Technical Package Cover Page

This file contains the following documents:

1. Summary of application (in plain language)
   - English
   - Alternative Language (Spanish)
2. First notice (NORI-Notice of Receipt of Application and Intent to Obtain a Permit)
   - English
   - Alternative Language (Spanish)
3. Second notice (NAPD-Notice of Preliminary Decision)
   - English
   - Alternative Language (Spanish)
4. Application materials *
5. Draft permit *
6. Technical summary or fact sheet *

* **NOTE:** This application was declared Administratively Complete before June 1, 2024. The application materials, draft permit, and technical summary or fact sheet are available for review at the Public Viewing Location provided in the NAPD.

Portada de Paquete Técnico

Este archivo contiene los siguientes documentos:

1. Resumen de la solicitud (en lenguaje sencillo)
   - Inglés
   - Idioma alternativo (español)
2. Primer aviso (NORI, Aviso de Recepción de Solicitud e Intención de Obtener un Permiso)
   - Inglés
   - Idioma alternativo (español)
3. Segundo aviso (NAPD, Aviso de Decisión Preliminar)
   - Inglés
   - Idioma alternativo (español)
4. Materiales de la solicitud **
5. Proyecto de permiso **
6. Resumen técnico u hoja de datos **

** **NOTA:** Esta solicitud se declaró administrativamente completa antes del 1 de junio de 2024. Los materiales de la solicitud, el proyecto de permiso, y los resumen técnico u hoja de datos están disponibles para revisión en la ubicación de consulta pública que se indica en el NAPD.

Plain Language Summary Template and Instructions for Texas Pollutant Discharge Elimination System (TPDES) and Texas Land Application (TLAP) Permit Applications

This template is a guide to assist applicant's in developing a plain language summary as required by 30 Texas Administrative Code Chapter 39 Subchapter H. Applicant's may modify the template as necessary to accurately describe their facility as long as the summary includes the following information: (1) the function of the proposed plant or facility; (2) the expected output of the proposed plant or facility; (3) the expected pollutants that may be emitted or discharged by the proposed plant or facility; and (4) how the applicant will control those pollutants, so that the proposed plant will not have an adverse impact on human health or the environment.

Fill in the highlighted areas below to describe your facility and application in plain language. Instructions and examples are provided below. Make any other edits necessary to improve readability or grammar and to comply with the rule requirements.

If you are subject to the alternative language notice requirements in 30 Texas Administrative Code §39.426, **you must provide a translated copy of the completed plain language summary in the appropriate alternative language as part of your application package**. For your convenience, a Spanish template has been provided below.

ENGLISH TEMPLATE FOR TPDES or TLAP NEW/RENEWAL/AMENDMENT APPLICATIONS INDUSTRIAL WASTEWATER/STORMWATER
The following summary is provided for this pending water quality permit application being reviewed by the Texas Commission on Environmental Quality as required by 30 Texas Administrative Code Chapter 39. The information provided in this summary may change during the technical review of the application and are not federal enforceable representations of the permit application.

Calpine Operating Services Company, LLC (CN602680076) and Deer Park Energy, LLC (CN603598624) operate the Deer Park Energy Center (RN100222033), a combined cycle power generation facility. The facility is located at 5665 State Highway 225, in Deer Park, Harris County, Texas 77536. This application is for a renewal to discharge a daily average flow not to exceed 1,480,000 gallons per day, with the daily maximum flow not to exceed 2,700,000 gallons per day, via main Outfall 001.

Discharges from the facility are expected to contain residual chlorine, copper, and biological oxygen demand. All wastewater effluent goes through Outfall 001, which discharges directly into the Houston Ship Channel Tidal in Segment No. 1006 of the San Jacinto River Basin. The primary sources of the effluent are cooling tower blowdown and demineralizer and polisher regeneration. No treatment (aside from dechlorination) is currently used, nor will be needed to meet the effluent limitations of the permit.

PLANTILLA EN ESPAÑOL PARA SOLICITUDES NUEVAS/RENOVACIONES/ENMIENDAS DE TPDES o TLAP

AGUAS RESIDUALES INDUSTRIALES/AGUAS PLUVIALES

El siguiente resumen se proporciona para esta solicitud de permiso de calidad del agua pendiente que está siendo revisada por la Comisión de Calidad Ambiental de Texas según lo

requerido por el Capítulo 39 del Código Administrativo de Texas 30. La información proporcionada en este resumen puede cambiar durante la revisión técnica de la solicitud y no son representaciones federales exigibles de la solicitud de permiso.

Calpine Operating Services Company, Inc. (CN602680076) y Deer Park Energy Center, LLC (CN602680076) opera Deer Park Energy Center (RN100222033), una instalación de generación de energía de ciclo combinado. La instalación está ubicado en 5665 State Highway 225, en Deer Park, Condado de Harris, Texas 77536. Esta solicitud es para una renovación para descargar un flujo promedio diario que no exceda los 1,480,000 galones por día, con un flujo máximo diario que no exceda los 2,700,000 galones por día, a través del emisario principal 001.

Se espera que las descargas de la instalación contengan residual de cloro, cobre y la demanda oxígeno biológico. Todos los efluentes de aguas residuales pasan por el emisario 001, que descarga directamente en la marea del canal de navegación de Houston en el segmento No. 1006 de la cuenca del río San Jacinto. Las principales fuentes del efluente son la purga de la torre de enfriamiento y la regeneración del desmineralizador y pulidor. Actualmente no se utiliza ningún tratamiento (aparte de la decloración), ni será necesario para cumplir con las limitaciones de efluentes del permiso.

INSTRUCTIONS

1. Enter the name of applicant in this section. The applicant name should match the name associated with the customer number.
2. Enter the Customer Number in this section. Each Individual or Organization is issued a unique 11-digit identification number called a CN (e.g. CN123456789).
3. Choose “operates” in this section for existing facility applications or choose “proposes to operate” for new facility applications.
4. Enter the name of the facility in this section. The facility name should match the name associated with the regulated entity number.
5. Enter the Regulated Entity number in this section. Each site location is issued a unique 11-digit identification number called an RN (e.g. RN123456789).
6. Choose the appropriate article (a or an) to complete the sentence.
7. Enter a description of the facility in this section. For example: steam electric generating facility, nitrogenous fertilizer manufacturing facility, etc.
8. Choose “is” for an existing facility or “will be” for a new facility.
9. Enter the location of the facility in this section.
10. Enter the City nearest the facility in this section.
11. Enter the County nearest the facility in this section.
12. Enter the zip code for the facility address in this section.
13. Enter a summary of the application request in this section. For example: renewal to discharge 25,000 gallons per day of treated domestic wastewater, new application to discharge process wastewater and stormwater on an intermittent and flow-variable basis, or major amendment to reduce monitoring frequency for pH, etc. If more than one outfall is included in the application, provide applicable information for each individual outfall.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

NOTICE OF RECEIPT OF APPLICATION AND INTENT TO OBTAIN WATER QUALITY PERMIT RENEWAL

PERMIT NO. WQ0004344000

APPLICATION. Deer Park Energy Center LLC and Calpine Operating Services Company, Inc., 717 Texas Street, Suite 1000, Houston, Texas 77002, which own and operate a natural gas-fired, combined cycle power generation facility, have applied to the Texas Commission on Environmental Quality (TCEQ) to renew Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0004344000 (EPA I.D. No. TX0124303) to authorize the discharge of treated wastewater at a volume not to exceed a daily average flow of 1,480,000 gallons per day. The facility is located at 5665 State Highway 225, in the city of Deer Park, Harris County, Texas 77536. The discharge route is from the plant site to directly to the Houston Ship Channel Tidal. TCEQ received this application on February 26, 2024. The permit application will be available for viewing and copying at TCEQ Region 12, 3rd Floor, Reception Desk, 5425 Polk Street, Suite H, Houston, Texas prior to the date this notice is published in the newspaper. This link to an electronic map of the site or facility's general location is provided as a public courtesy and not part of the application or notice. For the exact location, refer to the application. https://gisweb.tceq.texas.gov/LocationMapper/?marker=-95.134722,29.712777&level=18

ALTERNATIVE LANGUAGE NOTICE. Alternative language notice in Spanish is available at https://www.tceq.texas.gov/permitting/wastewater/plain-language-summaries-and-public-notices. El aviso de idioma alternativo en español está disponible en https://www.tceq.texas.gov/permitting/wastewater/plain-language-summaries-and-public-notices.

ADDITIONAL NOTICE. TCEQ's Executive Director has determined the application is administratively complete and will conduct a technical review of the application. After technical review of the application is complete, the Executive Director may prepare a draft permit and will issue a preliminary decision on the application. **Notice of the Application and Preliminary Decision will be published and mailed to those who are on the county-wide mailing list and to those who are on the mailing list for this application. That notice will contain the deadline for submitting public comments.**

PUBLIC COMMENT / PUBLIC MEETING. You may submit public comments or request a public meeting on this application. The purpose of a public meeting is to provide the opportunity to submit comments or to ask questions about the application. TCEQ will hold a public meeting if the Executive Director determines that there is a significant degree of public interest in the application or if requested by a local legislator. A public meeting is not a contested case hearing.

OPPORTUNITY FOR A CONTESTED CASE HEARING. After the deadline for submitting

public comments, the Executive Director will consider all timely comments and prepare a response to all relevant and material, or significant public comments. **Unless the application is directly referred for a contested case hearing, the response to comments, and the Executive Director's decision on the application, will be mailed to everyone who submitted public comments and to those persons who are on the mailing list for this application. If comments are received, the mailing will also provide instructions for requesting reconsideration of the Executive Director's decision and for requesting a contested case hearing.** A contested case hearing is a legal proceeding similar to a civil trial in state district court.

TO REQUEST A CONTESTED CASE HEARING, YOU MUST INCLUDE THE FOLLOWING ITEMS IN YOUR REQUEST: your name, address, phone number; applicant's name and proposed permit number; the location and distance of your property/activities relative to the proposed facility; a specific description of how you would be adversely affected by the facility in a way not common to the general public; a list of all disputed issues of fact that you submit during the comment period and, the statement "[I/we] request a contested case hearing." If the request for contested case hearing is filed on behalf of a group or association, the request must designate the group's representative for receiving future correspondence; identify by name and physical address an individual member of the group who would be adversely affected by the proposed facility or activity; provide the information discussed above regarding the affected member's location and distance from the facility or activity; explain how and why the member would be affected; and explain how the interests the group seeks to protect are relevant to the group's purpose.

Following the close of all applicable comment and request periods, the Executive Director will forward the application and any requests for reconsideration or for a contested case hearing to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

The Commission may only grant a request for a contested case hearing on issues the requestor submitted in their timely comments that were not subsequently withdrawn. **If a hearing is granted, the subject of a hearing will be limited to disputed issues of fact or mixed questions of fact and law relating to relevant and material water quality concerns submitted during the comment period. TCEQ may act on an application to renew a permit for discharge of wastewater without providing an opportunity for a contested case hearing if certain criteria are met.**

MAILING LIST. If you submit public comments, a request for a contested case hearing or a reconsideration of the Executive Director's decision, you will be added to the mailing list for this specific application to receive future public notices mailed by the Office of the Chief Clerk. In addition, you may request to be placed on: (1) the permanent mailing list for a specific applicant name and permit number; and/or (2) the mailing list for a specific county. If you wish to be placed on the permanent and/or the county mailing list, clearly specify which list(s) and send your request to TCEQ Office of the Chief Clerk at the address below.

INFORMATION AVAILABLE ONLINE. For details about the status of the application, visit the Commissioners' Integrated Database at www.tceq.texas.gov/goto/cid. Search the database using the permit number for this application, which is provided at the top of this notice.

AGENCY CONTACTS AND INFORMATION. Public comments and requests must be submitted either electronically at https://www14.tceq.texas.gov/epic/eComment/, or in writing to the Texas Commission on Environmental Quality, Office of the Chief Clerk, MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Please be aware that any contact information you provide, including your name, phone number, email address, and physical address will become part of the agency's public record. For more information about this permit application or the permitting process, please call the TCEQ Public Education Program, Toll Free, at 1-800-687-4040 or visit their website at www.tceq.texas.gov/goto/pep. Si desea información en Español, puede llamar al 1-800-687-4040.

Further information may also be obtained from Deer Park Energy Center LLC and Calpine Operating Services Company, Inc. at the address stated above or by calling Ms. Jan Stavinoha, EHS Manager, at 713-570-4814.

