENDMENT REQUESTS (Instructions, Page 46)

Are you requesting a major amendment of an existing permit?

☐ Yes ☒ No

If **yes**, list each specific request and provide discussion on the scope of any requested permit changes. If necessary, provide supplemental information or additional data that will support the request.

N/A

14. MINOR MODIFICATION REQUESTS (Instructions, Page 47)

Are you requesting any minor modifications to the permit? Note: see the instructions for an exclusive list of changes considered as minor modifications.

☐ Yes ☒ No

If **yes**, list and discuss the requested changes.

N/A

15. MINOR AMENDMENT REQUESTS (Instructions, Page 47)

Are you requesting any minor amendments to the permit?

☐ Yes ☒ No

If **yes**, list and discuss the requested changes.

N/A

WORKSHEET 1.0
EPA CATEGORICAL EFFLUENT GUIDELINES

This worksheet is required for all applications for TPDES permits for discharges of wastewaters subject to EPA categorical effluent guidelines.

1. CATEGORICAL INDUSTRIES (Instructions, Pages 50-51)

Is your facility subject to any of the 40 CFR effluent guidelines outlined on page 52 of the instructions?

☒ Yes ☐ No

If **yes**, provide the appropriate information in the table below.

If **no**, this worksheet is not required.

40 CFR Effluent Guidelines

Industry	40 CFR Part
Steam Electric Power Generating	423.15(a)

2. PRODUCTION/PROCESS DATA (Instructions, Page 51)

a. Production Data

Provide the appropriate data for effluent guidelines with production-based effluent limitations.

Production Data

Subcategory	Actual Quantity/Day	Design Quantity/Day	Units
N/A			

b. Organic Chemicals, Plastics, and Synthetic Fibers Manufacturing Data (*40 CFR Part 414*)

Provide each appropriate subpart and the percent of total production. Also provide the appropriate data for metal-bearing wastestreams as required in *40 CFR Part 414*, Appendices A and B.

Percentages of Total Production

Subcategory	Percent of Total Production	Appendix A and B - Metal	Appendix A and B – Process
N/A			

c. Refineries (*40 CFR Part 419*):

Provide the applicable subcategory and a brief justification.

N/A

3. PROCESS/NON-PROCESS WASTEWATER FLOWS (Instructions, Page 51)

Provide a breakdown of process wastewater flow(s) and non-process wastewater flow(s) as directed.

Process wastewater consists of Cooling Tower Blowdown and Low Volume Waste. Non-process wastewater consists of domestic sewage. Chemical metal cleaning wastes are hauled off-site for disposal. Refer to Attachment F for the flow schematic and water balance indicating each process.

4. NEW SOURCE DETERMINATION (Instructions, Page 51)

Provide a list of wastewater-generating processes subject to effluent guidelines and the appropriate information.

Wastewater-generating Processes Subject to Effluent Guidelines

Process	EPA Guideline: Part	EPA Guideline: Subpart	Date Process/ Construction Commenced
Cooling Tower Blowdown	40 CFR 423	423.15(a)(10)	1999
Low Volume Waste	40 CFR 423	423.15(a)(3)	1999

WORKSHEET 2.0
POLLUTANT ANALYSES REQUIREMENTS

Worksheet 2.0 is **required** for applications submitted for a TPDES permit.

Worksheet 2.0 is **not required** for applications for a permit to dispose of all wastewater by land disposal or for discharges solely of stormwater runoff.

1. LABORATORY ACCREDITATION (Instructions, Page 52)

Effective July 1, 2008, all laboratory tests performed must meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification* with the following general exemptions:

a. The laboratory is an in-house laboratory and is:

   1. periodically inspected by the TCEQ; or
   2. located in another state and is accredited or inspected by that state; or
   3. performing work for another company with a unit located in the same site; or
   4. performing pro bono work for a governmental agency or charitable organization.

b. The laboratory is accredited under federal law.

c. The data are needed for emergency-response activities, and a laboratory accredited under the Texas Laboratory Accreditation Program is not available.

d. The laboratory supplies data for which the TCEQ does not offer accreditation. See Attachment I

The applicant should review *30 TAC Chapter 25* for specific requirements. The following certification statement shall be signed and submitted with every application. See Instructions, Page 32, for a list of designated representatives who may sign the certification.

I,_____, certify that all laboratory tests submitted with this application meet the requirements of *30 TAC Chapter 25*, Environmental Testing Laboratory Accreditation and Certification.

2. GENERAL TESTING REQUIREMENTS (Instructions, Pages 52-54)

Please read the general testing requirements in the instructions for important information about sampling, test methods, MALs, and averaging sample results.

3. SPECIFIC TESTING REQUIREMENTS (Instructions, Pages 54-66)

Table 1 and Table 2 (Instructions, Page 54)

Completion of Tables 1 and 2 is required for all external outfalls for new, renewal, and amendment applications.

Table 1 for Outfall No.: 001

Samples are (check one): ☐ **Composites** ☒ **Grabs**

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)	Average (mg/L)
BOD (5-day)	<2.0	2.8	2.2	<2.0	1.8
CBOD (5-day)	<2.0	2.0	<2	<2.0	1.3
Chemical oxygen demand	<40	<40	<40	50	28
Total organic carbon	3.2	10	12	21	12
Dissolved oxygen	8.1	9.4	6.6	7.4	7.9
Ammonia nitrogen	<0.20	<0.20	<0.20	<0.20	<0.20
Total suspended solids	14	20	14	24	18
Nitrate nitrogen	35	5.9	6.7	23	18
Total organic nitrogen	<1.0	<1.0	1.0	1.1	0.8
Total phosphorus	2.0	2.2	2.2	2.0	2.1
Oil and grease	<2.0	<1.5	<5.0	<5.0	<1.7
Total residual chlorine	0.11	0.04	0.02	0.20	0.09
Total dissolved solids	1000	1400	1800	2500	1675
Sulfate	390	470	1700	1100	915
Chloride	260	340	1100	620	580
Fluoride	1.9	1.8	2.2	2.6	2.1
Total alkalinity (mg/L as $CaCO_3$)	70	69	73	91	76
Temperature (°F)	90	89	90	87	89
pH (standard units)	7.94	8.28	7.92	7.89	8.01

Table 2 for Outfall No.: 001

Samples are (check one): ☐ **Composites** ☒ **Grabs**

Pollutant	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	Average (µg/L)	MAL (µg/L)
Aluminum, total	390	470	430	850	535	2.5
Antimony, total	0.8	1.0	1.5	1.4	1.2	5
Arsenic, total	19	25	33	29	27	0.5
Barium, total	260	320	220	530	333	3
Beryllium, total	0.29	<0.087	0.56	<0.087	0.23	0.5
Cadmium, total	<0.21	<0.21	<0.21	<0.21	<0.21	1
Chromium, total	14	8.7	8.3	4.8	9.0	3
Chromium, hexavalent	<3	4.3	<3	<3	2.2	3
Chromium, trivalent	5.8	8.7	8.3	<5.0	6.3	N/A
Copper, total	23	21	24	14	21	2
Cyanide, available	27	4.8	4.1	5.1	10.3	2/10
Lead, total	0.57	0.43	0.63	0.74	0.59	0.5
Mercury, total	0.011	0.012	0.02	0.019	0.016	0.005/0.0005
Nickel, total	4.3	4.9	6.7	5.4	5.3	2
Selenium, total	1.0	1.2	2.1	2.2	1.6	5
Silver, total	<0.22	<0.22	<0.22	<0.22	<0.22	0.5
Thallium, total	0.15	<0.12	0.2	<0.12	0.12	0.5
Zinc, total	340	200	180	180	225	5.0

TABLE 3 (Instructions, Page 54).

Completion of Table 3 is required for all external outfalls which discharge process wastewater.

Partial completion of Table 3 is required for all external outfalls with non-process wastewater discharges.

For discharges of stormwater runoff commingled with other wastestreams, complete Table 3 as instructed

Table 3 for Outfall No.: 001

Samples are (check one): ☐ **Composites** ☒ **Grabs**

Pollutant	Samp. 1 (µg/L)*	Samp. 2 (µg/L)*	Samp. 3 (µg/L)*	Samp. 4 (µg/L)*	Avg. (µg/L)*	MAL (µg/L)*
Acrylonitrile	<50	<50	<50	<50	<50	50
Anthracene	<10	<10	<10	<10	<10	10
Benzene	<10	<10	<10	<10	<10	10
Benzidine	<50	<50	<50	<50	<50	50
Benzo(a)anthracene	<5	<5	<5	<5	<5	5
Benzo(a)pyrene	<5	<5	<5	<5	<5	5
Bis(2-chloroethyl)ether	<10	<10	<10	<10	<10	10
Bis(2-ethylhexyl)phthalate	<10	<10	<10	<10	<10	10
Bromodichloromethane [Dichlorobromomethane]	<10	<10	<10	<10	<10	10
Bromoform	<10	<10	<10	<10	<10	10
Carbon tetrachloride	<2	<2	<2	<2	<2	2
Chlorobenzene	<10	<10	<10	<10	<10	10
Chlorodibromomethane [Dibromochloromethane]	<10	<10	<10	<10	<10	10
Chloroform	<10	<10	<10	16	7.75	10
Chrysene	<5	<5	<5	<5	<5	5
m-Cresol [3-Methylphenol]*	<10	<10	<10	<10	<10	10
o-Cresol [2-Methylphenol]*	<10	<10	<10	<10	<10	10
p-Cresol [4-Methylphenol]*	<10	<10	<10	<10	<10	10
1,2-Dibromoethane	<10	<10	<10	<10	<10	10
m-Dichlorobenzene [1,3-Dichlorobenzene]	<10	<10	<10	<10	<10	10
o-Dichlorobenzene [1,2-Dichlorobenzene]	<10	<10	<10	<10	<10	10
p-Dichlorobenzene [1,4-Dichlorobenzene]	<10	<10	<10	<10	<10	10
3,3'-Dichlorobenzidine	<10	<10	<10	<10	<10	5
1,2-Dichloroethane	<10	<10	<10	<10	<10	10
1,1-Dichloroethene [1,1-Dichloroethylene]	<10	<10	<10	<10	<10	10
Dichloromethane [Methylene chloride]	<20	<20	<20	<20	<20	20
1,2-Dichloropropane	<10	<10	<10	<10	<10	10
1,3-Dichloropropene [1,3-Dichloropropylene]	<10	<10	<10	<10	<10	10
2,4-Dimethylphenol	<10	<10	<10	<10	<10	10

*Total cresols were analyzed by lab

Pollutant	Samp. 1 (µg/L)*	Samp. 2 (µg/L)*	Samp. 3 (µg/L)*	Samp. 4 (µg/L)*	Avg. (µg/L)*	MAL (µg/L)*
Di-n-Butyl phthalate	<10	<10	<10	<10	<10	10
Ethylbenzene	<10	<10	<10	<10	<10	10
Fluoride	1900	1800	2200	2600	2125	500
Hexachlorobenzene	<5	<5	<5	<5	<5	5
Hexachlorobutadiene	<10	<10	<10	<10	<10	10
Hexachlorocyclopentadiene	<10	<10	<10	<10	<10	10
Hexachloroethane	<20	<20	<20	<20	<20	20
Methyl ethyl ketone	<50	<50	<50	<50	<50	50
Nitrobenzene	<10	<10	<10	<10	<10	10
N-Nitrosodiethylamine	<20	<20	<20	<20	<20	20
N-Nitroso-di-n-butylamine	<20	<20	<20	<20	<20	20
Nonylphenol	<333	<330	<330	<330	165	333
Pentachlorobenzene	<20	<20	<20	<20	<20	20
Pentachlorophenol	<5	<5	<5	<5	<5	5
Phenanthrene	<10	<10	<10	<10	<10	10
Polychlorinated biphenyls (PCBs) (**)	<0.010	<0.010	<0.010	<0.010	<0.010	0.2
Pyridine	<20	<20	<20	<20	<20	20
1,2,4,5-Tetrachlorobenzene	<20	<20	<20	<20	<20	20
1,1,2,2-Tetrachloroethane	<10	<10	<10	<10	<10	10
Tetrachloroethene [Tetrachloroethylene]	<10	<10	<10	<10	<10	10
Toluene	<10	<10	<10	<10	<10	10
1,1,1-Trichloroethane	<10	<10	<10	<10	<10	10
1,1,2-Trichloroethane	<10	<10	<10	<10	<10	10
Trichloroethene [Trichloroethylene]	<10	<10	<10	<10	<10	10
2,4,5-Trichlorophenol	<50	<50	<50	<50	<50	50
TTHM (Total trihalomethanes)	<10	<10	<10	21	9	10
Vinyl chloride	<10	<10	<10	<10	<10	10

(*) Indicate units if different from µg/L.
(**) Total of detects for PCB-1242, PCB-1254, PCB-1221, PCB-1232, PCB-1248, PCB-1260, and PCB-1016. If all non-detects, enter the highest non-detect preceded by a "<".