Issuance Date: April 1, 2024

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

AMENDED NOTICE OF RECEIPT OF APPLICATION AND INTENT TO OBTAIN WATER QUALITY PERMIT RENEWAL

PERMIT NO. WQ0004344000

APPLICATION. Deer Park Energy Center LLC and Calpine Operating Services Company, Inc., 717 Texas Street, Suite 1000, Houston, Texas 77002, which own and operate a natural gas-fired, combined cycle power generation facility, have applied to the Texas Commission on Environmental Quality (TCEQ) to renew Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0004344000 (EPA I.D. No. TX0124303) to authorize the discharge of treated wastewater at a volume not to exceed a daily average flow of 1,480,000 gallons per day. The facility is located at 5665 State Highway 225, in the city of Deer Park, Harris County, Texas 77536. The discharge route is from the plant site to directly to the Houston Ship Channel Tidal. TCEQ received this application on February 26, 2024. The permit application will be available for viewing and copying at TCEQ Region 12, 3rd Floor, Reception Desk, 5425 Polk Street, Suite H, Houston, Texas prior to the date this notice is published in the newspaper. This link to an electronic map of the site or facility's general location is provided as a public courtesy and not part of the application or notice. For the exact location, refer to the application. https://gisweb.tceq.texas.gov/LocationMapper/?marker=-95.134722,29.712777&level=18

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Further information may also be obtained from Deer Park Energy Center LLC and Calpine Operating Services Company, Inc. at the address stated above or by calling Mr. Ray Dube, EHS Manager, at 830-305-8429.

Issuance Date: April 15, 2024

Comisión de Calidad Ambiental del Estado de Texas

AVISO DE RECIBO DE LA SOLICITUD Y
EL INTENTO DE OBTENER PERMISO PARA LA CALIDAD DEL AGUA
RENOVACION

PERMISO NO. WQ0004344000

SOLICITUD. Deer Park Energy Center LLC y Calpine Operating Services Company, Inc., 717 Texas Street, Suite 1000, Houston, Texas 77002, que poseen y operan una instalación de generación de energía de ciclo combinado alimentada por gas natural, han solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para renovar el Permiso No. WQ0004344000 (EPA I.D. No. TX 0124303) del Sistema de Eliminación de Descargas de Contaminantes de Texas (TPDES) para autorizar la descarga de aguas residuales tratadas en un volumen que no sobrepasa un flujo promedio diario de 1.480.000 galones por día. La planta está ubicada en 5665 carretera estatal 225, en la ciudad de Deer Park en el Condado de Harris, Texas 77536. La ruta de descarga es del sitio de la planta a directamente a la marea del canal de navegación de Houston. La TCEQ recibió esta solicitud el 26 de febrero de 2024. La solicitud para el permiso estará disponible para leerla y copiarla en TCEQ región 12, 3er piso, recepción, 5425 calle Polk, Suite H, Houston, Texas antes de la fecha de publicación de este aviso en el periódico. Este enlace a un mapa electrónico de la ubicación general del sitio o de la instalación es proporcionado como una cortesía y no es parte de la solicitud o del aviso. Para la ubicación exacta, consulte la solicitud.
https://gisweb.tceq.texas.gov/LocationMapper/?marker=-95.134722,29.712777&level=18

AVISO ADICIONAL. El Director Ejecutivo de la TCEQ ha determinado que la solicitud es administrativamente completa y conducirá una revisión técnica de la solicitud. Después de completar la revisión técnica, el Director Ejecutivo puede preparar un borrador del permiso y emitirá una Decisión Preliminar sobre la solicitud. **El aviso de la solicitud y la decisión preliminar serán publicados y enviado a los que están en la lista de correo de las personas a lo largo del condado que desean recibir los avisos y los que están en la lista de correo que desean recibir avisos de esta solicitud. El aviso dará la fecha límite para someter comentarios públicos.**

COMENTARIO PUBLICO / REUNION PUBLICA. Usted puede presentar comentarios públicos o pedir una reunión pública sobre esta solicitud. El propósito de una reunión pública es dar la oportunidad de presentar comentarios o hacer preguntas acerca de la solicitud. La TCEQ realiza una reunión pública si el Director Ejecutivo determina que hay un grado de interés público suficiente en la solicitud o si un legislador local lo pide. Una reunión pública no es una audiencia administrativa de lo contencioso.

OPORTUNIDAD DE UNA AUDIENCIA ADMINISTRATIVA DE LO CONTENCIOSO. Después del plazo para presentar comentarios públicos, el Director Ejecutivo considerará todos

los comentarios apropiados y preparará una respuesta a todo los comentarios públicos esenciales, pertinentes, o significativos. **A menos que la solicitud haya sido referida directamente a una audiencia administrativa de lo contencioso, la respuesta a los comentarios y la decisión del Director Ejecutivo sobre la solicitud serán enviados por correo a todos los que presentaron un comentario público y a las personas que están en la lista para recibir avisos sobre esta solicitud. Si se reciben comentarios, el aviso también proveerá instrucciones para pedir una reconsideración de la decisión del Director Ejecutivo y para pedir una audiencia administrativa de lo contencioso.** Una audiencia administrativa de lo contencioso es un procedimiento legal similar a un procedimiento legal civil en un tribunal de distrito del estado.

PARA SOLICITAR UNA AUDIENCIA DE CASO IMPUGNADO, USTED DEBE INCLUIR EN SU SOLICITUD LOS SIGUIENTES DATOS: su nombre, dirección, y número de teléfono; el nombre del solicitante y número del permiso; la ubicación y distancia de su propiedad/actividad con respecto a la instalación; una descripción específica de la forma cómo usted sería afectado adversamente por el sitio de una manera no común al público en general; una lista de todas las cuestiones de hecho en disputa que usted presente durante el período de comentarios; y la declaración "[Yo/nosotros] solicito/solicitamos una audiencia de caso impugnado". Si presenta la petición para una audiencia de caso impugnado de parte de un grupo o asociación, debe identificar una persona que representa al grupo para recibir correspondencia en el futuro; identificar el nombre y la dirección de un miembro del grupo que sería afectado adversamente por la planta o la actividad propuesta; proveer la información indicada anteriormente con respecto a la ubicación del miembro afectado y su distancia de la planta o actividad propuesta; explicar cómo y porqué el miembro sería afectado; y explicar cómo los intereses que el grupo desea proteger son pertinentes al propósito del grupo.

Después del cierre de todos los períodos de comentarios y de petición que aplican, el Director Ejecutivo enviará la solicitud y cualquier petición para reconsideración o para una audiencia de caso impugnado a los Comisionados de la TCEQ para su consideración durante una reunión programada de la Comisión. La Comisión sólo puede conceder una solicitud de una audiencia de caso impugnado sobre los temas que el solicitante haya presentado en sus comentarios oportunos que no fueron retirados posteriormente. Si se concede una audiencia, el tema de la audiencia estará limitado a cuestiones de hecho en disputa o cuestiones mixtas de hecho y de derecho relacionadas a intereses pertinentes y materiales de calidad del agua que se hayan presentado durante el período de comentarios. Si ciertos criterios se cumplen, la TCEQ puede actuar sobre una solicitud para renovar un permiso sin proveer una oportunidad de una audiencia administrativa de lo contencioso.

LISTA DE CORREO. Si somete comentarios públicos, un pedido para una audiencia administrativa de lo contencioso o una reconsideración de la decisión del Director Ejecutivo, la Oficina del Secretario Principal enviará por correo los avisos públicos en relación con la solicitud. Ademas, puede pedir que la TCEQ ponga su nombre en una or mas de las listas correos siguientes (1) la lista de correo permanente para recibir los avisos de el solicitante indicado por nombre y número del permiso específico y/o (2) la lista de correo de todas las solicitudes en un condado especifico. Si desea que se agrega su nombre en una de las listas designe cual lista(s) y envia por correo su pedido a la Oficina del Secretario Principal de la TCEQ.

CONTACTOS E INFORMACIÓN A LA AGENCIA. Todos los comentarios públicos y solicitudes deben ser presentadas electrónicamente vía http://www14.tceq.texas.gov/epic/eComment/ o por escrito dirigidos a la Comisión de Texas de Calidad Ambiental, Oficial de la Secretaría (Office of Chief Clerk), MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Tenga en cuenta que cualquier información personal que usted proporcione, incluyendo su nombre, número de teléfono, dirección de correo electrónico y dirección física pasarán a formar parte del registro público de la Agencia. Para obtener más información acerca de esta solicitud de permiso o el proceso de permisos, llame al programa de educación pública de la TCEQ, gratis, al 1-800-687-4040. Si desea información en Español, puede llamar al 1-800-687-4040.

También se puede obtener información adicional del Deer Park Energy Center LLC y Calpine Operating Services Company, Inc. a la dirección indicada arriba o llamando a Sra. Jan Stavinoha al 713-570-4814.

Fecha de emission: 1 de abril de 2024

Comisión de Calidad Ambiental del Estado de Texas

AVISO MODIFICADO DE RECIBO DE LA SOLICITUD Y EL INTENTO DE OBTENER PERMISO PARA LA CALIDAD DEL AGUA RENOVACION

PERMISO NO. WQ0004344000

SOLICITUD. Deer Park Energy Center LLC y Calpine Operating Services Company, Inc., 717 Texas Street, Suite 1000, Houston, Texas 77002, que poseen y operan una instalación de generación de energía de ciclo combinado alimentada por gas natural, han solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para renovar el Permiso No. WQ0004344000 (EPA I.D. No. TX 0124303) del Sistema de Eliminación de Descargas de Contaminantes de Texas (TPDES) para autorizar la descarga de aguas residuales tratadas en un volumen que no sobrepasa un flujo promedio diario de 1.480.000 galones por día. La planta está ubicada en 5665 carretera estatal 225, en la ciudad de Deer Park en el Condado de Harris, Texas 77536. La ruta de descarga es del sitio de la planta a directamente a la marea del canal de navegación de Houston. La TCEQ recibió esta solicitud el 26 de febrero de 2024. La solicitud para el permiso estará disponible para leerla y copiarla en TCEQ región 12, 3er piso, recepción, 5425 calle Polk, Suite H, Houston, Texas antes de la fecha de publicación de este aviso en el periódico. Este enlace a un mapa electrónico de la ubicación general del sitio o de la instalación es proporcionado como una cortesía y no es parte de la solicitud o del aviso. Para la ubicación exacta, consulte la solicitud.
https://gisweb.tceq.texas.gov/LocationMapper/?marker=-95.134722,29.712777&level=18

AVISO ADICIONAL. El Director Ejecutivo de la TCEQ ha determinado que la solicitud es administrativamente completa y conducirá una revisión técnica de la solicitud. Después de completar la revisión técnica, el Director Ejecutivo puede preparar un borrador del permiso y emitirá una Decisión Preliminar sobre la solicitud. **El aviso de la solicitud y la decisión preliminar serán publicados y enviado a los que están en la lista de correo de las personas a lo largo del condado que desean recibir los avisos y los que están en la lista de correo que desean recibir avisos de esta solicitud. El aviso dará la fecha límite para someter comentarios públicos.**

COMENTARIO PUBLICO / REUNION PUBLICA. Usted puede presentar comentarios públicos o pedir una reunión pública sobre esta solicitud. El propósito de una reunión pública es dar la oportunidad de presentar comentarios o hacer preguntas acerca de la solicitud. La TCEQ realiza una reunión pública si el Director Ejecutivo determina que hay un grado de interés público suficiente en la solicitud o si un legislador local lo pide. Una reunión pública no es una audiencia administrativa de lo contencioso.

OPORTUNIDAD DE UNA AUDIENCIA ADMINISTRATIVA DE LO CONTENCIOSO. Después del plazo para presentar comentarios públicos, el Director Ejecutivo considerará todos

los comentarios apropiados y preparará una respuesta a todo los comentarios públicos esenciales, pertinentes, o significativos. **A menos que la solicitud haya sido referida directamente a una audiencia administrativa de lo contencioso, la respuesta a los comentarios y la decisión del Director Ejecutivo sobre la solicitud serán enviados por correo a todos los que presentaron un comentario público y a las personas que están en la lista para recibir avisos sobre esta solicitud. Si se reciben comentarios, el aviso también proveerá instrucciones para pedir una reconsideración de la decisión del Director Ejecutivo y para pedir una audiencia administrativa de lo contencioso.** Una audiencia administrativa de lo contencioso es un procedimiento legal similar a un procedimiento legal civil en un tribunal de distrito del estado.

PARA SOLICITAR UNA AUDIENCIA DE CASO IMPUGNADO, USTED DEBE INCLUIR EN SU SOLICITUD LOS SIGUIENTES DATOS: su nombre, dirección, y número de teléfono; el nombre del solicitante y número del permiso; la ubicación y distancia de su propiedad/actividad con respecto a la instalación; una descripción específica de la forma cómo usted sería afectado adversamente por el sitio de una manera no común al público en general; una lista de todas las cuestiones de hecho en disputa que usted presente durante el período de comentarios; y la declaración "[Yo/nosotros] solicito/solicitamos una audiencia de caso impugnado". Si presenta la petición para una audiencia de caso impugnado de parte de un grupo o asociación, debe identificar una persona que representa al grupo para recibir correspondencia en el futuro; identificar el nombre y la dirección de un miembro del grupo que sería afectado adversamente por la planta o la actividad propuesta; proveer la información indicada anteriormente con respecto a la ubicación del miembro afectado y su distancia de la planta o actividad propuesta; explicar cómo y porqué el miembro sería afectado; y explicar cómo los intereses que el grupo desea proteger son pertinentes al propósito del grupo.

Después del cierre de todos los períodos de comentarios y de petición que aplican, el Director Ejecutivo enviará la solicitud y cualquier petición para reconsideración o para una audiencia de caso impugnado a los Comisionados de la TCEQ para su consideración durante una reunión programada de la Comisión. La Comisión sólo puede conceder una solicitud de una audiencia de caso impugnado sobre los temas que el solicitante haya presentado en sus comentarios oportunos que no fueron retirados posteriormente. Si se concede una audiencia, el tema de la audiencia estará limitado a cuestiones de hecho en disputa o cuestiones mixtas de hecho y de derecho relacionadas a intereses pertinentes y materiales de calidad del agua que se hayan presentado durante el período de comentarios. Si ciertos criterios se cumplen, la TCEQ puede actuar sobre una solicitud para renovar un permiso sin proveer una oportunidad de una audiencia administrativa de lo contencioso.

LISTA DE CORREO. Si somete comentarios públicos, un pedido para una audiencia administrativa de lo contencioso o una reconsideración de la decisión del Director Ejecutivo, la Oficina del Secretario Principal enviará por correo los avisos públicos en relación con la solicitud. Ademas, puede pedir que la TCEQ ponga su nombre en una or mas de las listas correos siguientes (1) la lista de correo permanente para recibir los avisos de el solicitante indicado por nombre y número del permiso específico y/o (2) la lista de correo de todas las solicitudes en un condado especifico. Si desea que se agrega su nombre en una de las listas designe cual lista(s) y envia por correo su pedido a la Oficina del Secretario Principal de la TCEQ.

CONTACTOS E INFORMACIÓN A LA AGENCIA. Todos los comentarios públicos y solicitudes deben ser presentadas electrónicamente vía http://www14.tceq.texas.gov/epic/eComment/ o por escrito dirigidos a la Comisión de Texas de Calidad Ambiental, Oficial de la Secretaría (Office of Chief Clerk), MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Tenga en cuenta que cualquier información personal que usted proporcione, incluyendo su nombre, número de teléfono, dirección de correo electrónico y dirección física pasarán a formar parte del registro público de la Agencia. Para obtener más información acerca de esta solicitud de permiso o el proceso de permisos, llame al programa de educación pública de la TCEQ, gratis, al 1-800-687-4040. Si desea información en Español, puede llamar al 1-800-687-4040.

También se puede obtener información adicional del Deer Park Energy Center LLC y Calpine Operating Services Company, Inc. a la dirección indicada arriba o llamando a Sr. Ray Dube al 830-305-8429.

Fecha de emisión: 15 de abril de 2024

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

NOTICE OF APPLICATION AND PRELIMINARY DECISION FOR TPDES PERMIT FOR INDUSTRIAL WASTEWATER

RENEWAL

PERMIT NO. WQ0004344000

APPLICATION AND PRELIMINARY DECISION. Deer Park Energy Center LLC and Calpine Operating Services Company, Inc., 717 Texas Street, Suite 1000, Houston, Texas 77002, which operates Deer Park Energy Center, a natural gas-fired, combined cycle power generation facility, has applied to the Texas Commission on Environmental Quality (TCEQ) for a renewal of Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0004344000, which authorizes the discharge of cooling tower blowdown and previously monitored effluent (low-volume waste sources at an intermittent and flow-variable basis via internal Outfall 101 and metal cleaning waste at an intermittent and flow-variable basis via internal Outfall 201) at a daily average flow not to exceed 1,4800,000 gallons per day via Outfall 001. The TCEQ received this application on February 26, 2024.

The facility is located at 5665 State Highway 225, in the City of Deer Park, Harris County, Texas 77536. This link to an electronic map of the site or facility's general location is provided as a public courtesy and is not part of the application or notice. For the exact location, refer to the application.
https://gisweb.tceq.texas.gov/LocationMapper/?marker=-95.134722,29.712777&level=18

The effluent is discharged directly to the Houston Ship Channel Tidal in Segment No. 1006 of the San Jacinto River Basin. The designated uses for Segment No. 1006 are navigation and industrial water supply.

The TCEQ Executive Director has completed the technical review of the application and prepared a draft permit. The draft permit, if approved, would establish the conditions under which the facility must operate. The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The permit application, Executive Director's preliminary decision, and draft permit are available for viewing and copying at TCEQ Region 12, 3rd Floor, Reception Desk, 5425 Polk Street, Suite H, Houston, Texas.

ALTERNATIVE LANGUAGE NOTICE. Alternative language notice in Spanish is available at https://www.tceq.texas.gov/permitting/wastewater/plain-language-summaries-and-public-notices. El aviso de idioma alternativo en español está disponible en https://www.tceq.texas.gov/permitting/wastewater/plain-language-summaries-and-public-notices.

PUBLIC COMMENT / PUBLIC MEETING. You may submit public comments or request a public meeting about this application. The purpose of a public meeting is to provide the opportunity to submit written or oral comment or to ask questions about the application. Generally, the TCEQ will hold a public meeting if the Executive Director determines that there is a significant degree of public interest in the application or if requested by a local legislator. A public meeting is not a contested case hearing.

OPPORTUNITY FOR A CONTESTED CASE HEARING. After the deadline for public comments, the Executive Director will consider the comments and prepare a response to all relevant and material, or significant public comments. **The response to comments, along with the Executive Director's decision on the application, will be mailed to everyone who submitted public comments or who requested to be on a mailing list for this application. If comments are received, the mailing will also provide instructions for requesting a contested case hearing or reconsideration of the Executive Director's decision.** A contested case hearing is a legal proceeding similar to a civil trial in a state district court.

TO REQUEST A CONTESTED CASE HEARING, YOU MUST INCLUDE THE FOLLOWING ITEMS IN YOUR REQUEST: your name, address, phone number; applicant's name and proposed permit number; the location and distance of your property/activities relative to the proposed facility; a specific description of how you would be adversely affected by the facility in a way not common to the general public; a list of all disputed issues of fact that you submit during the comment period; and the statement "[I/we] request a contested case hearing." If the request for contested case hearing is filed on behalf of a group or association, the request must designate the group's representative for receiving future correspondence; identify by name and physical address an individual member of the group who would be adversely affected by the proposed facility or activity; provide the information discussed above regarding the affected member's location and distance from the facility or activity; explain how and why the member would be affected; and explain how the interests the group seeks to protect are relevant to the group's purpose.

Following the close of all applicable comment and request periods, the Executive Director will forward the application and any requests for reconsideration or for a contested case hearing to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

The Commission may only grant a request for a contested case hearing on issues the requestor submitted in their timely comments that were not subsequently withdrawn. **If a hearing is granted, the subject of a hearing will be limited to disputed issues of fact or mixed questions of fact and law relating to relevant and material water quality concerns submitted during the comment period. TCEQ may act on an application to renew a permit for discharge of wastewater without providing an opportunity for a contested case hearing if certain criteria are met.**

EXECUTIVE DIRECTOR ACTION. The Executive Director may issue final approval of the application unless a timely contested case hearing request or a timely request for reconsideration is filed. If a timely hearing request or request for reconsideration is filed, the Executive Director will not issue final approval of the permit and will forward the application and requests to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

MAILING LIST. If you submit public comments, a request for a contested case hearing or a reconsideration of the Executive Director's decision, you will be added to the mailing list for this specific application to receive future public notices mailed by the Office of the Chief Clerk. In addition, you may request to be added to: (1) the permanent list for a specific applicant name and permit number; and (2) the mailing list for a specific county. If you wish to be placed on the permanent and the county mailing list, clearly specify which list(s) and send your request to TCEQ Office of the Chief Clerk at the address below.

All written public comments and public meeting requests must be submitted to the Office of the Chief Clerk, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 or electronically at https://www.tceq.texas.gov/goto/comment/ within 30 days from the date of newspaper publication of this notice.

INFORMATION AVAILABLE ONLINE. For details about the status of the application, visit the Commissioners' Integrated Database at https://www.tceq.texas.gov/goto/cid/. Search the database using the permit number for this application**,** which is provided at the top of this notice.

AGENCY CONTACTS AND INFORMATION. Public comments and requests must be submitted either electronically at https://www.tceq.texas.gov/goto/comment/ or in writing to the Texas Commission on Environmental Quality, Office of the Chief Clerk, MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Please be aware that any contact information you provide, including your name, phone number, email address, and physical address will become part of the agency's public record. For more information about this permit application or the permitting process, please call the TCEQ Public Education Program, toll free, at 1-800-687-4040 or visit their website at https://www.tceq.texas.gov/agency/decisions/participation/permitting-participation. Si desea información en Español, puede llamar al 1-800-687-4040.

Further information may also be obtained from Deer Park Energy Center LLC and Calpine Operating Services Company, Inc. at the address stated above or by calling Mr. Ray Dube, EHS Manager, at 830-305-8429.

Issued: October 24, 2024

Comisión De Calidad Ambiental Del Estado De Texas

AVISO DE LA SOLICITUD Y DECISIÓN PRELIMINAR PARA EL PERMISO DEL SISTEMA DE ELIMINACION DE DESCARGAS DE CONTAMINANTES DE TEXAS (TPDES) PARA AGUAS RESIDUALES INDUSTRIALES

RENOVACIÓN

PERMISO NO. WQ0004344000

SOLICITUD Y DECISIÓN PRELIMINAR. Deer Park Energy Center LLC y Calpine Operating Services Company, Inc., 717 Texas Street, Suite 1000, Houston, Texas 77002, que opera Deer Park Energy Center, una instalación de generación de energía de ciclo combinado a gas natural, ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) una renovación para autorizar Sistema de Eliminación de Descargas Contaminantes de Texas (TPDES) Permiso No. WQ0004344000, que autoriza la descarga de la purga de la torre de enfriamiento y el efluente previamente monitoreado (fuentes de residuos de bajo volumen de forma intermitente y de flujo variable a través del emisario interno 101 y residuos de limpieza de metales de forma intermitente y de flujo variable a través del emisario interno 201) a un caudal medio diario que no supere los 1.4800.000 galones por día a través del emisario 001. La TCEQ recibió esta solicitud el 26 de febrero de 2024.

La planta está ubicada en 665 State Highway 225, en la ciudad de Deer Park en el Condado de Harris, Texas. Este enlace a un mapa electrónico de la ubicación general del sitio o de la instalación es proporcionado como una cortesía y no es parte de la solicitud o del aviso. Para la ubicación exacta, consulte la solicitud.
https://gisweb.tceq.texas.gov/LocationMapper/?marker=-95.134722,29.712777&level=18

El efluente tratado se descarga en el Canal de Navegación de Houston, Segmento No. 1006 de la Cuenca del Río San Jacinto. Los usos designados para el Segmento No. 1006 son la navegación y el suministro de agua industrial.

El Director Ejecutivo de la TCEQ ha completado la revisión técnica de la solicitud y ha preparado un borrador del permiso. El borrador del permiso, si es aprobado, establecería las condiciones bajo las cuales la instalación debe operar. El Director Ejecutivo ha tomado una decisión preliminar que si este permiso es emitido, cumple con todos los requisitos normativos y legales. La solicitud del permiso, la decisión preliminar del Director Ejecutivo y el borrador del permiso están disponibles para leer y copiar en TCEQ Región 12, 3er piso, mostrador de recepción, 5425 Polk Street, Suite H, Houston, Texas. La solicitud (cualquier actualización y aviso inclusive) está disponible electrónicamente en la siguiente página web: https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications.