TABLE 4 (Instructions, Page 55

Partial completion of Table 4 (only those pollutants which are required by the conditions specified below) **is required** for each external outfall.

Completion of Table 4 **is not required** for internal outfalls.

a. Tributyltin

Is your facility an industrial/commercial facility which directly disposes of wastewater from the types of operations listed below or a domestic facility which receives wastewater from the types of industrial/commercial operations listed below?

☐ Yes ☒ No

If **yes**, indicate all of the following criteria which apply and provide the appropriate testing results in the table below.

☐ Manufacturers and formulators of tributyltin or related compounds

☐ Painting of ships, boats and marine structures

☐ Ship and boat building and repairing

☐ Ship and boat cleaning, salvage, wrecking and scaling

☐ Operation and maintenance of marine cargo handling facilities and marinas

☐ Facilities engaged in wood preserving

☐ Any other industrial/commercial facility for which tributyltin is known to be present, or for which there is any reason to believe that tributyltin may be present in the effluent.

b. Enterococci

Does or will your facility discharge **directly** into **saltwater** receiving waters **and**:

Enterococci bacteria are expected to be present in the discharge based on facility processes?

☐ Yes ☒ No

Domestic wastewater is or will be discharged?

☒ Yes ☐ No

If **yes** to either question, provide the appropriate testing results in Table 4 below.

c. E. coli

Does or will your facility discharge **directly** into **freshwater** receiving waters **and**:

E. coli bacteria are expected to be present in the discharge based on facility processes?

☐ Yes ☒ No

Domestic wastewater is or will be discharged?

☐ Yes ☒ No

If **yes** to either question, provide the appropriate testing results in Table 4 below.

Table 4 for Outfall No.: 001

Samples are (check one): ☐ **Composites** ☐ **Grabs**

Pollutant	Sample 1	Sample 2	Sample 3	Sample 4	Average	MAL
Tributyltin (µg/L)	N/A	N/A	N/A	N/A	N/A	0.010
Enterococci (cfu or MPN/100 mL)	10.0	<10.0	<10.0	50.4	20.1	N/A
E. coli (cfu or MPN/100 mL)	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 5 (Instructions, Page 56)

Completion of Table 5 **is required** for all external outfalls which discharge process wastewater or other wastewaters which may contain pesticides or herbicides from a facility which manufactures or formulates pesticides or herbicides. Completion of Table 5 **is not required** for internal outfalls.

Does your facility manufacture or formulate pesticides or herbicides?

☐ Yes ☒ No

If **yes**, provide the appropriate testing results in Table 5.

Table 5 for Outfall No.: N/A

Samples are (check one): ☐ **Composites** ☐ **Grabs**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	Average (µg/L)*	MAL (µg/L)*
Aldrin						0.01
Carbaryl						5
Chlordane						0.2
Chlorpyrifos						0.05
4,4'-DDD						0.1
4,4'-DDE						0.1
4,4'-DDT						0.02
2,4-D						0.7
Danitol [Fenpropathrin]						—
Demeton						0.20
Diazinon						0.5/0.1
Dicofol [Kelthane]						1
Dieldrin						0.02
Diuron						0.090
Endosulfan I (*alpha*)						0.01
Endosulfan II (*beta*)						0.02
Endosulfan sulfate						0.1
Endrin						0.02
Guthion [Azinphos methyl]						0.1
Heptachlor						0.01
Heptachlor epoxide						0.01
Hexachlorocyclohexane (*alpha*)						0.05
Hexachlorocyclohexane (*beta*)						0.05
Hexachlorocyclohexane (*gamma*) [Lindane]						0.05
Hexachlorophene						10
Malathion						0.1
Methoxychlor						2.0
Mirex						0.02
Parathion (ethyl)						0.1
Toxaphene						0.3
2,4,5-TP [Silvex]						0.3

* Indicate units if different from µg/L.

TABLE 6 (Instructions, Page 56)

Completion of Table 6 is required for all external outfalls but is not required for internal outfalls.

Table 6 for Outfall No.: 001

Samples are (check one): ☐ **Composites** ☒ **Grabs**

Pollutants	Believed Present	Believed Absent	Average Concentration (mg/L)	Maximum Concentration (mg/L)	No. of Samples	MAL (µg/L)*
Bromide	☒	☐	31	65	4	400
Color (PCU)	☐	☒				—
Nitrate-Nitrite (as N)	☒	☐	18	35	4	—
Sulfide (as S)	☐	☒				—
Sulfite (as SO_3)	☐	☒				—
Surfactants	☐	☒				—
Boron, total	☐	☒				20
Cobalt, total	☐	☒				0.3
Iron, total	☒	☐	1.1	1.1	1	7
Magnesium, total	☒	☐	24	24	1	20
Manganese, total	☐	☒				0.5
Molybdenum, total	☐	☒				1
Tin, total	☐	☒				5
Titanium, total	☐	☒				30

* Indicate units if different from µg/L.

TABLE 7 (Instructions, Page 56)

Indicate any of the industrial categories applicable to your facility; otherwise, check the "N/A" box below. If GC/MS testing is required, indicate with an 'x' in the box provided that the testing results for the appropriate parameters are provided with the application.

☐ N/A

Table 7 for Applicable Industrial Categories

Industrial Category	40 CFR Part	Volatiles Table 8	Acids Table 9	Bases/Neutrals Table 10	Pesticides Table 11
☐ Adhesives and Sealants		☐ Yes	☐ Yes	☐ Yes	No
☐ Aluminum Forming	467	☐ Yes	☐ Yes	☐ Yes	No
☐ Auto and Other Laundries		☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Battery Manufacturing	461	☐ Yes	No	☐ Yes	No
☐ Coal Mining	434	No	No	No	No
☐ Coil Coating	465	☐ Yes	☐ Yes	☐ Yes	No
☐ Copper Forming	468	☐ Yes	☐ Yes	☐ Yes	No
☐ Electric and Electronic Components	469	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Electroplating	413	☐ Yes	☐ Yes	☐ Yes	No
☐ Explosives Manufacturing	457	No	☐ Yes	☐ Yes	No
☐ Foundries		☐ Yes	☐ Yes	☐ Yes	No
☐ Gum and Wood Chemicals - Subparts A,B,C,E	454	☐ Yes	☐ Yes	No	No
☐ Gum and Wood Chemicals - Subparts D,F	454	☐ Yes	☐ Yes	☐ Yes	No
☐ Inorganic Chemicals Manufacturing	415	☐ Yes	☐ Yes	☐ Yes	No
☐ Iron and Steel Manufacturing	420	☐ Yes	☐ Yes	☐ Yes	No
☐ Leather Tanning and Finishing	425	☐ Yes	☐ Yes	☐ Yes	No
☐ Mechanical Products Manufacturing		☐ Yes	☐ Yes	☐ Yes	No
☐ Nonferrous Metals Manufacturing	421,471	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Ore Mining - Subpart B	440	No	☐ Yes	No	No
☐ Organic Chemicals Manufacturing	414	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Paint and Ink Formulation	446,447	☐ Yes	☐ Yes	☐ Yes	No
☐ Pesticides	455	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Petroleum Refining	419	☐ Yes	No	No	No
☐ Pharmaceutical Preparations	439	☐ Yes	☐ Yes	☐ Yes	No
☐ Photographic Equipment and Supplies	459	☐ Yes	☐ Yes	☐ Yes	No
☐ Plastic and Synthetic Materials Manufacturing	414	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Plastic Processing	463	☐ Yes	No	No	No
☐ Porcelain Enameling	466	No	No	No	No
☐ Printing and Publishing		☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Pulp and Paperboard Mills - Subpart C	430	☐ *	☐ Yes	☐ *	☐ Yes
☐ Pulp and Paperboard Mills - Subparts F, K	430	☐ *	☐ Yes	☐ *	☐ *
☐ Pulp and Paperboard Mills - Subparts A, B, D, G, H	430	☐ Yes	☐ Yes	☐ *	☐ *
☐ Pulp and Paperboard Mills - Subparts I, J, L	430	☐ Yes	☐ Yes	☐ *	☐ Yes
☐ Pulp and Paperboard Mills - Subpart E	430	☐ Yes	☐ Yes	☐ Yes	☐ *
☐ Rubber Processing	428	☐ Yes	☐ Yes	☐ Yes	No
☐ Soap and Detergent Manufacturing	417	☐ Yes	☐ Yes	☐ Yes	No
☒ Steam Electric Power Plants	423	☒ Yes	☒ Yes	No	No
☐ Textile Mills (Not Subpart C)	410	☐ Yes	☐ Yes	☐ Yes	No
☐ Timber Products Processing	429	☐ Yes	☐ Yes	☐ Yes	☐ Yes

* Test if believed present.

TABLES 8, 9, 10, and 11 (Instructions, Pages 56-57)

Completion of Tables 8, 9, 10, and 11 **is required** as specified in Table 7 for all external outfalls that contain process wastewater.

Completion of Tables 8, 9, 10, and 11 **is not required** for internal outfalls.

Completion of Tables 8, 9, 10, and 11 **may be required** for types of industry not specified in Table 7 for specific parameters that are believed to be present in the wastewater.