AVISO DE IDIOMA ALTERNATIVO. El aviso de idioma alternativo en español está disponible en https://www.tceq.texas.gov/permitting/wastewater/plain-language-summaries-and-public-notices.

COMENTARIO PUBLICO / REUNION PUBLICA. Usted puede presentar comentarios públicos o pedir una reunión pública sobre esta solicitud. El propósito de una reunión pública es dar la oportunidad de presentar comentarios o hacer preguntas acerca de la solicitud. La TCEQ realiza una reunión pública si el Director Ejecutivo determina que hay un grado de interés público suficiente en la solicitud o si un legislador local lo pide. Una reunión pública no es una audiencia administrativa de lo contencioso.

OPORTUNIDAD PARA UNA AUDIENCIA DE CASO IMPUGNADO. Después de la fecha límite para los comentarios públicos, el director ejecutivo considerará los comentarios y preparará una respuesta a todos los comentarios públicos relevantes y materiales, o significativos. **La respuesta a los comentarios, junto con la decisión del director ejecutivo sobre la solicitud, se enviará por correo a todos los que enviaron comentarios públicos o que solicitaron estar en una lista de correo para esta solicitud. Si se reciben comentarios, el correo también proporcionará instrucciones para solicitar una audiencia de caso impugnado o reconsiderar la decisión del director ejecutivo.** Una audiencia de caso disputado es un procedimiento legal similar a un juicio civil en un tribunal de distrito estatal.

PARA SOLICITAR UNA AUDIENCIA DE CASO IMPUGNADO, USTED DEBE INCLUIR EN SU SOLICITUD LOS SIGUIENTES DATOS: su nombre, dirección, y número de teléfono; el nombre del solicitante y número del permiso; la ubicación y distancia de su propiedad/actividad con respecto a la instalación; una descripción específica de la forma cómo usted sería afectado adversamente por el sitio de una manera no común al público en general; una lista de todas las cuestiones de hecho en disputa que usted presente durante el período de comentarios; y la declaración "[Yo/nosotros] solicito/solicitamos una audiencia de caso impugnado". Si presenta la petición para una audiencia de caso impugnado de parte de un grupo o asociación, debe identificar una persona que representa al grupo para recibir correspondencia en el futuro; identificar el nombre y la dirección de un miembro del grupo que sería afectado adversamente por la planta o la actividad propuesta; proveer la información indicada anteriormente con respecto a la ubicación del miembro afectado y su distancia de la planta o actividad propuesta; explicar cómo y porqué el miembro sería afectado; y explicar cómo los intereses que el grupo desea proteger son pertinentes al propósito del grupo.

Después del cierre de todos los períodos de comentarios y de petición que aplican, el Director Ejecutivo enviará la solicitud y cualquier petición para reconsideración o para una audiencia de caso impugnado a los Comisionados de la TCEQ para su consideración durante una reunión programada de la Comisión. La Comisión sólo puede conceder una solicitud de una audiencia de caso impugnado sobre los temas que el solicitante haya presentado en sus comentarios oportunos que no fueron retirados posteriormente. Si se concede una audiencia, el tema de la audiencia estará limitado a cuestiones de hecho en disputa o cuestiones mixtas de hecho y de derecho relacionadas a intereses pertinentes y materiales de calidad del agua que se hayan presentado durante el período de comentarios.

La Comisión otorgará solamente una audiencia administrativa de lo contencioso sobre los hechos reales disputados del caso que son pertinentes y esenciales para la decisión de la Comisión sobre la solicitud. Además, la Comisión sólo otorgará una audiencia administrativa de lo contencioso sobre los asuntos que fueron presentados antes del plazo de vencimiento y que no fueron retirados posteriormente. **Si ciertos criterios se cumplen, la TCEQ puede actuar sobre una solicitud para renovar un permiso para descargar aguas residuales sin proveer una oportunidad de una audiencia administrativa de lo contencioso.**

ACCIÓN DEL DIRECTOR EJECUTIVO. El Director Ejecutivo puede emitir la aprobación final de la solicitud a menos que se presente una solicitud de audiencia de caso impugnado oportunamente o una solicitud de reconsideración. Si se presenta una solicitud de audiencia oportuna o una solicitud de reconsideración, el Director Ejecutivo no emitirá la aprobación final del permiso y enviará la solicitud y la petición a los Comisionados de la TCEQ para su consideración en una reunión programada de la Comisión.

LISTA DE CORREO. Si envía comentarios públicos, una solicitud de una audiencia de caso impugnado o una reconsideración de la decisión del Director Ejecutivo, se le agregará a la lista de correo para que esta solicitud reciba avisos públicos futuros enviadas por correo por la Oficina del Secretario Oficial. Además, puede solicitar ser colocado en: (1) la lista de correo permanente para un nombre de solicitante específico y número de permiso; y/o (2) la lista de correo para un condado específico. Para ser colocado en la lista de correo permanente y / o del condado, especifique claramente qué lista(s) y envíe su solicitud a la Oficina del Secretario Oficial de la TCEQ a la dirección a continuación.

Todos los comentarios públicos escritos y las solicitudes de reunión pública deben enviarse a la Office of the Chief Clerk, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 o electrónicamente a https://www14.tceq.texas.gov/epic/eComment/ dentro de los 30 días a partir de la fecha de publicación de este aviso en el periódico.

INFORMACIÓN DISPONIBLE EN LÍNEA. Para obtener detalles sobre el estado de la solicitud, visite la Base de Datos Integrada de los Comisionados en www.tceq.texas.gov/goto/cid. Busque en la base de datos utilizando el número de permiso para esta solicitud, que se proporciona en la parte superior de este aviso.

CONTACTOS E INFORMACIÓN DE LA AGENCIA. Los comentarios y solicitudes públicas deben enviarse electrónicamente a https://www14.tceq.texas.gov/epic/eComment/, o por escrito a Texas Commission on Environmental Quality, Office of the Chief Clerk, MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Cualquier información personal que envíe a al TCEQ pasará a formar parte del registro de la agencia; esto incluye las direcciones de correo electrónico. Para obtener más información sobre esta solicitud de permiso o el proceso de permisos, llame al Programa de Educación Pública de la TCEQ, sin cargo, al 1-800-687-4040 o visite su sitio web en www.tceq.texas.gov/goto/pep. Si desea información en español, puede llamar al 1-800-687-4040.

También se puede obtener información adicional del Deer Park Energy Center LLC y Calpine Operating Services Company, Inc. a la dirección indicada arriba o llamando a Sr. Ray Dube, Gerente de EHS, al 830-305-8429.

Fecha de emission: 24 de octubre de 2024

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
P.O. Box 13087
Austin, Texas 78711-3087

TPDES PERMIT NO.
WQ0004344000
[For TCEQ office use only -
EPA I.D. No. TX0124303]

This renewal replaces TPDES Permit No. WQ0004344000, issued on October 6, 2022.

PERMIT TO DISCHARGE WASTES
under provisions of
Section 402 of the Clean Water Act
and Chapter 26 of the Texas Water Code

Deer Park Energy Center LLC and
Calpine Operating Services Company, Inc.

whose mailing address is

717 Texas Street, Suite 1000
Houston, Texas 77002

is authorized to treat and discharge wastes from Deer Park Energy Center, a natural gas-fired, combined cycle power generation facility (SIC 4911)

located at 5665 State Highway 225, in the City of Deer Park, in Harris County, Texas 77536

directly to the Houston Ship Channel Tidal in Segment No. 1006 of the San Jacinto River Basin

only according to effluent limitations, monitoring requirements, and other conditions set forth in this permit, as well as the rules of the Texas Commission on Environmental Quality (TCEQ), the laws of the State of Texas, and other orders of the TCEQ. The issuance of this permit does not grant to the permittee the right to use private or public property for conveyance of wastewater along the discharge route described in this permit. This includes, but is not limited to, property belonging to any individual, partnership, corporation, or other entity. Neither does this permit authorize any invasion of personal rights nor any violation of federal, state, or local laws or regulations. It is the responsibility of the permittee to acquire property rights as may be necessary to use the discharge route.

This permit shall expire at midnight, five years from the date of permit issuance.

ISSUED DATE:

For the Commission

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS — Outfall Number 001

1. During the period beginning upon the date of permit issuance and lasting through the date of permit expiration, the permittee is authorized to discharge cooling tower blowdown [1] and previously monitored effluent subject to the following effluent limitations:

   The daily average flow of effluent shall not exceed 1.48 million gallons per day (MGD). The daily maximum flow shall not exceed 2.70 MGD.

Effluent Characteristics	Discharge Limitations					Minimum Self-Monitoring Requirements	
	Daily Average		Daily Maximum		Single Grab	Report Daily Average and Daily Maximum	
	lbs/day	mg/L	lbs/day	mg/L	mg/L	Measurement Frequency	Sample Type
Flow	1.48 MGD		2.7 MGD		N/A	Continuous	Meter
Temperature [2]	Report, °F		Report, °F		N/A	1/day	In-Situ
Temperature [3]	Report, °F		106 °F		N/A	1/day	In-Situ
Total Residual Chlorine [4]	N/A	N/A	N/A	0.1	0.1	1/week[5]	Grab
Total Copper	0.533	0.0432	1.129	0.0915	0.0915	1/week	Composite[6]

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/week by grab sample.

3. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

4. Effluent monitoring samples shall be taken at the following location: At Outfall 001, at the sump prior to pumping to the Houston Ship Channel Tidal.

[1] See Other Requirement No. 10.
[2] See Other Requirement No. 14.
[3] Final effluent limits begin three years from issuance date and lasts through the expiration of the permit.
[4] See Other Requirement No. 11.
[5] Samples shall be representative of periods of chlorination.
[6] The permittee may use grab samples as a sample collection method in the event of an auto-sample failure.

1. During the period beginning upon the date of permit issuance and lasting through the date of permit expiration, the permittee is authorized to discharge low-volume waste sources[1] subject to the following effluent limitations:

   Volume: Intermittent and flow-variable.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow	Report, MGD	Report, MGD	N/A	1/day	Estimate
Oil and Grease	15	20	20	1/week	Grab[2]
Total Suspended Solids	30	100	100	1/week	Grab[3]

2. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

3. Effluent monitoring samples shall be taken at the following location: At Outfall 101, at the outlet of the hot drain sumps and at the outlet of the neutralization tanks, prior to routing to the cooling tower or discharging to Outfall 001.

[1] See Other Requirement No. 9.
[2] Since more than once source is associated with this waste stream, samples from each source shall be obtained and analyzed individually, and the highest value shall be used in determining the daily average and/or daily maximum.
[3] Since more than one source is associated with this waste stream, samples may be composited into one flow-weighted sample for analysis.

1. During the period beginning upon the date of permit issuance and lasting through the date of permit expiration, the permittee is authorized to discharge metal cleaning waste[1] subject to the following effluent limitations:

   Volume: Intermittent and flow-variable.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow	Report, MGD	Report, MGD	N/A	1/day[2]	Estimate
Oil and Grease	15	20	20	1/week[2]	Grab
Total Suspended Solids	30	100	100	1/week[2]	Grab
Total Copper	0.5	1.0	1.0	1/week[2]	Grab
Total Iron	1.0	1.0	1.0	1/week[2]	Grab

2. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

3. Effluent monitoring samples shall be taken at the following location: At Outfall 201, when discharging offline combustion turbine (CT) compressor wash water.

[1] See Other Requirement No. 8.
[2] Samples shall be obtained when a discharge occurs.

DEFINITIONS AND STANDARD PERMIT CONDITIONS

As required by Title 30 Texas Administrative Code (TAC) Chapter 305, certain regulations appear as standard conditions in waste discharge permits. 30 TAC §§305.121 - 305.129 (relating to Permit Characteristics and Conditions) as promulgated under the Texas Water Code (TWC) §§5.103 and 5.105, and the Texas Health and Safety Code (THSC) §§361.017 and 361.024(a), establish the characteristics and standards for waste discharge permits, including sewage sludge, and those sections of 40 Code of Federal Regulations (CFR) Part 122 adopted by reference by the Commission. The following text includes these conditions and incorporates them into this permit. All definitions in Texas Water Code §26.001 and 30 TAC Chapter 305 shall apply to this permit and are incorporated by reference. Some specific definitions of words or phrases used in this permit are as follows:

1. Flow Measurements

   a. Annual average flow - the arithmetic average of all daily flow determinations taken within the preceding 12 consecutive calendar months. The annual average flow determination shall consist of daily flow volume determinations made by a totalizing meter, charted on a chart recorder, and limited to major domestic wastewater discharge facilities with a one million gallons per day or greater permitted flow.

   b. Daily average flow - the arithmetic average of all determinations of the daily flow within a period of one calendar month. The daily average flow determination shall consist of determinations made on at least four separate days. If instantaneous measurements are used to determine the daily flow, the determination shall be the arithmetic average of all instantaneous measurements taken during that month. Daily average flow determination for intermittent discharges shall consist of a minimum of three flow determinations on days of discharge.

   c. Daily maximum flow - the highest total flow for any 24-hour period in a calendar month.

   d. Instantaneous flow - the measured flow during the minimum time required to interpret the flow measuring device.

   e. 2-hour peak flow (domestic wastewater treatment plants) - the maximum flow sustained for a two-hour period during the period of daily discharge. The average of multiple measurements of instantaneous maximum flow within a two-hour period may be used to calculate the 2-hour peak flow.

   f. Maximum 2-hour peak flow (domestic wastewater treatment plants) - the highest 2-hour peak flow for any 24-hour period in a calendar month.

2. Concentration Measurements

   a. Daily average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar month, consisting of at least four separate representative measurements.

      i. For domestic wastewater treatment plants - When four samples are not available in a calendar month, the arithmetic average (weighted by flow) of all values in the previous four consecutive month period consisting of at least four measurements shall be utilized as the daily average concentration.

      ii. For all other wastewater treatment plants - When four samples are not available in a calendar month, the arithmetic average (weighted by flow) of all values taken during the month shall be utilized as the daily average concentration.

   b. 7-day average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar week, Sunday through Saturday.

   c. Daily maximum concentration - the maximum concentration measured on a single day, by the sample type specified in the permit, within a period of one calendar month.

   d. Daily discharge - the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants

with limitations expressed in terms of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the sampling day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the sampling day.

The "daily discharge" determination of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the "daily discharge" determination of concentration shall be the arithmetic average (weighted by flow value) of all samples collected during that day.

e. Bacteria concentration (Fecal coliform, *E. coli*, or Enterococci) – the number of colonies of bacteria per 100 milliliters effluent. The daily average bacteria concentration is a geometric mean of the values for the effluent samples collected in a calendar month. The geometric mean shall be determined by calculating the nth root of the product of all measurements made in a calendar month, where n equals the number of measurements made; or computed as the antilogarithm of the arithmetic mean of the logarithms of all measurements made in a calendar month. For any measurement of bacteria equaling zero, a substitute value of one shall be made for input into either computation method. If specified, the 7-day average for bacteria is the geometric mean of the values for all effluent samples collected during a calendar week.

f. Daily average loading (lbs/day) - the arithmetic average of all daily discharge loading calculations during a period of one calendar month. These calculations must be made for each day of the month that a parameter is analyzed. The daily discharge, in terms of mass (lbs/day), is calculated as (Flow, MGD × Concentration, mg/L × 8.34).

g. Daily maximum loading (lbs/day) - the highest daily discharge, in terms of mass (lbs/day), within a period of one calendar month.

3. Sample Type

   a. Composite sample - For domestic wastewater, a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected at the intervals required by 30 TAC §319.9(a). For industrial wastewater, a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected at the intervals required by 30 TAC §319.9(c).

   b. Grab sample - an individual sample collected in less than 15 minutes.

4. Treatment Facility (facility) - wastewater facilities used in the conveyance, storage, treatment, recycling, reclamation or disposal of domestic sewage, industrial wastes, agricultural wastes, recreational wastes, or other wastes including sludge handling or disposal facilities under the jurisdiction of the Commission.

5. The term "sewage sludge" is defined as solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in 30 TAC Chapter 312. This includes the solids that have not been classified as hazardous waste separated from wastewater by unit processes.

6. Bypass - the intentional diversion of a waste stream from any portion of a treatment facility.

MONITORING AND REPORTING REQUIREMENTS

1. Self-Reporting

   Monitoring results shall be provided at the intervals specified in the permit. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall conduct effluent sampling and reporting in accordance with 30 TAC §§319.4 - 319.12. Unless otherwise specified, effluent monitoring data shall be submitted each month, to the Enforcement Division (MC 224), by the 20th day of the following month for each discharge that is described by this permit whether or not a discharge is made for that month. Monitoring results must be submitted online using the NetDMR reporting system available through the TCEQ website unless the

permittee requests and obtains an electronic reporting waiver. Monitoring results must be signed and certified as required by Monitoring and Reporting Requirements No. 10.

As provided by state law, the permittee is subject to administrative, civil and criminal penalties, as applicable, for negligently or knowingly violating the Clean Water Act; TWC Chapters 26, 27, and 28; and THSC Chapter 361, including but not limited to knowingly making any false statement, representation, or certification on any report, record, or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, or falsifying, tampering with or knowingly rendering inaccurate any monitoring device or method required by this permit or violating any other requirement imposed by state or federal regulations.

2. Test Procedures

   a. Unless otherwise specified in this permit, test procedures for the analysis of pollutants shall comply with procedures specified in 30 TAC §§319.11 - 319.12. Measurements, tests, and calculations shall be accurately accomplished in a representative manner.

   b. All laboratory tests submitted to demonstrate compliance with this permit must meet the requirements of 30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.

3. Records of Results

   a. Monitoring samples and measurements shall be taken at times and in a manner so as to be representative of the monitored activity.

   b. Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), monitoring and reporting records, including strip charts and records of calibration and maintenance, copies of all records required by this permit, records of all data used to complete the application for this permit, and the certification required by 40 CFR §264.73(b)(9) shall be retained at the facility site, or shall be readily available for review by a TCEQ representative for a period of three years from the date of the record or sample, measurement, report, application or certification. This period shall be extended at the request of the Executive Director.

   c. Records of monitoring activities shall include the following:

      i. date, time, and place of sample or measurement;
      ii. identity of individual who collected the sample or made the measurement;
      iii. date and time of analysis;
      iv. identity of the individual and laboratory who performed the analysis;
      v. the technique or method of analysis; and
      vi. the results of the analysis or measurement and quality assurance/quality control records.

      The period during which records are required to be kept shall be automatically extended to the date of the final disposition of any administrative or judicial enforcement action that may be instituted against the permittee.

4. Additional Monitoring by Permittee

   If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit using approved analytical methods as specified above, all results of such monitoring shall be included in the calculation and reporting of the values submitted on the approved self-report form. Increased frequency of sampling shall be indicated on the self-report form.

5. Calibration of Instruments

   All automatic flow measuring or recording devices and all totalizing meters for measuring flows shall be accurately calibrated by a trained person at plant start-up and as often thereafter as necessary to ensure accuracy, but not less often than annually unless authorized by the Executive Director for a longer period. Such person shall verify in writing that the device is operating

properly and giving accurate results. Copies of the verification shall be retained at the facility site or shall be readily available for review by a TCEQ representative for a period of three years.

6. Compliance Schedule Reports

   Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date to the regional office and the Enforcement Division (MC 224).

7. Noncompliance Notification

   a. In accordance with 30 TAC §305.125(9) any noncompliance that may endanger human health or safety, or the environment shall be reported by the permittee to the TCEQ. Report of such information shall be provided orally or by facsimile transmission (FAX) to the regional office within 24 hours of becoming aware of the noncompliance. A written submission of such information shall also be provided by the permittee to the regional office and the Enforcement Division (MC 224) within five working days of becoming aware of the noncompliance. For Publicly Owned Treatment Works (POTWs), effective September 1, 2020, the permittee must submit the written report for unauthorized discharges and unanticipated bypasses that exceed any effluent limit in the permit using the online electronic reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver. The written submission shall contain a description of the noncompliance and its cause; the potential danger to human health or safety, or the environment; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, and to mitigate its adverse effects.

   b. The following violations shall be reported under Monitoring and Reporting Requirement 7.a.:

      i. unauthorized discharges as defined in Permit Condition 2(g).
      ii. any unanticipated bypass that exceeds any effluent limitation in the permit.
      iii. violation of a permitted maximum daily discharge limitation for pollutants listed specifically in the Other Requirements section of an Industrial TPDES permit.

   c. In addition to the above, any effluent violation that deviates from the permitted effluent limitation by more than 40% shall be reported by the permittee in writing to the regional office and the Enforcement Division (MC 224) within 5 working days of becoming aware of the noncompliance.

   d. Any noncompliance other than that specified in this section, or any required information not submitted or submitted incorrectly, shall be reported to the Enforcement Division (MC 224) as promptly as possible. For effluent limitation violations, noncompliances shall be reported on the approved self-report form.

8. In accordance with the procedures described in 30 TAC §§35.301 - 35.303 (relating to Water Quality Emergency and Temporary Orders) if the permittee knows in advance of the need for a bypass, it shall submit prior notice by applying for such authorization.

9. Changes in Discharges of Toxic Substances

   All existing manufacturing, commercial, mining, and silvicultural permittees shall notify the regional office, orally or by facsimile transmission within 24 hours, and both the regional office and the Enforcement Division (MC 224) in writing within five (5) working days, after becoming aware of or having reason to believe:

   a. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant listed at 40 CFR Part 122, Appendix D, Tables II and III (excluding Total Phenols) that is not limited in the permit, if that discharge will exceed the highest of the following “notification levels”:

      i. one hundred micrograms per liter (100 µg/L);

ii. two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
iii. five (5) times the maximum concentration value reported for that pollutant in the permit application; or
iv. the level established by the TCEQ.

b. That any activity has occurred or will occur that would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant that is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

i. five hundred micrograms per liter (500 µg/L);
ii. one milligram per liter (1 mg/L) for antimony;
iii. ten (10) times the maximum concentration value reported for that pollutant in the permit application; or
iv. the level established by the TCEQ.

10. Signatories to Reports

All reports and other information requested by the Executive Director shall be signed by the person and in the manner required by 30 TAC §305.128 (relating to Signatories to Reports).

11. All POTWs must provide adequate notice to the Executive Director of the following:

a. any new introduction of pollutants into the POTW from an indirect discharger that would be subject to CWA §301 or §306 if it were directly discharging those pollutants;

b. any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit; and

c. for the purpose of this paragraph, adequate notice shall include information on:

i. the quality and quantity of effluent introduced into the POTW; and
ii. any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

PERMIT CONDITIONS

1. General

a. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in an application or in any report to the Executive Director, it shall promptly submit such facts or information.

b. This permit is granted on the basis of the information supplied and representations made by the permittee during action on an application, and relying upon the accuracy and completeness of that information and those representations. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked, in whole or in part, in accordance with 30 TAC Chapter 305, Subchapter D, during its term for good cause including, but not limited to, the following:

i. violation of any terms or conditions of this permit;
ii. obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
iii. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

c. The permittee shall furnish to the Executive Director, upon request and within a reasonable time, any information to determine whether cause exists for amending, revoking, suspending, or terminating the permit. The permittee shall also furnish to the Executive Director, upon request, copies of records required to be kept by the permit.

2. Compliance

a. Acceptance of the permit by the person to whom it is issued constitutes acknowledgment and agreement that such person will comply with all the terms and conditions embodied in the permit, and the rules and other orders of the Commission.

b. The permittee has a duty to comply with all conditions of the permit. Failure to comply with any permit condition constitutes a violation of the permit and the Texas Water Code or the Texas Health and Safety Code, and is grounds for enforcement action, for permit amendment, revocation, or suspension, or for denial of a permit renewal application or an application for a permit for another facility.

c. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.

d. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal or other permit violation that has a reasonable likelihood of adversely affecting human health or the environment.

e. Authorization from the Commission is required before beginning any change in the permitted facility or activity that may result in noncompliance with any permit requirements.

f. A permit may be amended, suspended and reissued, or revoked for cause in accordance with 30 TAC §§305.62 and 305.66 and TWC §7.302. The filing of a request by the permittee for a permit amendment, suspension and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

g. There shall be no unauthorized discharge of wastewater or any other waste. For the purpose of this permit, an unauthorized discharge is considered to be any discharge of wastewater into or adjacent to water in the state at any location not permitted as an outfall or otherwise defined in the Other Requirements section of this permit.

h. In accordance with 30 TAC §305.535(a), the permittee may allow any bypass to occur from a TPDES permitted facility that does not cause permitted effluent limitations to be exceeded or an unauthorized discharge to occur, but only if the bypass is also for essential maintenance to assure efficient operation.

i. The permittee is subject to administrative, civil, and criminal penalties, as applicable, under Texas Water Code §§7.051 - 7.075 (relating to Administrative Penalties), 7.101 - 7.111 (relating to Civil Penalties), and 7.141 - 7.202 (relating to Criminal Offenses and Penalties) for violations including, but not limited to, negligently or knowingly violating the federal CWA §§301, 302, 306, 307, 308, 318, or 405, or any condition or limitation implementing any sections in a permit issued under the CWA §402, or any requirement imposed in a pretreatment program approved under the CWA §§402(a)(3) or 402(b)(8).