Table 8 for Outfall No.: 001: Volatile Compounds
Samples are (check one): ☐ **Composites** ☒ **Grabs**

Pollutant	Average (µg/L)*	Maximum (µg/L)*	No. of Samples	MAL (µg/L)
Acrolein	<50	<50	4	50
Acrylonitrile	<50	<50	4	50
Benzene	<10	<10	4	10
Bromoform	<10	<10	4	10
Carbon tetrachloride	<2	<2	4	2
Chlorobenzene	<10	<10	4	10
Chlorodibromomethane	<10	<10	4	10
Chloroethane	<50	<50	4	50
2-Chloroethylvinyl ether	<10	<10	4	10
Chloroform	7.8	16	4	10
Dichlorobromomethane [Bromodichloromethane]	<10	<10	4	10
1,1-Dichloroethane	<10	<10	4	10
1,2-Dichloroethane	<10	<10	4	10
1,1-Dichloroethylene [1,1-Dichloroethene]	<10	<10	4	10
1,2-Dichloropropane	<10	<10	4	10
1,3-Dichloropropylene [1,3-Dichloropropene]	<10	<10	4	10
Ethylbenzene	<10	<10	4	10
Methyl bromide [Bromomethane]	<50	<50	4	50
Methyl chloride [Chloromethane]	<50	<50	4	50
Methylene chloride [Dichloromethane]	<20	<20	4	20
1,1,2,2-Tetrachloroethane	<10	<10	4	10
Tetrachloroethylene [Tetrachloroethene]	<10	<10	4	10
Toluene	<10	<10	4	10
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	<10	<10	4	10
1,1,1-Trichloroethane	<10	<10	4	10
1,1,2-Trichloroethane	<10	<10	4	10
Trichloroethylene [Trichloroethene]	<10	<10	4	10
Vinyl chloride	<10	<10	4	10

Table 9 for Outfall No.: 001: Acid Compounds

Samples are (check one): ☐ Composites ☒ Grabs

Pollutant	Average (µg/L)*	Maximum (µg/L)*	No. of Samples	MAL (µg/L)
2-Chlorophenol	<10	<10	4	10
2,4-Dichlorophenol	<10	<10	4	10
2,4-Dimethylphenol	<10	<10	4	10
4,6-Dinitro-o-cresol	<50	<50	4	50
2,4-Dinitrophenol	<50	<50	4	50
2-Nitrophenol	<20	<20	4	20
4-Nitrophenol	<50	<50	4	50
p-Chloro-m-cresol	<10	<10	4	10
Pentachlorophenol	<5	<5	4	5
Phenol	<10	<10	4	10
2,4,6-Trichlorophenol	<10	<10	4	10

Table 10 for Outfall No.: N/A: Base/Neutral Compounds

Samples are (check one): ☐ Composites ☐ Grabs

Pollutant	Average (µg/L)*	Maximum (µg/L)*	No. of Samples	MAL (µg/L)
Acenaphthene				10
Acenaphthylene				10
Anthracene				10
Benzidine				50
Benzo(a)anthracene				5
Benzo(a)pyrene				5
3,4-Benzofluoranthene [Benzo(b)fluoranthene]				10
Benzo(ghi)perylene				20
Benzo(k)fluoranthene				5
Bis(2-chloroethoxy)methane				10
Bis(2-chloroethyl)ether				10
Bis(2-chloroisopropyl)ether				10
Bis(2-ethylhexyl)phthalate				10
4-Bromophenyl phenyl ether				10
Butylbenzyl phthalate				10
2-Chloronaphthalene				10
4-Chlorophenyl phenyl ether				10
Chrysene				5
Dibenzo(a,h)anthracene				5
1,2-Dichlorobenzene [o-Dichlorobenzene]				10
1,3-Dichlorobenzene [m-Dichlorobenzene]				10
1,4-Dichlorobenzene [p-Dichlorobenzene]				10

Pollutant	Average (µg/L)*	Maximum (µg/L)*	No. of Samples	MAL (µg/L)
3,3'-Dichlorobenzidine				5
Diethyl phthalate				10
Dimethyl phthalate				10
Di-n-butyl phthalate				10
2,4-Dinitrotoluene				10
2,6-Dinitrotoluene				10
Di-n-octyl phthalate				10
1,2-Diphenylhydrazine (as Azobenzene)				20
Fluoranthene				10
Fluorene				10
Hexachlorobenzene				5
Hexachlorobutadiene				10
Hexachlorocyclopentadiene				10
Hexachloroethane				20
Indeno(1,2,3-cd)pyrene				5
Isophorone				10
Naphthalene				10
Nitrobenzene				10
N-Nitrosodimethylamine				50
N-Nitrosodi-n-propylamine				20
N-Nitrosodiphenylamine				20
Phenanthrene				10
Pyrene				10
1,2,4-Trichlorobenzene				10

Table 11 for Outfall No.: N/A: Pesticides
Samples are (check one): ☐ Composites ☐ Grabs

Pollutant	Average (µg/L)*	Maximum (µg/L)*	No. of Samples	MAL (µg/L)
Aldrin				0.01
alpha-BHC [alpha-Hexachlorocyclohexane]				0.05
beta-BHC [beta-Hexachlorocyclohexane]				0.05
gamma-BHC [gamma-Hexachlorocyclohexane]				0.05
delta-BHC [delta-Hexachlorocyclohexane]				0.05
Chlordane				0.2
4,4'-DDT				0.02
4,4'-DDE				0.1
4,4'-DDD				0.1
Dieldrin				0.02
Endosulfan I (alpha)				0.01
Endosulfan II (beta)				0.02

Pollutant	Average (µg/L)*	Maximum (µg/L)*	No. of Samples	MAL (µg/L)
Endosulfan sulfate				0.1
Endrin				0.02
Endrin aldehyde				0.1
Heptachlor				0.01
Heptachlor epoxide				0.01
PCB 1242				0.2
PCB 1254				0.2
PCB 1221				0.2
PCB 1232				0.2
PCB 1248				0.2
PCB 1260				0.2
PCB 1016				0.2
Toxaphene				0.3

* Indicate units if different from µg/L

TABLE 12 (DIOXINS/FURAN COMPOUNDS)

Complete Table 12 as directed. Table 12 is not required for internal outfalls. (Instructions, Pages 57-58)

a. Are any of the following compounds manufactured or used in a process at the facility?

☐ Yes ☒ No

If **yes**, indicate which compound(s) are manufactured or used at the facility and provide a brief description of the conditions of its/their presence at the facility.

☐	2,4,5-trichlorophenoxy acetic acid	(2,4,5-T)	CASRN 93-76-5
☐	2-(2,4,5-trichlorophenoxy) propanoic acid	(Silvex, 2,4,5-TP)	CASRN 93-72-1
☐	2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate	(Erbon)	CASRN 136-25-4
☐	0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothioate	(Ronnel)	CASRN 299-84-3
☐	2,4,5-trichlorophenol	(TCP)	CASRN 95-95-4
☐	hexachlorophene	(HCP)	CASRN 70-30-4

Description:

N/A

b. Do you know or have any reason to believe that 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) or any congeners of TCDD may be present in your effluent?

☐ Yes ☒ No

If yes, provide a brief description of the conditions for its presence.

N/A

c. If you responded **yes** to either Item a **or** b, complete Table 12 as instructed.

Table 12 for Outfall No.: N/A

Samples are (check one): ☐ **Composites** ☐ **Grabs**

Compound	Toxicity Equivalent Factors	Wastewater Concentration (ppq)	Wastewater Toxicity Equivalents (ppq)	Sludge Concentration (ppt)	Sludge Toxicity Equivalents (ppt)	MAL (ppq)
2,3,7,8-TCDD	1					10
1,2,3,7,8-PeCDD	0.5					50
2,3,7,8-HxCDDs	0.1					50
1,2,3,4,6,7,8-HpCDD	0.01					50
2,3,7,8-TCDF	0.1					10
1,2,3,7,8-PeCDF	0.05					50
2,3,4,7,8-PeCDF	0.5					50
2,3,7,8-HxCDFs	0.1					50
2,3,4,7,8-HpCDFs	0.01					50
OCDD	0.0003					100
OCDF	0.0003					100
PCB 77	0.0001					500
PCB 81	0.0003					500
PCB 126	0.1					500
PCB 169	0.03					500
Total						

TABLE 13 (HAZARDOUS SUBSTANCES)

Complete Table 13 as directed. Not required for internal outfalls. (Instructions, Pages 58-59)

a. Are there any pollutants listed in the instructions (page 60) believed present in the discharge?

☐ Yes ☒ No

b. Are there pollutants listed in Item 1.d. on page 1 of this technical report which are believed present in the discharge and have not been analytically quantified elsewhere in this application?

☐ Yes ☒ No

If you responded **yes** to **either** Item a **or** b, complete Table 13 as instructed.

Table 13 for Outfall No.: N/A

Samples are (check one): ☐ **Composites** ☐ **Grabs**

Pollutant	CASRN	Average (µg/L)	Maximum (µg/L)	No. of Samples	Analytical Method

WORKSHEET 4.0
RECEIVING WATERS

This worksheet **is required** for all renewal, amendment, and new TPDES permit applications.

1. DOMESTIC DRINKING WATER SUPPLY (Instructions, Page 78)

Is there a surface water intake for domestic drinking water supply located within 5 (five) miles downstream from the point/proposed point of discharge?

☐ Yes ☒ No

If **yes**, identify owner of the drinking water supply, the distance and direction to the intake, and locate and identify the intake on the USGS map.

☐ Indicate with an 'x' in the box that the requested information is provided.

2. DISCHARGE INTO TIDALLY INFLUENCED WATERS (Instructions, Page 78)

a. Width of the receiving water at the outfall? >400 feet

b. Are there oyster reefs in the vicinity of the discharge?

☐ Yes ☒ No

If **yes**, indicate approximate distance and direction from outfall(s):

N/A

c. Are there any sea grasses within the vicinity of the point of discharge?

☒ Yes ☐ No

If **yes**, provide the distance and direction to the grasses:

Generally, to the west of Outfall 001, constructed as part of the La Quinta channel extension

3. CLASSIFIED SEGMENT (Instructions, Page 78)

Is the discharge directly into (or within 300 feet of) a classified segment?

☒ Yes ☐ No

If **yes, stop here**. It is not necessary to complete Items 4 and 5, and it is not necessary to complete Worksheet 4.1.

If **no**, complete Items 4 and 5.

4. DESCRIPTION OF IMMEDIATE RECEIVING WATERS (Instructions, Page 79)

Name of the immediate receiving waters: N/A

a. Check the appropriate description of the receiving waters

☐ Lake or Pond

Surface area (acres): Click here to enter text.

Average depth of the entire water body (feet): Click here to enter text.

Average depth of water body within a 500-foot radius of the discharge point (feet): Click here to enter text.

☐ Man-made Channel or Ditch

☐ Stream or Creek

☐ Freshwater Swamp or Marsh

☐ Tidal Stream, Bayou, or Marsh

☐ Open Bay

☐ Other: Click here to enter text.

If you checked "man-made channel or ditch" or "stream or creek" above, provide responses to items b - e below:

b. For existing discharges, check the description below that best characterizes the area upstream of the discharge.

For new discharges, check the description below that best characterizes the area downstream of the discharge.

☐ Intermittent (dry for at least one week during most years)

☐ Intermittent with Perennial Pools (enduring pools containing habitat to maintain aquatic life uses)

☐ Perennial (normally flowing)

Check the source(s) of the information used to characterize the area upstream (existing discharge) or downstream (new discharge):

☐ USGS flow records

☐ personal observation

☐ historical observation by adjacent landowner(s)

☐ others, specify: Click here to enter text.

c. List the names of all perennial streams that join the receiving water within three miles downstream of the discharge point:

N/A

d. Do the receiving water characteristics change within three miles downstream of the discharge? (e.g., natural or man-made dams, ponds, reservoirs, etc.)

☐ Yes ☐ No

If yes, discuss how:

N/A

e. Provide general observations of the water body during normal dry weather conditions:

N/A

Date and time of observation: Click here to enter text.

Was water body influenced by stormwater runoff during observations?

☐ Yes ☐ No

5. GENERAL CHARACTERISTICS OF WATER BODY (Instructions, Page 79)

a. Is the receiving water upstream of the existing discharge or proposed discharge site influenced by (check as appropriate):

☐ oil field activities
☐ agricultural runoff
☐ upstream discharges
☐ urban runoff
☐ septic tanks
☐ others, specify: Click here to enter text.

b. Uses of water body observed or evidence of such uses (check as appropriate):

☐ livestock watering
☐ non-contact recreation
☐ domestic water supply
☐ contact recreation
☐ fishing
☐ industrial water supply
☐ irrigation withdrawal
☐ navigation
☐ picnic park activities
☐ others, specify: Click here to enter text.

c. Check the description (only one) that best describes the aesthetics of the receiving water and the surrounding area:

☐ Wilderness: outstanding natural beauty; usually wooded or unpastured area: water clarity exceptional

☐ Natural Area: trees or native vegetation common; some development evident (from fields, pastures, dwellings); water clarity discolored

☐ Common Setting: not offensive, developed but uncluttered; water may be colored or turbid

☐ Offensive: stream does not enhance aesthetics; cluttered; highly developed; dumping areas; water discolored

ATTACHMENT A COPY OF PAYMENT INFORMATION

WATER QUALITY PERMIT

PAYMENT SUBMITTAL FORM

Use this form to submit the Application Fee, if the mailing the payment.

- Complete items 1 through 5 below.
- Staple the check or money order in the space provided at the bottom of this document.
- Do not mail this form with the application form.
- Do not mail this form to the same address as the application.
- Do not submit a copy of the application with this form as it could cause duplicate permit entries.

Mail this form and the check or money order to:

BY REGULAR U.S. MAIL

Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
P.O. Box 13088
Austin, Texas 78711-3088

BY OVERNIGHT/EXPRESS MAIL

Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
12100 Park 35 Circle
Austin, Texas 78753

Fee Code: WQP **Waste Permit No:** WQ0005219000

1. Check or Money Order Number: 01093112
2. Check or Money Order Amount: $1,215.00
3. Date of Check or Money Order: 09/10/2019
4. Name on Check or Money Order: Gregory PowerPartners LLC
5. APPLICATION INFORMATION

   Name of Project or Site: Gregory Power Plant

   Physical Address of Project or Site: 4633A Texas Highway 361, Gregory, TX 78359

   If the check is for more than one application, attach a list which includes the name of each Project or Site (RE) and Physical Address, exactly as provided on the application.

Staple Check or Money Order in This Space

Gregory PowerPartners LLC

REFERENCE NUMBER	DATE	VOUCHER	GROSS AMOUNT	DISCOUNT	NET AMOUNT
090919	09/09/2019	1700002778	$1,215.00	0.00	$1,215.00

CHECK NUMBER	DATE	VENDOR NUMBER	VENDOR NAME	TOTAL AMOUNT
01093112	09/10/19	0000239689	TEXAS COMMISSION ON ENVIRONMENTAL	$1,215.00

Refer to above check number and voucher number when inquiring about your payment

0001

nrg

Bank Of New York Mellon
Pittsburgh, PA 15262

60-160
433

Date: 09/10/2019
Check Number: 01093112
Vendor Number: 0000239689

Gregory PowerPartners LLC
804 Carnegie Center,
Princeton, NJ 08540

PAY *One thousand two hundred fifteen and 00/100 Dollars*

Pay Exactly
*****$1,215.00

TO THE ORDER OF

TEXAS COMMISSION ON ENVIRONMENTAL Q
PO BOX 13089
AUSTIN TX 78711-3089

AUTHORIZED SIGNATURE

VOID WITHOUT SIGNATURE
VOID AFTER NINETY DAYS

⑈01093112⑈ ⑆043301601⑆ 185⑈0728⑈

ATTACHMENT B CORE DATA FORM

TCEQ Core Data Form

TCEQ Use Only

For detailed instructions regarding completion of this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission *(If other is checked please describe in space provided.)*

☐ New Permit, Registration or Authorization (*Core Data Form should be submitted with the program application.)*

☒ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number *(if issued)*
CN 604378208		RN 102547957

SECTION II: Customer Information

4. General Customer Information | **5. Effective Date for Customer Information Updates** (mm/dd/yyyy)

☐ New Customer ☒ Update to Customer Information ☐ Change in Regulated Entity Ownership

☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)* *If new Customer, enter previous Customer below:*

Gregory Power Partners LLC

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*
801846854	15419106305	541910630	158590716

11. Type of Customer: ☒ Corporation ☐ Individual Partnership: ☐ General ☐ Limited

Government: ☐ City ☐ County ☐ Federal ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees

☐ 0-20 ☒ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?

☒ **Yes** ☐ **No**

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following:*

☐ Owner ☐ Operator ☒ Owner & Operator

☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other:

15. Mailing Address:

4633A Texas Highway 361

City	State	ZIP	ZIP + 4
Gregory	TX	78359	

16. Country Mailing Information *(if outside USA)*	17. E-Mail Address *(if applicable)*

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(713) 537-2776		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected below this form should be accompanied by a permit application)*

☐ New Regulated Entity ☒ Update to Regulated Entity Name ☐ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC.)

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

Gregory Power Plant

23. Street Address of the Regulated Entity: *(No PO Boxes)*	4633A Highway 361							
	City	Gregory	**State**	TX	**ZIP**	78359	**ZIP + 4**	
24. County	San Patricio							

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	N/A

26. Nearest City	**State**	**Nearest ZIP Code**
Gregory	TX	78539

27. Latitude (N) In Decimal:	27.878432		**28. Longitude (W) In Decimal:**	-97.257775	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
4911	4931	221112	221121

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

Electrical power generation

34. Mailing Address:	**4633A Texas Highway 361**							
	City	**Gregory**	**State**	**TX**	**ZIP**	**78359**	**ZIP + 4**	

35. E-Mail Address:	**carl.burch@nrg.com**

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(713) 537-2333		**( ) -**

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☒ Waste Water	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:
	WQ0005219000			

SECTION IV: Preparer Information

40. Name:	Amanda Ragatz	**41. Title:**	Senior Scientist

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(314) 551-7099		( ) -	amanda.ragatz@erm.com

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

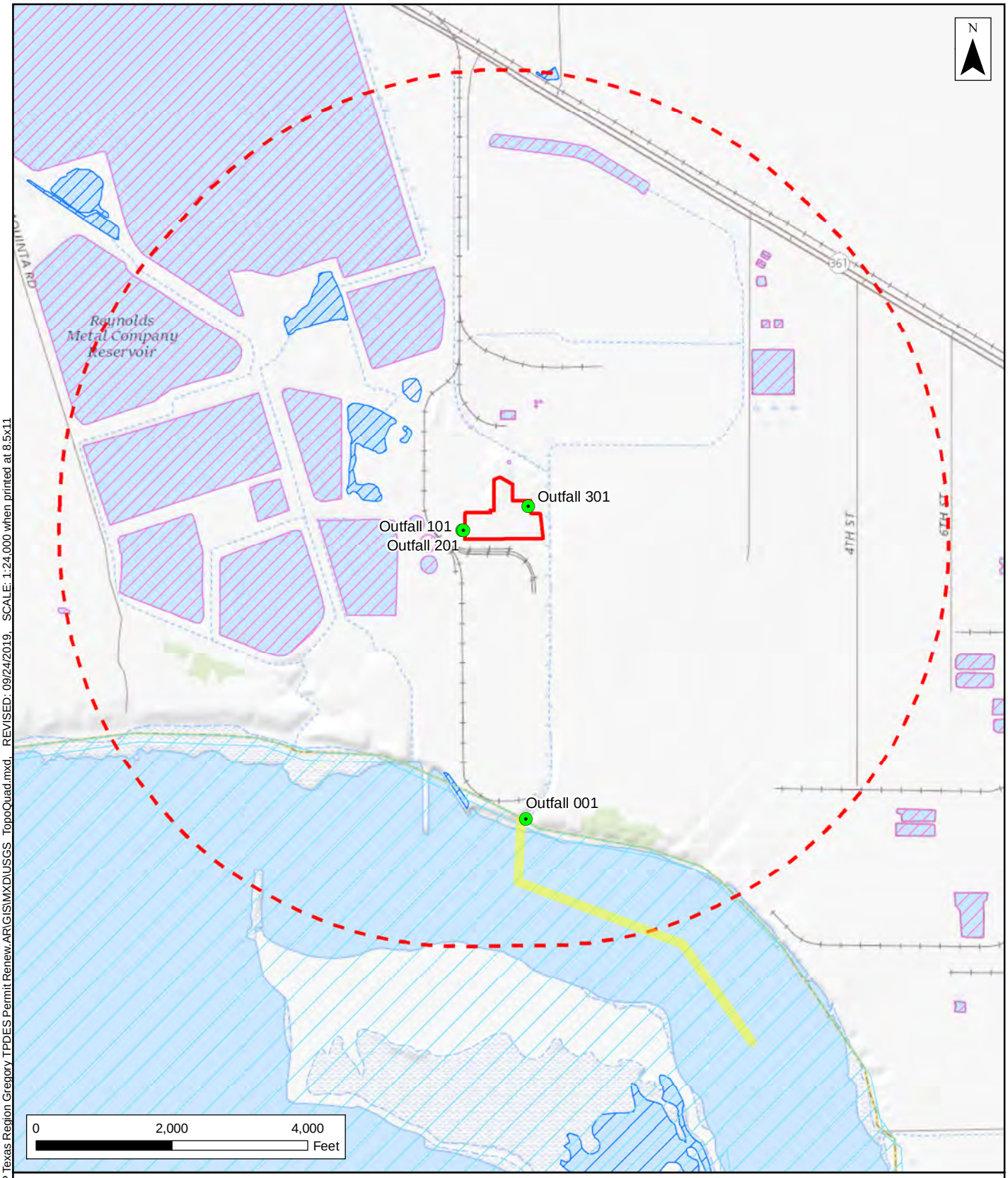
Company:	NRG	**Job Title:**	Director, Environmental Services
Name*(In Print)* **:**	Craig Eckberg	**Phone:**	(713) 537-2776
Signature:		**Date:**	

ATTACHMENT C LONG-TERM LEASE AGREEMENT

Privileged and Confidential Information

Submitted under Separate Cover

ATTACHMENT D USGS FIGURE



H:\Projects\0498048 NRG Energy AP Texas Region Gregory TPDES Permit Renew.ARGIS\MXD\USGS_TopoQuad.mxd, REVISED: 09/24/2019, SCALE: 1:24,000 when printed at 8.5x11