3. Inspections and Entry

a. Inspection and entry shall be allowed as prescribed in the TWC Chapters 26, 27, and 28, and THSC Chapter 361.

b. The members of the Commission and employees and agents of the Commission are entitled to enter any public or private property at any reasonable time for the purpose of inspecting and investigating conditions relating to the quality of water in the state or the compliance with any rule, regulation, permit, or other order of the Commission. Members, employees, or agents of the Commission and Commission contractors are entitled to enter public or private property at any reasonable time to investigate or monitor or, if the responsible party is not responsive or there is an immediate danger to public health or the environment, to remove or remediate a condition related to the quality of water in the state. Members, employees, Commission contractors, or agents acting under this authority who enter private property shall observe the establishment's rules and regulations concerning safety, internal security, and fire protection, and if the property has management in residence, shall notify management or the person then in charge of his presence and shall exhibit proper credentials. If any member, employee, Commission contractor, or agent is refused the right to enter in or on public or private property under this authority, the Executive Director may invoke the remedies authorized in

TWC §7.002. The statement above, that Commission entry shall occur in accordance with an establishment's rules and regulations concerning safety, internal security, and fire protection, is not grounds for denial or restriction of entry to any part of the facility, but merely describes the Commission's duty to observe appropriate rules and regulations during an inspection.

4. Permit Amendment or Renewal

   a. The permittee shall give notice to the Executive Director as soon as possible of any planned physical alterations or additions to the permitted facility if such alterations or additions would require a permit amendment or result in a violation of permit requirements. Notice shall also be required under this paragraph when:

      i. the alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in accordance with 30 TAC §305.534 (relating to New Sources and New Dischargers); or

      ii. the alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in the permit, nor to notification requirements in Monitoring and Reporting Requirements No. 9; or

      iii. the alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

   b. Prior to any facility modifications, additions, or expansions that will increase the plant capacity beyond the permitted flow, the permittee must apply for and obtain proper authorization from the Commission before commencing construction.

   c. The permittee must apply for an amendment or renewal at least 180 days prior to expiration of the existing permit in order to continue a permitted activity after the expiration date of the permit. If an application is submitted prior to the expiration date of the permit, the existing permit shall remain in effect until the application is approved, denied, or returned. If the application is returned or denied, authorization to continue such activity shall terminate upon the effective date of the action. If an application is not submitted prior to the expiration date of the permit, the permit shall expire and authorization to continue such activity shall terminate.

   d. Prior to accepting or generating wastes that are not described in the permit application or that would result in a significant change in the quantity or quality of the existing discharge, the permittee must report the proposed changes to the Commission. The permittee must apply for a permit amendment reflecting any necessary changes in permit conditions, including effluent limitations for pollutants not identified and limited by this permit.

   e. In accordance with the TWC §26.029(b), after a public hearing, notice of which shall be given to the permittee, the Commission may require the permittee, from time to time, for good cause, in accordance with applicable laws, to conform to new or additional conditions.

   f. If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under CWA §307(a) for a toxic pollutant that is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition. The permittee shall comply with effluent standards or prohibitions established under CWA §307(a) for toxic pollutants within the time provided in the regulations that established those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

5. Permit Transfer

   a. Prior to any transfer of this permit, Commission approval must be obtained. The Commission shall be notified in writing of any change in control or ownership of facilities authorized by this permit. Such notification should be sent to the Applications Review and Processing Team (MC 148) of the Water Quality Division.

b. A permit may be transferred only according to the provisions of 30 TAC §305.64 (relating to Transfer of Permits) and 30 TAC §50.133 (relating to Executive Director Action on Application or WQMP update).

6. Relationship to Hazardous Waste Activities

This permit does not authorize any activity of hazardous waste storage, processing, or disposal that requires a permit or other authorization pursuant to the Texas Health and Safety Code.

7. Relationship to Water Rights

Disposal of treated effluent by any means other than discharge directly to water in the state must be specifically authorized in this permit and may require a permit pursuant to Texas Water Code Chapter 11.

8. Property Rights

A permit does not convey any property rights of any sort, or any exclusive privilege.

9. Permit Enforceability

The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

10. Relationship to Permit Application

The application pursuant to which the permit has been issued is incorporated herein; provided, however, that in the event of a conflict between the provisions of this permit and the application, the provisions of the permit shall control.

11. Notice of Bankruptcy.

a. Each permittee shall notify the Executive Director, in writing, immediately following the filing of a voluntary or involuntary petition for bankruptcy under any chapter of Title 11 (Bankruptcy) of the United States Code (11 USC) by or against:

i. the permittee;
ii. an entity (as that term is defined in 11 USC, §101(15)) controlling the permittee or listing the permit or permittee as property of the estate; or
iii. an affiliate (as that term is defined in 11 USC, §101(2)) of the permittee.

b. This notification must indicate:

i. the name of the permittee;
ii. the permit number(s);
iii. the bankruptcy court in which the petition for bankruptcy was filed; and
iv. the date of filing of the petition.

OPERATIONAL REQUIREMENTS

1. The permittee shall at all times ensure that the facility and all of its systems of collection, treatment, and disposal are properly operated and maintained. This includes, but is not limited to, the regular, periodic examination of wastewater solids within the treatment plant by the operator in order to maintain an appropriate quantity and quality of solids inventory as described in the various operator training manuals and according to accepted industry standards for process control. Process control, maintenance, and operations records shall be retained at the facility site, or shall be readily available for review by a TCEQ representative, for a period of three years.

2. Upon request by the Executive Director, the permittee shall take appropriate samples and provide proper analysis in order to demonstrate compliance with Commission rules. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall comply with

all applicable provisions of 30 TAC Chapter 312 concerning sewage sludge use and disposal and 30 TAC §§319.21 - 319.29 concerning the discharge of certain hazardous metals.

3. Domestic wastewater treatment facilities shall comply with the following provisions:

   a. The permittee shall notify the Municipal Permits Team, Wastewater Permitting Section (MC 148) of the Water Quality Division, in writing, of any facility expansion at least 90 days prior to conducting such activity.

   b. The permittee shall submit a closure plan for review and approval to the Municipal Permits Team, Wastewater Permitting Section (MC 148) of the Water Quality Division, for any closure activity at least 90 days prior to conducting such activity. Closure is the act of permanently taking a waste management unit or treatment facility out of service and includes the permanent removal from service of any pit, tank, pond, lagoon, surface impoundment or other treatment unit regulated by this permit.

4. The permittee is responsible for installing prior to plant start-up, and subsequently maintaining, adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failures by means of alternate power sources, standby generators, or retention of inadequately treated wastewater.

5. Unless otherwise specified, the permittee shall provide a readily accessible sampling point and, where applicable, an effluent flow measuring device or other acceptable means by which effluent flow may be determined.

6. The permittee shall remit an annual water quality fee to the Commission as required by 30 TAC Chapter 21. Failure to pay the fee may result in revocation of this permit under TWC §7.302(b)(6).

7. Documentation

   For all written notifications to the Commission required of the permittee by this permit, the permittee shall keep and make available a copy of each such notification under the same conditions as self-monitoring data are required to be kept and made available. Except for information required for TPDES permit applications, effluent data, including effluent data in permits, draft permits and permit applications, and other information specified as not confidential in 30 TAC §1.5(d), any information submitted pursuant to this permit may be claimed as confidential by the submitter. Any such claim must be asserted in the manner prescribed in the application form or by stamping the words “confidential business information” on each page containing such information. If no claim is made at the time of submission, information may be made available to the public without further notice. If the Commission or Executive Director agrees with the designation of confidentiality, the TCEQ will not provide the information for public inspection unless required by the Texas Attorney General or a court pursuant to an open records request. If the Executive Director does not agree with the designation of confidentiality, the person submitting the information will be notified.

8. Facilities that generate domestic wastewater shall comply with the following provisions; domestic wastewater treatment facilities at permitted industrial sites are excluded.

   a. Whenever flow measurements for any domestic sewage treatment facility reach 75% of the permitted daily average or annual average flow for three consecutive months, the permittee must initiate engineering and financial planning for expansion or upgrading of the domestic wastewater treatment or collection facilities. Whenever the flow reaches 90% of the permitted daily average or annual average flow for three consecutive months, the permittee shall obtain necessary authorization from the Commission to commence construction of the necessary additional treatment or collection facilities. In the case of a domestic wastewater treatment facility that reaches 75% of the permitted daily average or annual average flow for three consecutive months, and the planned population to be served or the quantity of waste produced is not expected to exceed the design limitations of the treatment facility, the permittee shall submit an engineering report supporting this claim to the Executive Director of the Commission.

      If in the judgment of the Executive Director the population to be served will not cause permit noncompliance, then the requirement of this section may be waived. To be effective, any

waiver must be in writing and signed by the Director of the Enforcement Division (MC 219) of the Commission, and such waiver of these requirements will be reviewed upon expiration of the existing permit; however, any such waiver shall not be interpreted as condoning or excusing any violation of any permit parameter.

b. The plans and specifications for domestic sewage collection and treatment works associated with any domestic permit must be approved by the Commission, and failure to secure approval before commencing construction of such works or making a discharge is a violation of this permit and each day is an additional violation until approval has been secured.

c. Permits for domestic wastewater treatment plants are granted subject to the policy of the Commission to encourage the development of area-wide waste collection, treatment, and disposal systems. The Commission reserves the right to amend any domestic wastewater permit in accordance with applicable procedural requirements to require the system covered by this permit to be integrated into an area-wide system, should such be developed; to require the delivery of the wastes authorized to be collected in, treated by or discharged from said system, to such area-wide system; or to amend this permit in any other particular to effectuate the Commission's policy. Such amendments may be made when the changes required are advisable for water quality control purposes and are feasible on the basis of waste treatment technology, engineering, financial, and related considerations existing at the time the changes are required, exclusive of the loss of investment in or revenues from any then existing or proposed waste collection, treatment or disposal system.

9. Domestic wastewater treatment plants shall be operated and maintained by sewage plant operators holding a valid certificate of competency at the required level as defined in 30 TAC Chapter 30.

10. For Publicly Owned Treatment Works (POTWs), the 30-day average (or monthly average) percent removal for BOD and TSS shall not be less than 85%, unless otherwise authorized by this permit.

11. Facilities that generate industrial solid waste as defined in 30 TAC §335.1 shall comply with these provisions:

a. Any solid waste, as defined in 30 TAC §335.1 (including but not limited to such wastes as garbage, refuse, sludge from a waste treatment, water supply treatment plant or air pollution control facility, discarded materials, discarded materials to be recycled, whether the waste is solid, liquid, or semisolid), generated by the permittee during the management and treatment of wastewater, must be managed in accordance with all applicable provisions of 30 TAC Chapter 335, relating to Industrial Solid Waste Management.

b. Industrial wastewater that is being collected, accumulated, stored, or processed before discharge through any final discharge outfall, specified by this permit, is considered to be industrial solid waste until the wastewater passes through the actual point source discharge and must be managed in accordance with all applicable provisions of 30 TAC Chapter 335.

c. The permittee shall provide written notification, pursuant to the requirements of 30 TAC §335.8(b)(1), to the Corrective Action Section (MC 127) of the Remediation Division informing the Commission of any closure activity involving an Industrial Solid Waste Management Unit, at least 90 days prior to conducting such an activity.

d. Construction of any industrial solid waste management unit requires the prior written notification of the proposed activity to the Registration and Reporting Section (MC 129) of the Permitting and Remediation Support Division. No person shall dispose of industrial solid waste, including sludge or other solids from wastewater treatment processes, prior to fulfilling the deed recordation requirements of 30 TAC §335.5.

e. The term “industrial solid waste management unit” means a landfill, surface impoundment, waste-pile, industrial furnace, incinerator, cement kiln, injection well, container, drum, salt dome waste containment cavern, or any other structure vessel, appurtenance, or other improvement on land used to manage industrial solid waste.

f. The permittee shall keep management records for all sludge (or other waste) removed from any wastewater treatment process. These records shall fulfill all applicable requirements of 30

TAC Chapter 335 and must include the following, as it pertains to wastewater treatment and discharge:

i. volume of waste and date(s) generated from treatment process;
ii. volume of waste disposed of on-site or shipped off-site;
iii. date(s) of disposal;
iv. identity of hauler or transporter;
v. location of disposal site; and
vi. method of final disposal.