Legend

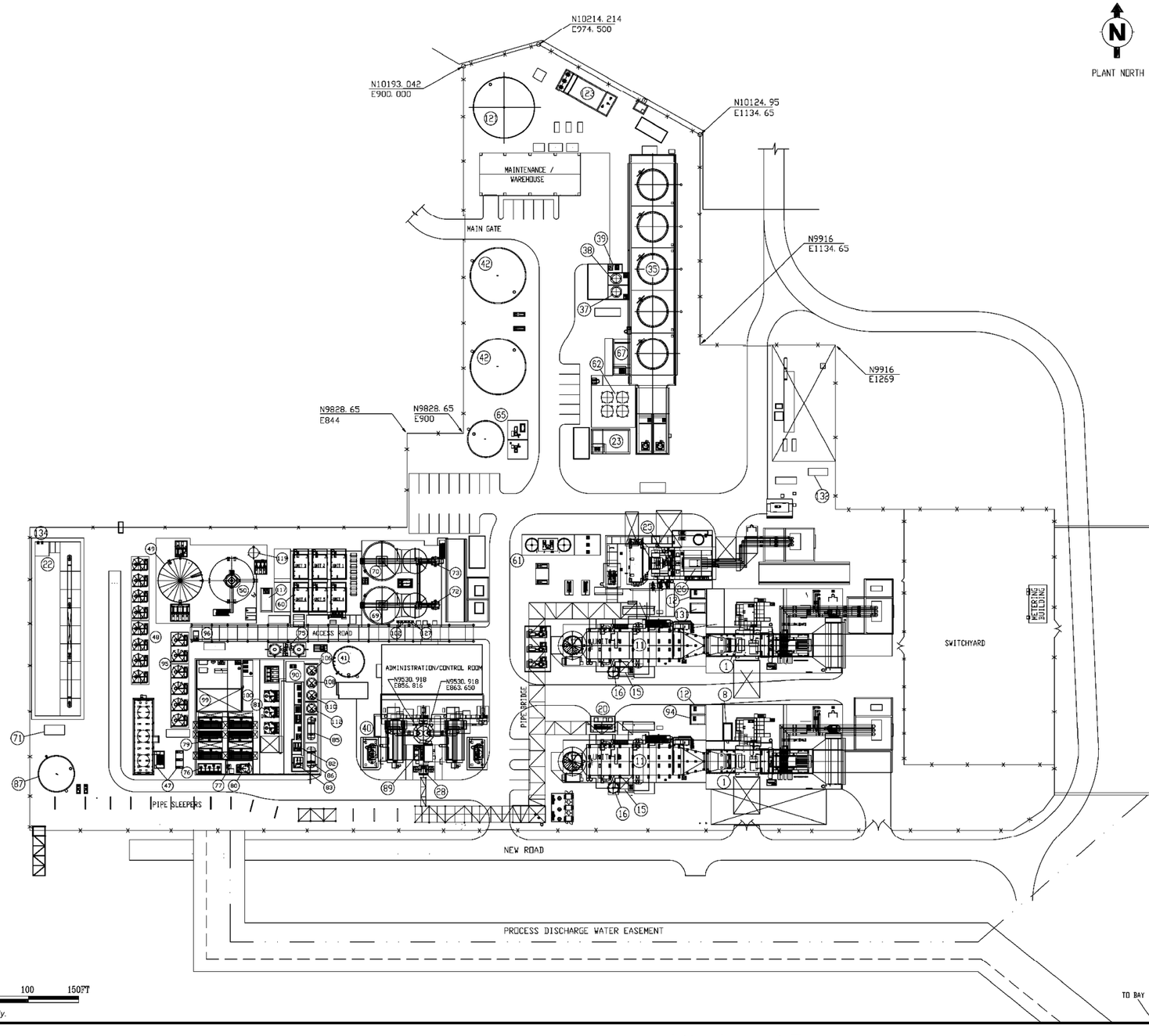
- Property Bounday
- One-mile buffer
- Outfall
- Discharge route
- LakePond
- Reservoir
- TCEQ Stream Segment
- TWDB Water Wells

USGS Topographic Map
Gregory, Aransas Pass, and Portland
1:24,000 USGS Quadrangles
TPDES Permit Renewal
Gregory Power Partners LLC
San Patricio County, Texas

Environmental Resources Management
www.erm.com
ERM

Source: Esri - USGS Topoographic Map; WGS 1984 Web Mercator Auxiliary Sphere

ATTACHMENT E FACILITY MAP



LEGEND			
1	GAS TURBINE	76	RO PREFILTERS
8	WATER WASH SKID	77	ANTISCALANT FEEDER SKID
11	HEAT RECOVERY STEAM GENERATOR	79	(6) RO BANK SKID
12	AREA SUMP / PUMPS	80	RO CLEAN IN PLACE SYSTEM
15	H.R.S.G. BLOWDOWN SUMP / PUMPS	81	(3) MIXED BED UNITS
16	H.R.S.G. BLOWDOWN TANK	82	ACID REGENERATION SYSTEM
20	CHEMICAL FEED SKIDS	83	CAUSTIC REGENERATION SYSTEM
22	MASTER WASTE WATER SUMP / PUMPS	85	ACID STORAGE TANK
23	FILTER BACKWASH SUMP / PUMPS	86	CAUSTIC STORAGE TANK
25	STEAM TURBINE	87	RETURN CONDENSATE SURGE TANK
26	S. T. GENERATOR	89	CHEMICAL STORAGE
28	AUXILIARY BOILER BLOWDOWN SUMP	90	CHEMICAL SUMP / PUMPS
35	COOLING TOWER	94	WATER WASH SUMP / PUMPS
37	ACID INJECTION EQUIPMENT	95	(6) MULTI-MEDIA FILTERS
38	HYPOCHLORITE INJECTION EQUIPMENT	96	(1) MULTI-MEDIA FILTERS COAGULANT FEED
39	CORROSION INHIBITOR INJECTION EQUIPMENT	99	BIOFOR EFFLUENT TRANSFER SUMP
40	AUXILIARY BOILERS	100	BACKWASH SUMP
41	NEUTRALIZATION TANK	102	(5) PACKAGED POLYMER FEEDERS
42	DEMINERALIZED WATER STORAGE TANKS	106	(1) FERRIC CHLORIDE STORAGE TANK
47	RETURN CONDENSATE COOLING TOWER / PUMPS	108	(1) SODIUM BISULFITE STORAGE TANK
48	ACTIVIATED CARBON FILTERS	110	(1) PHOSPHORIC ACID STORAGE TANK
49	CLEARWELL TANK	112	(1) SODIUM HYPOCHLORITE STORAGE TANK
50	GREENSAND FILTER	117	COOLING TOWER MAKE-UP SUMP / PUMPS
60	(6) BIOFOR REACTORS	119	BIOFOR INTERSTAGE CLEARWELL
61	VACUUM DEGASIFIERS	121	RAW WATER STORAGE TANK
62	(4) SIDESTREAM FILTERS	123	WET WELL SUMP & (3) PUMPS
65	FIREWATER TANK & PUMPS	127	(2) COAGULANT AID FEED SKID
67	BACKWASH CLEARWELL SUMP / PUMPS	131	CTG LUBE OIL CONTAINMENT SUMP
69	DENSADEG REACTOR/ THICKENER	132	PROPOSED PACKAGE DOMESTIC SEWAGE TRTMNT PLANT
70	DENSADEG REACTOR/ THICKENER	133	EXISTING 30"STORM WATER LINE
71	OIL/WATER SEPARATOR	134	PROPOSED TREATED PROCESS WATER EFFLUENT MONITORING LOCATION
72	RAPID MIX TANK #2		
73	RAPID MIX TANK #1		
75	(2) DECARBONATORS w/ FANS		

PROPOSED NORTH OUTFALL

PROPOSED SOUTH OUTFALL

NO.	DATE	REVISIONS	BY	CHK	DESIGN SUPV	ENGR	PROJ ENGR
0	/ /	ISSUED FOR USE	BEW				

SCALE 1"=50' | DESIGNED CADD | DRAWN DLW | CHIEF ENGR

BECHTEL ENERGY CORP.
FREDERICK, MARYLAND

GREGORY POWER PROJECT
GREGORY, TEXAS

PLOT PLAN
100MW EXTRACTION TURBINE

JOB NO.	DRAWING NO.	REV
23946	P1-0010-G0001	00

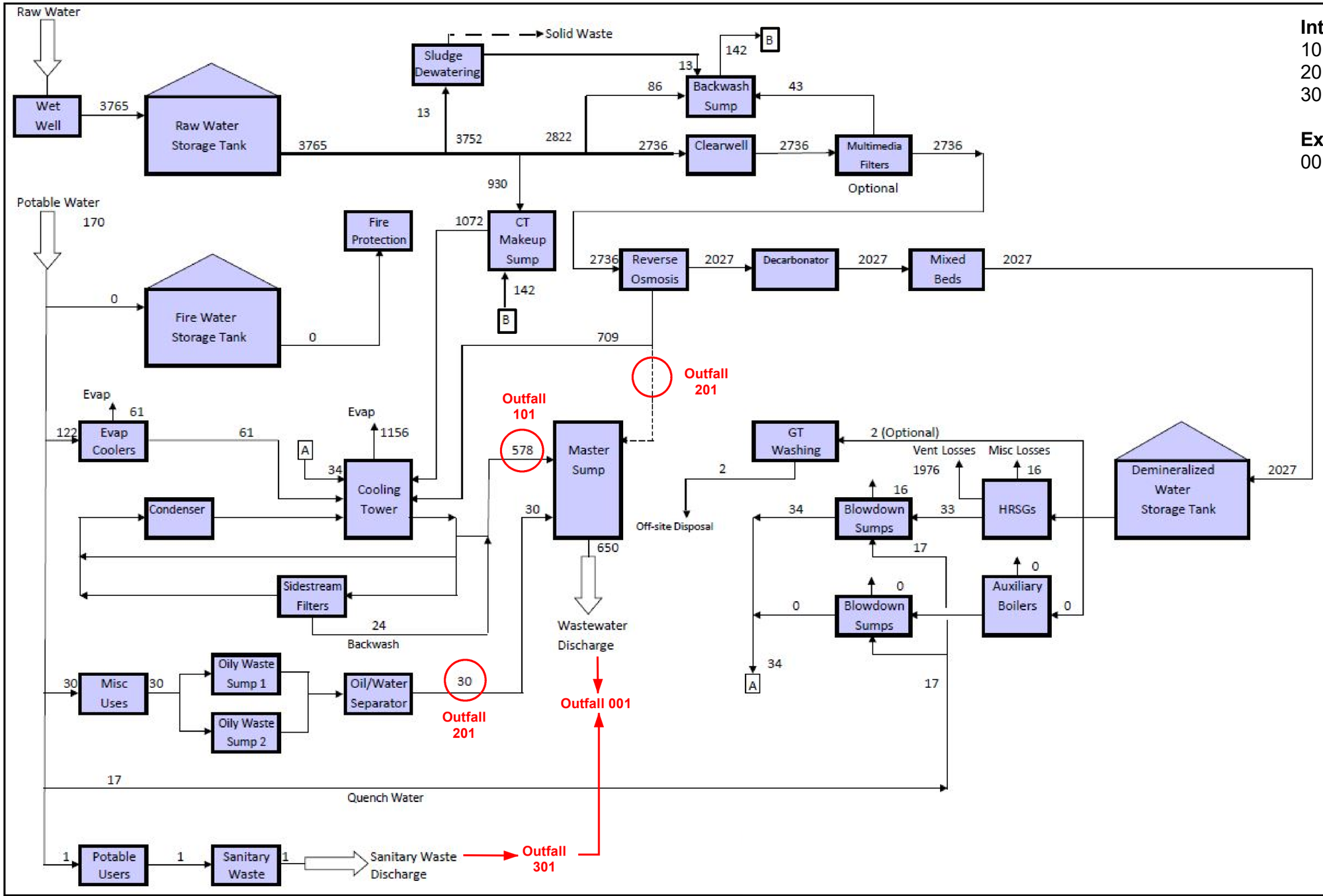
This information is for environmental review purposes only.

Attachment E
Gregory Power Partners LLC
San Patricio County, TX
Facility Map

M:\Clients\G-I\GPP_ArcGIS\2016\12\Project_Overview_GPP_Gregory_Station_Wastewater_System.mxd | REVISED: 12/07/2016 | SCALE: 1:4,334,074,480 when printed at 11x17

DRAWN BY: JPB

ATTACHMENT F FLOW SCHEMATIC AND WATER BALANCE



Internal Outfalls:
101: Cooling Tower Blowdown
201: Low Volume Waste
301: Domestic Wastewater

External Outfalls:
001: Outfall at Corpus Christi Bay

This information is for environmental review purposes only.

Attachment F
Gregory Power Partners LLC
San Patricio County, TX
Flow Schematic and Water Balance

ERM

M:\Clients\G-I\GPP_ArcGIS\2016\12\Project_Overview_GPP_Gregory_Station_Water_Balance_20190924.mxd | REVISED: 09/25/2019 | SCALE: NOT TO SCALE when printed at 11x17 | DRAWN BY: MSP_GIS

ATTACHMENT G ADDITIONAL OUTFALL WASTESTREAM CONTRIBUTIONS

Attachment G
Technical Report, page 8

Outfall No.: 001

Contributing Wastestreams	Volume (MGD)	% of Total Flow
Outfall 101: Cooling Tower Blowdown	0.832	90.6
Outfall 201: Low Volume Waste	0.085	9.3
Outfall 301: Domestic Wastewater	0.001	0.1
Stormwater	Variable	Variable

ATTACHMENT H CHEMICAL SUMMARY AND SDS FOR COOLING WATER DISCHARGES

Attachment H

Technical Report, page 9

Cooling Water Treatment Chemicals

Chemical Name	FOAMTROL AF1440	GENGARD GN7004	SPECTRUS NX1100
Manufacturers Product Identification Number	AF1440	GN7004	NX1100
Product Use	Antifoam	Dispersant	Biocide
Chemical Composition including CASRN for each ingredient	Petroleum distillate, middle cut (64741-44-2) Fatty acid ethoxylate (61791-00-2) Fatty acids, C16-18 (67701-03-5)	Product does not contain hazardous ingredients in reportable concentrations	2-Bromo-2-nitropropane-1,3-diol (Bronopol) (52-51-7) Magnesium nitrate (10377-60-3) Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (55965-84-9) Magnesium chloride (7786-30-3)
Persistence	Non-persistent	Non-persistent	Non-persistent
Active Ingredient Half-life	No data available	No data available	No data available
Frequency of Product Use	Batch fed, infrequently	Continuous	Batch fed, infrequently
Toxicity	96-hr. LC50 (Rainbow Trout): 353 mg/l	96-hr. LC50 (Fathead Minnow): 2367 mg/l	96-hr. LC50 (Rainbow Trout): 7.2 mg/l
Concentration of whole product in wastestream	10 ppm	4 ppm	50 ppm

Boiler Chemicals

Chemical Name	OPTISPERSE HP9430
Manufacturers Product Identification Number	HP9430
Product Use	Internal boiler treatment
Chemical Composition	Trisodium phosphate
Chemical Abstract Number	7601-54-9
Persistence	Non-persistent
Active Ingredient Half-life	No data available
Frequency of Product Use	Continuous
Toxicity	96-hr. LC50 (Bluegill Sunfish): 220 mg/l
Concentration of whole product in wastestream	3 ppm

GE Power & Water
Water & Process Technologies

SAFETY DATA SHEET

FOAMTROL* AF1440

1. Identification

Product identifier **FOAMTROL AF1440**

Other means of identification Not available.

Recommended use Antifoam

Recommended restrictions None known.

Company/undertaking identification

GE Betz, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards

Acute toxicity, inhalation	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Carcinogenicity	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
Aspiration hazard	Category 1

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. Harmful if inhaled. May cause respiratory irritation. Suspected of causing cancer. Suspected of damaging fertility or the unborn child.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves. Wear eye/face protection.

Response	If swallowed: Immediately call a poison center/doctor/. If on skin: Wash with plenty of water/. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. Call a poison center/doctor// if you feel unwell. Specific treatment (see on this label). Do NOT induce vomiting. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations. Dispose of contents/container to an approved waste disposal facility.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Petroleum distillate, middle cut		64741-44-2	60 - 80
Fatty acid ethoxylate		61791-00-2	2.5 - 10
Fatty acids, C16-18		67701-03-5	2.5 - 10

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

Composition comments	Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Aspiration may cause pulmonary edema and pneumonitis.
Most important symptoms/effects, acute and delayed	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Not available.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Not available.
Fire-fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of vapors and spray mists. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or confined areas.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Vent carefully before opening. Do not handle until all safety precautions have been read and understood. Avoid inhalation of vapors and spray mists. Avoid contact with skin. Avoid contact with eyes. Avoid contact during pregnancy/while nursing. Avoid prolonged exposure. Avoid contact with clothing. Use only outdoors or in a well-ventilated area. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Store locked up. Store away from oxidizers. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Store in accordance with local/regional/national/international regulation. Store between 32 - 38 °C If storage is below 32 °C, warm and mix prior to use to ensure homogeneity.

8. Exposure controls/personal protection

Occupational exposure limits

No exposure limits noted for ingredient(s).

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection

Splash proof chemical goggles.

Skin protection

Hand protection

Chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

Chemical respirator with organic vapor cartridge and full facepiece. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Color

Amber

Physical state

Liquid

Odor

Hydrocarbon

Odor threshold

Not available.

pH in aqueous solution

5.6 (5% EMULSION)

Melting point/freezing point

18 °F (-8 °C)

Initial boiling point and boiling range	350 °F (177 °C)
Flash point	> 200 °F (> 93 °C) P-M(CC)
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	< 1 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	> 1 (Air = 1)
Relative density	0.87
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	0 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	11 cps
Viscosity temperature	70 °F (21 °C)
Other information	
Percent volatile	53.9 (Estimated)
Pour point	< 60 °F (< 16 °C)
Specific gravity	0.87

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid contact with strong oxidizers.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Oxides of carbon evolved in fire.

11. Toxicological information

Information on likely routes of exposure	
Ingestion	May be fatal if swallowed and enters airways.
Inhalation	May be fatal if swallowed and enters airways. Harmful if inhaled.
Skin contact	May cause irritation.
Eye contact	Causes serious eye irritation.
Symptoms related to the physical, chemical and toxicological characteristics	May cause redness and pain. May cause respiratory irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
Information on toxicological effects	
Acute toxicity	May be fatal if swallowed and enters airways. Harmful if inhaled. May cause respiratory irritation.

Product	Species	Test Results
FOAMTROL AF1440 (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	4750 mg/kg, (Calculated according to GHS additivity formula)
Inhalation		
LC50	Rat	2.23 mg/l, 4 Hours, (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	> 5000 mg/kg, (Calculated according to GHS additivity formula)

Components	Species	Test Results
Fatty acids, C16-18 (CAS 67701-03-5)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	> 5000 mg/kg
Petroleum distillate, middle cut (CAS 64741-44-2)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	> 1.72 mg/l, 4 hr
Oral		
LD50	Rat	> 5000 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not available.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Suspected of causing cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

Petroleum distillate, middle cut (CAS 64741-44-2) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity Suspected of damaging fertility or the unborn child.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not available.

Aspiration hazard May be fatal if swallowed and enters airways.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product		Species	Test Results
FOAMTROL AF1440 (CAS Mixture)			
Crustacea	LC50	Daphnia magna	720 mg/L, Static Acute Bioassay, 48 hour
	NOEL	Daphnia magna	250 mg/L, Static Acute Bioassay, 48 hour
Other	LC50	Rainbow Trout	353 mg/L, Static Acute Bioassay, 96 hour
	NOEL	Rainbow Trout	250 mg/L, Static Acute Bioassay, 96 hour

* Estimates for product may be based on additional component data not shown.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Environmental fate The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability

Testing has shown product to be readily biodegradable.
(Refers to active component : Distillates (petroleum), hydrotreated light)

- **COD (mgO2/g)** 1486 (calculated data)
- **BOD 5 (mgO2/g)** 138 (calculated data)
- **BOD 28 (mgO2/g)** 285 (calculated data)
- **Closed Bottle Test (% Degradation in 28 days)** 13 (calculated data)
- **TOC (mg C/g)** 500 (calculated data)

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

Some containers may be DOT exempt, please check BOL for exact container classification.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity	Threshold planning quantity	Threshold planning quantity, lower value	Threshold planning quantity, upper value
Ethylene oxide (oxirane)	75-21-8	10	1000 lbs		

SARA 311/312 Hazardous chemical

No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
1,4-DIOXANE	123-91-1	0 - 0.1
Ethylene oxide (oxirane)	75-21-8	0 - 0.1

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Food and drug administration

21 CFR 176.210 (defoaming agents used in the manufacture of paper and paperboard)

NSF Registered and/or meets USDA (according to 1998 guidelines):

Registration No. – 148167
Category Code(s):
G5 Cooling and retort water treatment products
G7 Boiler, steam line treatment products – nonfood contact

US state regulations

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

US - Massachusetts RTK - Substance List

Not regulated.

US - Pennsylvania RTK - Hazardous Substances

Not regulated.

US - Rhode Island RTK

Not regulated.

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. New Jersey Worker and Community Right-to-Know Act

Not regulated.

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

1,4-DIOXANE (CAS 123-91-1) Listed: January 1, 1988
Ethylene oxide (oxirane) (CAS 75-21-8) Listed: July 1, 1987

US - California Proposition 65 - CRT: Listed date/Developmental toxin

Ethylene oxide (oxirane) (CAS 75-21-8) Listed: August 7, 2009

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

Ethylene oxide (oxirane) (CAS 75-21-8) Listed: February 27, 1987

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

Ethylene oxide (oxirane) (CAS 75-21-8) Listed: August 7, 2009

16. Other information, including date of preparation or last revision

Issue date	Nov-14-2014
Revision date	Nov-14-2014
Version #	1.0
List of abbreviations	CAS: Chemical Abstract Service Registration Number NFPA: National Fire Protection Association ACGIH: American Conference of Governmental Industrial Hygienists TWA: Time Weighted Average STEL: Short Term Exposure Limit LD50: Lethal Dose, 50% LC50: Lethal Concentration, 50% NOEL: No Observed Effect Level COD: Chemical Oxygen Demand BOD: Biochemical Oxygen Demand TOC: Total Organic Carbon IATA: International Air Transport Association IMDG: International Maritime Dangerous Goods Code TSRN indicates a Trade Secret Registry Number is used in place of the CAS number. TLV: Threshold Limit Value
References:	No data available
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision Information	Composition / Information on Ingredients: Ingredients Physical & Chemical Properties: Multiple Properties Toxicological Information: Toxicological Data Transport Information: Material Transportation Information GHS: Classification
Prepared by	This SDS has been prepared by GE Water & Process Technologies Regulatory Department (1-215-355-3300).

GE Power
Water & Process Technologies

SAFETY DATA SHEET

GENGARD* GN7004

1. Identification

Product identifier **GENGARD GN7004**

Other means of identification None.

Recommended use Dispersant

Recommended restrictions None known.

Company/undertaking identification

GE Betz, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

Composition comments This product does not contain hazardous ingredients in reportable concentrations. Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Rinse skin with water/shower. Get medical attention if irritation develops and persists.

Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Handle in accordance with good industrial hygiene and safety procedures. Avoid prolonged exposure.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Keep container tightly closed. Store in cool, well ventilated area. Store away from oxidizers. Protect from freezing. If frozen, thaw completely and mix thoroughly prior to use.

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Suitable gloves can be recommended by the glove supplier. Glove selection must take into account any solvents and other hazards present.
Other	Wear suitable protective clothing.

Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Color	Amber
Physical state	Liquid
Odor	Mild
Odor threshold	Not available.
pH (concentrated product)	5
pH in aqueous solution	5.9 (5% SOL.)
Melting point/freezing point	25 °F (-4 °C)
Initial boiling point and boiling range	220 °F (104 °C)
Flash point	Not applicable.
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1 (Air = 1)
Relative density	1.13
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	24 cps
Viscosity temperature	70 °F (21 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Percent volatile	0 (Calculated)
Pour point	30 °F (-1 °C)
Specific gravity	1.134

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.

Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Oxides of carbon evolved in fire.