The above records shall be maintained on a monthly basis. The records shall be retained at the facility site, or shall be readily available for review by authorized representatives of the TCEQ for at least five years.

12. For industrial facilities to which the requirements of 30 TAC Chapter 335 do not apply, sludge and solid wastes, including tank cleaning and contaminated solids for disposal, shall be disposed of in accordance with THSC Code Chapter 361.

TCEQ Revision 05/2021

OTHER REQUIREMENTS

1. Violations of daily maximum limitations for the following pollutants shall be reported orally or by facsimile to TCEQ Region 12 within 24 hours from the time the permittee becomes aware of the violation, followed by a written report within five working days to TCEQ Region 12 and Compliance Monitoring Team (MC 224): None.

Pollutant	MAL[1] (mg/L)
Copper (Total)	0.002

Test methods used must be sensitive enough to demonstrate compliance with the permit effluent limitations. If an effluent limit for a pollutant is less than the MAL, then the test method for that pollutant must be sensitive enough to demonstrate compliance at the MAL. Permit compliance/noncompliance determinations will be based on the effluent limitations contained in this permit, with consideration given to the MAL for the pollutants specified above.

When an analysis of an effluent sample for a pollutant listed above indicates no detectable levels above the MAL and the test method detection level is as sensitive as the specified MAL, a value of zero shall be used for that measurement when making calculations for the self-reporting form. This applies to determinations of daily maximum concentration, calculations of loading and daily averages, and other reportable results.

When a reported value is zero based on this MAL provision, the permittee shall submit the following statement with the self-reporting form either as a separate attachment to the form or as a statement in the comments section of the form:

> "The reported value(s) of zero for ____[list pollutant(s)]____ on the self-reporting form for [monitoring period date range]___ is based on the following conditions: (1) the analytical method used had a method detection level as sensitive as the MAL specified in the permit, and (2) the analytical results contained no detectable levels above the specified MAL."

When an analysis of an effluent sample for a pollutant indicates no detectable levels and the test method detection level is not as sensitive as the MAL specified in the permit, or an MAL is not specified in the permit for that pollutant, the level of detection achieved shall be used for that measurement when making calculations for the self-reporting form. A zero may not be used.

2. The Executive Director reviewed this action for consistency with the goals and policies of the Texas Coastal Management Program (CMP) in accordance with the regulations of the General Land Office and determined that the action is consistent with the applicable CMP goals and policies.

3. COOLING WATER INTAKE STRUCTURE REQUIREMENTS

The permittee shall provide written notification to the TCEQ Industrial Permits Team (MC 148) and Region 12 Office of any changes in the method by which the facility obtains water for cooling purposes. This notification must be submitted 30 days prior to any such change and must include a description of the planned changes. The TCEQ may, upon review of the notification, reopen the permit to include additional terms and conditions as necessary.

4. The mixing zone for Outfall 001 is defined as a volume within a radius of 200 feet from the point of discharge. Chronic toxic criteria apply at the edge of the mixing zone.

[1] Minimum analytical level.

5. The 126 priority pollutants (Appendix A of 40 CFR part 423) contained in chemicals added for cooling tower maintenance, except chromium and zinc, shall be limited in the discharge to "no detectable amount". The permittee shall be responsible for determining the composition of maintenance chemicals. The permittee shall report the proposed usage of any chemical which contains any of the 126 priority pollutants and shall notify the permitting authority prior to usage of such chemicals.

6. This provision supersedes and replaces Provision 1, Paragraph 1, of the Monitoring and Reporting Requirements found on Page 4 of this permit.

   Monitoring results shall be provided at the intervals specified in the permit. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall conduct effluent sampling and reporting in accordance with 30 TAC §§319.4-319.12. Unless otherwise specified, effluent monitoring data shall be submitted each month, to the TCEQ Compliance Monitoring Team (MC 224), by the 25th day of the following month for each discharge that is described by this permit whether or not a discharge is made for that month. Monitoring results must be submitted online using the NetDMR reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver. Monitoring results must be signed and certified as required by Monitoring and Reporting Requirements NO. 10.

7. There shall be no discharge of polychlorinated biphenyl compounds, such as those commonly used for transformer fluid.

8. The term "metal cleaning waste" means any wastewater resulting from cleaning (with or without chemical compounds) any metal process equipment including, but not limited to, boiler tube cleaning, boiler fireside cleaning, and air preheater cleaning.

9. The term "low-volume wastes" or "low-volume waste sources" means, taken collectively as if from one source, wastewater from all sources except those for which specific limitations or standards are otherwise established in 40 CFR part 423. Low volume wastes sources include, but are not limited to, the following: wastewaters from ion exchange water treatment systems, water treatment evaporator blowdown, laboratory and sampling streams, boiler blowdown, floor drains, cooling tower basin cleaning wastes, recirculating house service water systems, and wet scrubber air pollution control systems whose primary purpose is particulate removal. Sanitary wastes, air conditioning wastes, and wastewater from carbon capture or sequestration systems are not included in this definition.

10. The term "blowdown" means the minimum discharge of recirculating water for the purpose of discharging materials contained in the water, the further buildup of which would cause concentration in amounts exceeding limits established by best engineering practices.

11. The term "total residual chlorine (or total residual oxidants for intake water with bromides)" means the value obtained using any of the "chlorine—total residual" methods in Table IB in 40 CFR § 136.3(a), or other methods approved by the permitting authority.

12. The following are additional requirements for chlorination and de-chlorination of the cooling water in the cooling towers:

    a. The permittee shall de-chlorinate continuously during the periods of chlorination exceeding two hours on any day. Simultaneous multi-unit chlorination and continuous chlorination is permitted.

b. The permittee shall de-chlorinate the chlorinated effluent to a level equal to or less than 0.1 mg/L of total residual chlorine in a single grab sample.

c. When discharging chlorinated water for periods more than two hours on any day, the permittee shall continuously monitor the Oxidation Reduction Potential (ORP) or other suitable parameter for total residual chlorine and the effectiveness of de-chlorination.

13. There shall be no discharge of domestic wastewater. Domestic wastewater shall be routed to the Shell Oil Company, TPDES Permit No. WQ0000403000, for treatment and disposal or managed in another authorized manner.

14. TEMPERATURE

The permittee shall perform a more complex and comprehensive temperature analysis to show compliance with temperature criteria at outfall 001:

There are two thermal criteria applicable to this proposed discharge - thermal maximum and maximum temperature differential (rise over ambient). Thermal screening calculations demonstrate that the maximum reported effluent temperature of 128 degrees F, exceeds the rise over ambient or thermal maximum at the edge of the aquatic life mixing zone. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

The permittee shall develop and submit the study to the Water Quality Assessment Section (MC 150). The permittee may be required to submit an amendment application to change the characterization of the monitoring and limitations of the temperature if the study demonstrates such action is required, otherwise the temperature limits will go into effect three years from permit issuance.

CHRONIC BIOMONITORING REQUIREMENTS: MARINE

The provisions of this section apply to Outfall 001 for whole effluent toxicity (WET) testing.

1. Scope, Frequency and Methodology

a. The permittee shall test the effluent for toxicity in accordance with the provisions below. Such testing will determine if an appropriately dilute effluent sample adversely affects the survival or growth of the test organisms.

b. The permittee shall conduct the following toxicity tests using the test organisms, procedures, and quality assurance requirements specified below and in accordance with "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms," third edition (EPA-821-R-02-014) or its most recent update:

1) Chronic static renewal 7-day survival and growth test using the mysid shrimp (*Americamysis bahia*) (Method 1007.0). A minimum of eight replicates with five organisms per replicate shall be used in the control and in each dilution. This test shall be conducted once per quarter.

2) Chronic static renewal 7-day larval survival and growth test using the inland silverside (*Menidia beryllina*) (Method 1006.0). A minimum of five replicates with eight organisms per replicate shall be used in the control and in each dilution. This test shall be conducted once per quarter.

The permittee must perform and report a valid test for each test species during the prescribed reporting period. An invalid test must be repeated during the same reporting period. An invalid test is defined as any test failing to satisfy the test acceptability criteria, procedures, and quality assurance requirements specified in the test methods and permit.

c. The permittee shall use five effluent dilution concentrations and a control in each toxicity test. These effluent dilution concentrations are 3%, 5%, 6%, 8%, and 11% effluent. The critical dilution, defined as 8% effluent, is the effluent concentration representative of the proportion of effluent in the receiving water during critical low flow or critical mixing conditions.

d. This permit may be amended to require a WET limit, a chemical-specific limit, a best management practice, or other appropriate actions to address toxicity. The permittee may be required to conduct a toxicity reduction evaluation (TRE) after multiple toxic events.

e. Testing Frequency Reduction

1) If none of the first four consecutive quarterly tests demonstrates significant toxicity, the permittee may submit this information in writing and, upon approval, reduce the testing frequency to once per six months for the invertebrate test species and once per year for the vertebrate test species.

2) If one or more of the first four consecutive quarterly tests demonstrates significant toxicity, the permittee shall continue quarterly testing for that

species until this permit is reissued. If a testing frequency reduction had been previously granted and a subsequent test demonstrates significant toxicity, the permittee will resume a quarterly testing frequency for that species until this permit is reissued.

2. Required Toxicity Testing Conditions

a. Test Acceptance - The permittee shall repeat any toxicity test, including the control and all effluent dilutions, which fails to meet any of the following criteria:

1) a control mean survival of 80% or greater;

2) a control mean dry weight of surviving mysid shrimp of 0.20 mg or greater;

3) a control mean dry weight for surviving unpreserved inland silverside of 0.50 mg or greater and 0.43 mg or greater for surviving preserved inland silverside.

4) a control coefficient of variation percent (CV%) between replicates of 40 or less in the growth and survival tests;

5) a critical dilution CV% of 40 or less in the growth and survival endpoints for either growth and survival test. However, if statistically significant lethal or nonlethal effects are exhibited at the critical dilution, a CV% greater than 40 shall not invalidate the test;

6) a percent minimum significant difference of 37 or less for mysid shrimp growth; and

7) a percent minimum significant difference of 28 or less for inland silverside growth.

b. Statistical Interpretation

1) For the mysid shrimp and the inland silverside larval survival and growth tests, the statistical analyses used to determine if there is a significant difference between the control and an effluent dilution shall be in accordance with the manual referenced in Part 1.b.

2) The permittee is responsible for reviewing test concentration-response relationships to ensure that calculated test-results are interpreted and reported correctly. The document entitled “Method Guidance and Recommendation for Whole Effluent Toxicity (WET) Testing (40 CFR Part 136)” (EPA 821-B-00-004) provides guidance on determining the validity of test results.

3) If significant lethality is demonstrated (that is, there is a statistically significant difference in survival at the critical dilution when compared to the survival in the control), the conditions of test acceptability are met, and the survival of the test organisms are equal to or greater than 80% in the critical dilution and all dilutions below that, then the permittee shall report a survival No Observed Effect Concentration (NOEC) of not less than the critical dilution for the reporting requirements.

4) The NOEC is defined as the greatest effluent dilution at which no significant effect is demonstrated. The Lowest Observed Effect Concentration (LOEC) is defined as the lowest effluent dilution at which a significant effect is demonstrated. A significant effect is herein defined as a statistically significant difference between the survival, reproduction, or growth of the test organism in a specified effluent dilution compared to the survival, reproduction, or growth of the test organism in the control (0% effluent).

5) The use of NOECs and LOECs assumes either a monotonic (continuous) concentration-response relationship or a threshold model of the concentration-response relationship. For any test result that demonstrates a non-monotonic (non-continuous) response, the NOEC should be determined based on the guidance manual referenced in Item 2.