11. Toxicological information

Information on likely routes of exposure

Inhalation	No adverse effects due to inhalation are expected.
Skin contact	Prolonged or repeated contact may cause transient irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
GENGARD GN7004 (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg, (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	> 5000 mg/kg, (Calculated according to GHS additivity formula)

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization	
Respiratory sensitization	This product is not expected to cause respiratory sensitization.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Based on available data, the classification criteria are not met.
Chronic effects	Prolonged inhalation may be harmful.
Further information	This product has no known adverse effect on human health.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
GENGARD GN7004 (CAS Mixture)			
	LC50	Ceriodaphnia	1707.6 mg/L, Static Acute Bioassay, 48 hour
		Fathead Minnow	2367 mg/L, Static Acute Bioassay, 96 hour
	LOEL	Ceriodaphnia	1000 mg/L, Chronic Bioassay, 7 day
		Fathead Minnow	2000 mg/L, Chronic Bioassay, 7 day
	NOEL	Ceriodaphnia	1250 mg/L, Static Acute Bioassay, 48 hour
			500 mg/L, Chronic Bioassay, 7 day
		Fathead Minnow	1250 mg/L, Static Acute Bioassay, 96 hour
			1000 mg/L, Chronic Bioassay, 7 day
Aquatic			
Crustacea	LC50	Daphnia magna	3677 mg/L, Static Acute Bioassay, 48 hour
	NOEL	Daphnia magna	2500 mg/L, Static Acute Bioassay, 48 hour
Fish	LC50	Rainbow Trout	1894 mg/L, Static Acute Bioassay, 96 hour
	NOEL	Rainbow Trout	1250 mg/L, Static Acute Bioassay, 96 hour

* Estimates for product may be based on additional component data not shown.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects Nutrients: P : 1.449 mg/g, N : 2.62 mg/g

Persistence and degradability

- **COD (mgO2/g)** 385 (calculated data)
- **BOD 5 (mgO2/g)** 0 (calculated data)
- **BOD 28 (mgO2/g)** 24 (calculated data)
- **Closed Bottle Test (% Degradation in 28 days)** 6 (calculated data)
- **TOC (mg C/g)** 109 (calculated data)

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

NSF Registered and/or meets USDA (according to 1998 guidelines): Registration No. – 141931
Category Code(s):
G5 Cooling and retort water treatment products
G7 Boiler, steam line treatment products – nonfood contact

US state regulations

US - Massachusetts RTK - Substance List

Not regulated.

US - Pennsylvania RTK - Hazardous Substances

Not regulated.

US - Rhode Island RTK

Not regulated.

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. California Proposition 65

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

No ingredient listed.

16. Other information, including date of preparation or last revision

Issue date	Jan-07-2015
Revision date	Aug-03-2016
Version #	5.0
List of abbreviations	CAS: Chemical Abstract Service Registration Number TWA: Time Weighted Average STEL: Short Term Exposure Limit LD50: Lethal Dose, 50% LC50: Lethal Concentration, 50% NOEL: No Observed Effect Level COD: Chemical Oxygen Demand BOD: Biochemical Oxygen Demand TOC: Total Organic Carbon IATA: International Air Transport Association IMDG: International Maritime Dangerous Goods Code ACGIH: American Conference of Governmental Industrial Hygienists
References:	No data available
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision information	This document has undergone significant changes and should be reviewed in its entirety.
Prepared by	This SDS has been prepared by GE Water & Process Technologies Regulatory Department (1-215-355-3300).

* Trademark of General Electric Company. May be registered in one or more countries.

GE Power
Water & Process Technologies

SAFETY DATA SHEET

SPECTRUS* NX1100

1. Identification

Product identifier **SPECTRUS NX1100**

Other means of identification None.

Recommended use Biocide

Recommended restrictions None known.

Company/undertaking identification

GE Betz, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Sensitization, skin	Category 1
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement May be corrosive to metals. Harmful if swallowed. Harmful if inhaled. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. May cause respiratory irritation.

Precautionary statement

Prevention Wash hands thoroughly after handling. Keep only in original container. Do not breathe mist or vapor. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Wear eye/face protection. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves.

Response	If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store in corrosive resistant container with a resistant inner liner.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
2-Bromo-2-nitropropane-1,3-diol (Bronopol)	52-51-7	2.5 - 10
Magnesium nitrate	10377-60-3	2.5 - 10
Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one	55965-84-9	2.5 - 10
Magnesium chloride	7786-30-3	1 - 2.5

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

Composition comments	Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting. Call a physician or poison control center immediately. Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed. Material is corrosive. It may not be advisable to induce vomiting. Possible mucosal damage may contraindicate the use of gastric lavage.
General information	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Deactivate spill area with freshly prepared solution of 5% sodium bicarbonate and 5% sodium hypochlorite in water. Apply solution to the spill area at a ratio of 10 volumes deactivation solution per estimated volume of residual spill to deactivate any residual active ingredient.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground. Prevent from entering sewers or the immediate environment.

7. Handling and storage

Precautions for safe handling	Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Corrosive liquid. Do not breathe vapors or spray mist.
Conditions for safe storage, including any incompatibilities	Keep container tightly closed in a dry and well-ventilated place. Store at temperatures below 35°C Use approved containers only. Protect from freezing. If frozen, thaw completely and mix thoroughly prior to use. Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Keep only in the original container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance	
Color	Colorless to yellow green
Physical state	
Odor	None
Odor threshold	Not available.
pH (concentrated product)	3
pH in aqueous solution	3.7 (5% SOL.)
Melting point/freezing point	24 °F (-4 °C)
Initial boiling point and boiling range	220 °F (104 °C)
Flash point	Not applicable.
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1 (Air = 1)
Relative density	1.11
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	4 cps
Viscosity temperature	70 °F (21 °C)
Other information	
Percent volatile	0
Pour point	29 °F (-2 °C)
Specific gravity	1.11

10. Stability and reactivity

Reactivity	May be corrosive to metals.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Hydrogen bromide, bromine gas, hydrogen chloride, chlorine gas, oxides of carbon and nitrogen evolved in fire. Sulfur oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Harmful if inhaled. May cause irritation to the respiratory system.
Skin contact	Causes severe skin burns. May cause an allergic skin reaction.

Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns. Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

Information on toxicological effects

Acute toxicity Harmful if swallowed. Harmful if inhaled. May cause an allergic skin reaction. May cause respiratory irritation.

Product	Species	Test Results
SPECTRUS NX1100 (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg, (Calculated according to GHS additivity formula)
Inhalation		
LC50	Rat	> 1 mg/l, 4 Hour, (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	1030 mg/kg, (Calculated according to GHS additivity formula)

Components	Species	Test Results
2-Bromo-2-nitropropane-1,3-diol (Bronopol) (CAS 52-51-7)		
Acute		
Dermal		
LD50	Rat	1600 mg/kg
Inhalation		
LC50	Rat	> 0.59 mg/l, 4 Hour, (Aerosol toxicity)
Oral		
LD50	Rat	324 mg/kg
Magnesium chloride (CAS 7786-30-3)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	> 5000 mg/kg
Magnesium nitrate (CAS 10377-60-3)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg
Oral		
LD50	Rat	5400 mg/kg
Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (CAS 55965-84-9)		
Acute		
Dermal		
LD50	Rabbit	90 mg/kg
Inhalation		
LC50	Rat	0.33 mg/l, 4 Hour
Oral		
LD50	Rat	67 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin burns.
Serious eye damage/eye irritation	Corrosive to eyes. Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization This product is not expected to cause respiratory sensitization.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not available.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not available.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause respiratory irritation.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Based on available data, the classification criteria are not met. Aspiration of this product may cause the same corrosiveness/irritation impacts as if it were ingested.

Chronic effects Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
SPECTRUS NX1100 (CAS Mixture)			
	LC50	Ceriodaphnia	4.7 mg/l, Static Renewal Bioassay, 48 hour
		Fathead Minnow	3.5 mg/l, Static Renewal Bioassay, 96 hour
		Menidia beryllina (Silversides)	15.9 mg/l, Static Renewal Bioassay, 96 hour
		Mysid Shrimp	40.5 mg/l, Static Renewal Bioassay, 48 hour
		Sheepshead Minnow	26.7 mg/l, Static Renewal Bioassay, 96 hour
	NOEL	Ceriodaphnia	0.63 mg/l, Static Renewal Bioassay, 48 hour
		Fathead Minnow	1.8 mg/l, Static Renewal Bioassay, 96 hour
		Menidia beryllina (Silversides)	12.5 mg/l, Static Renewal Bioassay, 96 hour
		Mysid Shrimp	18 mg/l, Static Renewal Bioassay, 48 hour
		Sheepshead Minnow	15.5 mg/l, Static Renewal Bioassay, 96 hour
Aquatic			
Crustacea	LC50	Daphnia magna	5 mg/l, Static Renewal Bioassay, 48 hour
	NOEL	Daphnia magna	2.5 mg/l, Static Renewal Bioassay, 48 hour
Fish	LC50	Rainbow Trout	7.2 mg/l, Static Renewal Bioassay, 96 hour
	NOEL	Rainbow Trout	3.1 mg/l, Static Renewal Bioassay, 96 hour

Components		Species	Test Results
2-Bromo-2-nitropropane-1,3-diol (Bronopol) (CAS 52-51-7)			
	EC50	Daphnia Magna	1.4 mg/l, 48 hour
Aquatic			
Fish	LC50	Rainbow Trout	41 mg/l, 96 hour

* Estimates for product may be based on additional component data not shown.

Bioaccumulative potential Not bioaccumulating (Refers to active component) 2-Bromo-2-nitropropane-1,3-diol

Partition coefficient n-octanol / water (log Kow)

2-Bromo-2-nitropropane-1,3-diol (Bronopol)	-0.64
Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one	0.486

Mobility in soil No data available.

Other adverse effects Nutrients: N = 8.03 mg/g

Persistence and degradability

- **COD (mgO2/g)** 78 (calculated data)
- **BOD 5 (mgO2/g)** 2 (calculated data)
- **BOD 28 (mgO2/g)** 4 (calculated data)
- **Closed Bottle Test (% Degradation in 28 days)** 2 (calculated data)
- **Zahn-Wellens Test (% Degradation in 28 days)** 8 (calculated data)
- **TOC (mg C/g)** 29 (calculated data)

13. Disposal considerations

Disposal instructions Dispose of in approved pesticide facility or according to label instructions. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations. Incinerate the material under controlled conditions in an approved incinerator.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company. D002= Corrosive

Waste from residues / unused products Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

Contaminated packaging Dispose of in approved pesticide facility or according to label instructions. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number UN3265

UN proper shipping name CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (MIXTURE OF 5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE AND 2-METHYL-4-ISOTHIAZOLIN-3-ONE; 2-BROMO-2-NITROPROPANE-1,3-DIOL)

Transport hazard class(es)

Class 8

Subsidiary risk -

Packing group II

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

ERG number 154

Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.

IATA

UN number UN3265

UN proper shipping name CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (MIXTURE OF 5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE AND 2-METHYL-4-ISOTHIAZOLIN-3-ONE; 2-BROMO-2-NITROPROPANE-1,3-DIOL)

Transport hazard class(es)

Class 8

Subsidiary risk -

Packing group II

Environmental hazards No.

ERG Code 153

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN3265

UN proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (MIXTURE OF 5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE AND 2-METHYL-4-ISOTHIAZOLIN-3-ONE; 2-BROMO-2-NITROPROPANE-1,3-DIOL), MARINE POLLUTANT
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	Yes
EmS	F-A,S-B
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

DOT

IATA; IMDG

Marine pollutant

15. Regulatory information

US federal regulations

This is an EPA registered biocide and is exempt from TSCA inventory requirements. See FIFRA registry number. This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Magnesium nitrate	10377-60-3	2.5 - 10

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130) Hazardous substance

Safe Drinking Water Act (SDWA) Not regulated.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

FIFRA registration number 3876-151

TSCA This is an EPA registered biocide and is exempt from TSCA inventory requirements.

FIFRA hazard statement This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

DANGER
Corrosive
Causes irreversible eye damage
Causes skin burns
Harmful if swallowed or absorbed through the skin
Harmful if inhaled
Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals
This pesticide is toxic to fish and aquatic organisms

Food and drug administration 21 CFR 176.300 & 176.170 (slimicides and as a preservative)

NSF Registered and/or meets USDA (according to 1998 guidelines): Registration No. – 141064
Category Code(s):
G5 Cooling and retort water treatment products
G7 Boiler, steam line treatment products – nonfood contact

US state regulations

US - Massachusetts RTK - Substance List

Magnesium nitrate (CAS 10377-60-3)

US - Pennsylvania RTK - Hazardous Substances

Magnesium nitrate (CAS 10377-60-3)

US - Rhode Island RTK

Magnesium nitrate (CAS 10377-60-3)

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Magnesium chloride (CAS 7786-30-3)
Magnesium nitrate (CAS 10377-60-3)

US. New Jersey Worker and Community Right-to-Know Act

Magnesium nitrate (CAS 10377-60-3)

US. Pennsylvania Worker and Community Right-to-Know Law

Magnesium nitrate (CAS 10377-60-3)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Sulphuric acid (CAS 7664-93-9) Listed: March 14, 2003

US - California Proposition 65 - CRT: Listed date/Developmental toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

No ingredient listed.

16. Other information, including date of preparation or last revision

Issue date	Jul-03-2014
Revision date	Feb-19-2016
Version #	9.0
List of abbreviations	CAS: Chemical Abstract Service Registration Number ACGIH: American Conference of Governmental Industrial Hygienists TWA: Time Weighted Average STEL: Short Term Exposure Limit LD50: Lethal Dose, 50% LC50: Lethal Concentration, 50% EC50: Effect Concentration, 50% NOEL: No Observed Effect Level COD: Chemical Oxygen Demand BOD: Biochemical Oxygen Demand TOC: Total Organic Carbon IATA: International Air Transport Association IMDG: International Maritime Dangerous Goods Code TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.
References:	CNS 15030 UN Transportation Regulations Safety data sheets of raw materials.
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision information	Composition / Information on Ingredients: Disclosure Overrides Exposure controls/personal protection: Hand protection Exposure controls/personal protection: Respiratory protection Physical & Chemical Properties: Multiple Properties Toxicological information: Aspiration hazard Transport Information: Material Transportation Information GHS: Classification
Prepared by	This SDS has been prepared by GE Water & Process Technologies Regulatory Department (1-215-355-3300).

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GE Power & Water
Water & Process Technologies

SAFETY DATA SHEET

OPTISPERSE* HP9430

1. Identification

Product identifier	**OPTISPERSE HP9430**
Other means of identification	Not available.
Recommended use	Internal boiler treatment
Recommended restrictions	None known.

Company/undertaking identification

GE Betz, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
OSHA defined hazards	Not classified.	

Label elements

Signal word	Warning
Hazard statement	Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.
Precautionary statement	
Prevention	Avoid breathing dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves. Wear eye/face protection.
Response	If on skin: Wash with plenty of water/. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor// if you feel unwell. Specific treatment (see on this label). If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Substance

Chemical name	Common name and synonyms	CAS number	%
Trisodium phosphate		7601-54-9	90 - 100

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

Composition comments Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

4. First-aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Eye contact URGENT! Immediately flush eyes with plenty of low-pressure water for at least 20 minutes while removing contact lenses. Hold eyelids apart. Get immediate medical attention.

Ingestion Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.

Most important symptoms/effects, acute and delayed Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. May cause redness and pain.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire-fighting equipment/instructions Use water spray to cool unopened containers.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Avoid contact with skin. Avoid contact with eyes. Avoid prolonged exposure. Avoid contact with clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Use care in handling/storage.

Conditions for safe storage, including any incompatibilities Keep dry. Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Store in accordance with local/regional/national/international regulation.

8. Exposure controls/personal protection

Occupational exposure limits

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
Trisodium phosphate (CAS 7601-54-9)	STEL	5 mg/m3

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Airtight chemical goggles.

Skin protection

Hand protection Chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection Chemical respirator with organic vapor cartridge and full facepiece. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Color White

Physical state Powder

Odor None

Odor threshold Not available.

pH in aqueous solution 11.5 (1% SOL.)

Melting point/freezing point Not available.

Initial boiling point and boiling range Not available.

Flash point > 212 °F (> 100 °C) P-M(CC)

Evaporation rate < 1 (Ether = 1)

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure < 0.1 mm Hg

Vapor pressure temp. 70 °F (21 °C)

Vapor density < 1 (Air = 1)

Relative density NA

Relative density temperature 70 °F (21 °C)

Solubility(ies)

Solubility (water) 11 %

Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Viscosity temperature	70 °F (21 °C)
Other information	
Percent volatile	0 (Calculated)

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use. Contact with strong acids may cause a violent reaction releasing heat.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Oxides of phosphorus evolved in fire.

11. Toxicological information

Information on likely routes of exposure

Ingestion	May cause gastrointestinal irritation.
Inhalation	Prolonged inhalation may be harmful. May cause irritation to the respiratory system.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Symptoms related to the physical, chemical and toxicological characteristics	May cause redness and pain. May cause respiratory irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Information on toxicological effects

Acute toxicity May cause respiratory irritation.

Product	Species	Test Results
OPTISPERSE HP9430 (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	> 7940 mg/kg, (Rabbit dermal LD50: >2,000 MG/KG alternate source)
Oral		
LD50	Rat	4150 mg/kg, (Rat oral LD50: 6,500 mg/kg alternate source. [oral data for dodecahydrate])

Components	Species	Test Results
Trisodium phosphate (CAS 7601-54-9)		
Acute		
Dermal		
LD50	Rabbit	> 7940 mg/kg
Oral		
LD50	Rat	4150 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not available.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause respiratory irritation.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not classified.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product		Species	Test Results
OPTISPERSE HP9430			
	LC50	Bluegill Sunfish	220 mg/L, Static Acute Bioassay, 96 hour
		Fathead Minnow	3695 mg/L, Static Renewal Bioassay, 96 hour, (pH adjusted)
	NOEL	Fathead Minnow	1370 mg/L, Static Renewal Bioassay, 96 hour, (pH adjusted)
Crustacea	LC50	Daphnia magna	1850 mg/L, Static Renewal Bioassay, 48 hour, (pH adjusted)
	NOEL	Daphnia magna	1370 mg/L, Static Renewal Bioassay, 48 hour, (pH adjusted)
Other	LC50	Rainbow Trout	120 mg/L, Static Acute Bioassay, 96 hour

* Estimates for product may be based on additional component data not shown.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Environmental fate The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability

This product, being inorganic and in its highest oxidation state, has no COD,BOD or TOC.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code D002: Waste Corrosive material [pH <=2 or =>12.5, or corrosive to steel]
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

Some containers may be DOT exempt, please check BOL for exact container classification.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Trisodium phosphate (CAS 7601-54-9) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Food and drug administration

ALL ingredients in this product are authorized in 21CFR173.310 for use as boiler water additives where the steam may contact food.

NSF Registered and/or meets USDA (according to 1998 guidelines):

Registration No. – 145976
Category Code(s):
G5 Cooling and retort water treatment products
G6 Boiler treatment products, steam line products – food contact

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

US - Massachusetts RTK - Substance List

Trisodium phosphate (CAS 7601-54-9)

US - Pennsylvania RTK - Hazardous Substances

Trisodium phosphate (CAS 7601-54-9)

US - Rhode Island RTK

Trisodium phosphate (CAS 7601-54-9)

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. New Jersey Worker and Community Right-to-Know Act

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

No ingredient listed.

16. Other information, including date of preparation or last revision

Issue date	Nov-05-2014
Revision date	Nov-05-2014
Version #	1.0
List of abbreviations	CAS: Chemical Abstract Service Registration Number TWA: Time Weighted Average STEL: Short Term Exposure Limit TLV: Threshold Limit Value LD50: Lethal Dose, 50% LC50: Lethal Concentration, 50% NOEL: No Observed Effect Level COD: Chemical Oxygen Demand BOD: Biochemical Oxygen Demand TOC: Total Organic Carbon IATA: International Air Transport Association IMDG: International Maritime Dangerous Goods Code TSRN indicates a Trade Secret Registry Number is used in place of the CAS number. ACGIH: American Conference of Governmental Industrial Hygienists NFPA: National Fire Protection Association
References:	No data available
Disclaimer	The information in the sheet was written based on the best knowledge and experience currently available. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision Information	Product and Company Identification: Product and Company Identification Composition / Information on Ingredients: Disclosure Overrides Physical & Chemical Properties: Multiple Properties Transport Information: Material Transportation Information Regulatory Information: Risk Phrases - Labeling HazReg Data: Europe - EU GHS: Classification REACH: Registration Substance
Prepared by	This SDS has been prepared by GE Water & Process Technologies Regulatory Department (1-215-355-3300).

ATTACHMENT I LABORATORY INFORMATION

Attachment I

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Dissolved oxygen, pH, temperature, and total residual chlorine were analyzed on-site. All other analyses were performed as noted in the table below.

Method	Method Description	Protocol	Laboratory
624	Volatile Organic Compounds (GC/MS)	40CFR136A	TAL CC
625	Semivolatile Organic Compounds by GCMS - Low Levels	EPA	TAL HOU
D7065-11	Determination of Nonylphenols	ASTM	TAL DEN
EPA 608	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	TAL PIT
PCB	Total PCB Calculation	TAL SOP	TAL PIT
1631E	Mercury, Low Level (CVAFS)	EPA	TAL CAN
200.8	Metals (ICP/MS)	EPA	TAL PIT
1664A	HEM and SGT-HEM	1664A	TAL CC
300.0	Anions, Ion Chromatography	MCAWW	TAL CC
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL HOU
8000	COD	Hach	TAL CC
Nitrogen,Org	Organic Nitrogen	EPA	TAL HOU
SM 2320B	Alkalinity	SM	TAL CC
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CC
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CC
SM 3500 CR B	Chromium, Hexavalent	SM	TAL CC
SM 3500 CR D	Chromium, Trivalent	SM	TAL CC
SM 4500 F C	Fluoride	SM	TAL CC
SM 4500 NH3 G	Ammonia	SM	TAL CC
SM 5210B	BOD, 5-Day	SM	TAL CC
SM 5310B	Organic Carbon, Total (TOC)	SM	TAL CC
SM4500 P E-1999	Phosphorus	SM	TAL HOU
SM5210B CBOD	Carbonaceous BOD, 5 Day	SM	TAL CC
1631E	Preparation, Mercury, Low Level	EPA	TAL CAN
200.8	Preparation, Total Recoverable Metals	EPA	TAL PIT
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	TAL PIT
625	Liquid-Liquid Extraction	40CFR136A	TAL HOU
D7065-11	Liquid-Liquid Extraction (Continuous)	ASTM	TAL DEN
Enterolert	Enterococci	None	CCWD
SM 4500 P B	Sample Preparation for Total and Ortho Phosphorus	SM	TAL HOU
OIA – 1677	Available Cyanide by Flow Injection, Lig	EPA	TAL PIT

Protocol References:

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

ASTM = ASTM International

EPA = US Environmental Protection Agency

Hach = Hach Company

MCAWW = "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and Subsequent Revisions.

None = None

SM = "Standard Methods for the Examination of Water and Wastewater"

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

CCWD = Corpus Christi Water Department

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL CC = Eurofins TestAmerica, Corpus Christi, 1733 N. Padre Island Drive, Corpus Christi, TX 78408, TEL (361)289-2673

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL HOU = Eurofins TestAmerica, Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058