6) Pursuant to the responsibility assigned to the permittee in Part 2.b.2), test results that demonstrate a non-monotonic (non-continuous) concentration-response relationship may be submitted, prior to the due date, for technical review. The guidance manual referenced in Part 1.b. will be used when making a determination of test acceptability.

7) TCEQ staff will review test results for consistency with rules, procedures, and permit requirements.

c. Dilution Water

1) Dilution water used in the toxicity tests must be the receiving water collected as close to the point of discharge as possible but unaffected by the discharge.

2) Where the receiving water proves unsatisfactory as a result of preexisting instream toxicity (i.e., fails to fulfill the test acceptance criteria of Part 2.a.), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:

a) a synthetic lab water control was performed (in addition to the receiving water control) which fulfilled the test acceptance requirements of Part 2.a;

b) the test indicating receiving water toxicity was carried out to completion (i.e., 7 days); and

c) the permittee submitted all test results indicating receiving water toxicity with the reports and information required in Part 3.

3) The synthetic dilution water shall consist of standard, reconstituted seawater. Upon approval, the permittee may substitute other dilution water with chemical and physical characteristics similar to that of the receiving water.

d. Samples and Composites

1) The permittee shall collect a minimum of three composite samples from Outfall 001. The second and third composite samples will be used for the renewal of the

dilution concentrations for each toxicity test.

2) The permittee shall collect the composite samples such that the samples are representative of any periodic episode of chlorination, biocide usage, or other potentially toxic substance being discharged on an intermittent basis.

3) The permittee shall initiate the toxicity tests within 36 hours after collection of the last portion of the first composite sample. The holding time for any subsequent composite sample shall not exceed 72 hours. Samples shall be maintained at a temperature of 0-6 degrees Centigrade during collection, shipping, and storage.

4) If Outfall 001 ceases discharging during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions, and the sample holding time are waived during that sampling period. However, the permittee must have collected an effluent composite sample volume sufficient to complete the required toxicity tests with renewal of the effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report.

3. Reporting

All reports, tables, plans, summaries, and related correspondence required in this section shall be submitted to the attention of the Standards Implementation Team (MC 150) of the Water Quality Division.

a. The permittee shall prepare a full report of the results of all tests conducted in accordance with the manual referenced in Part 1.b. for every valid and invalid toxicity test initiated whether carried to completion or not.

b. The permittee shall routinely report the results of each biomonitoring test on the Table 1 forms provided with this permit.

1) Annual biomonitoring test results are due on or before January 20th for biomonitoring conducted during the previous 12-month period.

2) Semiannual biomonitoring test results are due on or before July 20th and January 20th for biomonitoring conducted during the previous 6-month period.

3) Quarterly biomonitoring test results are due on or before April 20th, July 20th, October 20th, and January 20th, for biomonitoring conducted during the previous calendar quarter.

4) Monthly biomonitoring test results are due on or before the 20th day of the month following sampling.

c. Enter the following codes for the appropriate parameters for valid tests only:

1) For the mysid shrimp, Parameter TLP3E, enter a “1” if the NOEC for survival is less than the critical dilution; otherwise, enter a “0.”

2) For the mysid shrimp, Parameter TOP3E, report the NOEC for survival.

3) For the mysid shrimp, Parameter TXP3E, report the LOEC for survival.

4) For the mysid shrimp, Parameter TWP3E, enter a "1" if the NOEC for growth is less than the critical dilution; otherwise, enter a "0."

5) For the mysid shrimp, Parameter TPP3E, report the NOEC for growth.

6) For the mysid shrimp, Parameter TYP3E, report the LOEC for growth.

7) For the inland silverside, Parameter TLP6J, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

8) For the inland silverside, Parameter TOP6J, report the NOEC for survival.

9) For the inland silverside, Parameter TXP6J, report the LOEC for survival.

10) For the inland silverside, Parameter TWP6J, enter a "1" if the NOEC for growth is less than the critical dilution; otherwise, enter a "0."

11) For the inland silverside, Parameter TPP6J, report the NOEC for growth.

12) For the inland silverside, Parameter TYP6J, report the LOEC for growth.

d. Enter the following codes for retests only:

1) For retest number 1, Parameter 22415, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

2) For retest number 2, Parameter 22416, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

4. Persistent Toxicity

The requirements of this part apply only when a test demonstrates a significant effect at the critical dilution. Significant effect and significant lethality were defined in Part 2.b. Significant sublethality is defined as a statistically significant difference in growth at the critical dilution when compared to the growth of the test organism in the control.

a. The permittee shall conduct a total of 2 additional tests (retests) for any species that demonstrates a significant effect (lethal or sublethal) at the critical dilution. The two retests shall be conducted monthly during the next two consecutive months. The permittee shall not substitute either of the two retests in lieu of routine toxicity testing. All reports shall be submitted within 20 days of test completion. Test completion is defined as the last day of the test.

b. If the retests are performed due to a demonstration of significant lethality, and one or both of the two retests specified in Part 4.a. demonstrates significant lethality, the permittee shall initiate the TRE requirements as specified in Part 5. The provisions of Part 4.a. are suspended upon completion of the two retests and submittal of the TRE

Action plan and schedule defined in Part 5.

If neither test demonstrates significant lethality and the permittee is testing under the reduced testing frequency provision of Part 1.e., the permittee shall return to a quarterly testing frequency for that species.

c. If the two retests are performed due to a demonstration of significant sublethality, and one or both of the two retests specified in Part 4.a. demonstrates significant lethality, the permittee shall again perform two retests as stipulated in Part 4.a.

d. If the two retests are performed due to a demonstration of significant sublethality, and neither test demonstrates significant lethality, the permittee shall continue testing at the quarterly frequency.

e. Regardless of whether retesting for lethal or sublethal effects or a combination of the two, no more than one retest per month is required for a species.

5. Toxicity Reduction Evaluation

a. Within 45 days of the retest that demonstrates significant lethality, or within 45 days of being so instructed due to multiple toxic events, the permittee shall submit a general outline for initiating a TRE. The outline shall include, but not be limited to, a description of project personnel, a schedule for obtaining consultants (if needed), a discussion of influent and effluent data available for review, a sampling and analytical schedule, and a proposed TRE initiation date.

b. Within 90 days of the retest that demonstrates significant lethality, or within 90 days of being so instructed due to multiple toxic events, the permittee shall submit a TRE action plan and schedule for conducting a TRE. The plan shall specify the approach and methodology to be used in performing the TRE. A TRE is a step-wise investigation combining toxicity testing with physical and chemical analyses to determine actions necessary to eliminate or reduce effluent toxicity to a level not effecting significant lethality at the critical dilution. The TRE action plan shall describe an approach for the reduction or elimination of lethality for both test species defined in Part 1.b. At a minimum, the TRE Action Plan shall include the following:

1) Specific Activities - The TRE action plan shall specify the approach the permittee intends to utilize in conducting the TRE, including toxicity characterizations, identifications, confirmations, source evaluations, treatability studies, and alternative approaches. When conducting characterization analyses, the permittee shall perform multiple characterizations and follow the procedures specified in the document entitled “Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures” (EPA/600/6-91/003) or alternate procedures. The permittee shall perform multiple identifications and follow the methods specified in the documents entitled, “Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity” (EPA/600/R-92/080) and “Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity” (EPA/600/R-92/081). All characterization, identification, and confirmation tests shall be conducted in an orderly and logical progression;

2) Sampling Plan - The TRE action plan should describe sampling locations, methods, holding times, chain of custody, and preservation techniques. The effluent sample volume collected for all tests shall be adequate to perform the toxicity characterization/identification/confirmation procedures and chemical-specific analyses when the toxicity tests show significant lethality. Where the permittee has identified or suspects specific pollutant and source of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical-specific analyses for the identified and suspected pollutant and source of effluent toxicity;

3) Quality Assurance Plan - The TRE action plan should address record keeping and data evaluation, calibration and standardization, baseline tests, system blanks, controls, duplicates, spikes, toxicity persistence in the samples, randomization, reference toxicant control charts, and mechanisms to detect artifactual toxicity; and

4) Project Organization - The TRE action plan should describe the project staff, project manager, consulting engineering services (where applicable), consulting analytical and toxicological services, etc.

c. Within 30 days of submittal of the TRE action plan and schedule, the permittee shall implement the TRE.

d. The permittee shall submit quarterly TRE activities reports concerning the progress of the TRE. The quarterly reports are due on or before April 20th, July 20th, October 20th, and January 20th. The report shall detail information regarding the TRE activities including:

1) results and interpretation of any chemical-specific analyses for the identified and suspected pollutant performed during the quarter;

2) results and interpretation of any characterization, identification, and confirmation tests performed during the quarter;

3) any data and substantiating documentation which identifies the pollutant and source of effluent toxicity;

4) results of any studies/evaluations concerning the treatability of the facility's effluent toxicity;

5) any data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant lethality at the critical dilution; and

6) any changes to the initial TRE plan and schedule that are believed necessary as a result of the TRE findings.

e. During the TRE, the permittee shall perform, at a minimum, quarterly testing using the more sensitive species. Testing for the less sensitive species shall continue at the frequency specified in Part 1.b.

f. If the effluent ceases to effect significant lethality, i.e., there is a cessation of lethality, the permittee may end the TRE. A cessation of lethality is defined as no significant lethality for a period of 12 consecutive months with at least monthly testing. At the end of the 12 months, the permittee shall submit a statement of intent to cease the TRE and may then resume the testing frequency specified in Part 1.b.

This provision accommodates situations where operational errors and upsets, spills, or sampling errors triggered the TRE, in contrast to a situation where a single toxicant or group of toxicants cause lethality. This provision does not apply as a result of corrective actions taken by the permittee. Corrective actions are herein defined as proactive efforts that eliminate or reduce effluent toxicity. These include, but are not limited to, source reduction or elimination, improved housekeeping, changes in chemical usage, and modifications of influent streams and effluent treatment.

The permittee may only apply this cessation of lethality provision once. If the effluent again demonstrates significant lethality to the same species, the permit will be amended to add a WET limit with a compliance period, if appropriate. However, prior to the effective date of the WET limit, the permittee may apply for a permit amendment removing and replacing the WET limit with an alternate toxicity control measure by identifying and confirming the toxicant and an appropriate control measure.

g. The permittee shall complete the TRE and submit a final report on the TRE activities no later than 28 months from the last test day of the retest that confirmed significant lethal effects at the critical dilution. The permittee may petition the Executive Director (in writing) for an extension of the 28-month limit. However, to warrant an extension the permittee must have demonstrated due diligence in its pursuit of the toxicity identification evaluation/TRE and must prove that circumstances beyond their control stalled the toxicity identification evaluation/TRE. The report shall provide information pertaining to the specific control mechanism selected that will, when implemented, result in the reduction of effluent toxicity to no significant lethality at the critical dilution. The report shall also provide a specific corrective action schedule for implementing the selected control mechanism.

h. Based upon the results of the TRE and proposed corrective actions, this permit may be amended to modify the biomonitoring requirements, where necessary, require a compliance schedule for implementation of corrective actions, specify a WET limit, specify a best management practice, and to specify a chemical-specific limit.

i. Copies of any and all required TRE plans and reports shall also be submitted to the U.S. EPA Region 6 office, 6WQ-PO.

TABLE 1 (SHEET 1 OF 4)

MYSID SHRIMP SURVIVAL AND GROWTH

Dates and Times Composites Collected

Date Time Date Time

No. 1 FROM: _____ TO: _____

No. 2 FROM: _____ TO: _____

No. 3 FROM: _____ TO: _____

Test initiated: _____am/pm _____date

Dilution water used: _____ Receiving water _____ Synthetic dilution water

MYSID SHRIMP SURVIVAL

Percent Effluent	Percent Survival in Replicate Chambers								Mean Percent Survival			CV%*
	A	B	C	D	E	F	G	H	24h	48h	7 day	
0%												
3%												
5%												
6%												
8%												
11%												

* Coefficient of Variation = standard deviation x 100/mean

DATA TABLE FOR GROWTH OF MYSID SHRIMP

Replicate	Mean dry weight in milligrams in replicate chambers					
	0%	3%	5%	6%	8%	11%
A						
B						
C						
D						
E						

TABLE 1 (SHEET 2 OF 4)

MYSID SHRIMP SURVIVAL AND GROWTH

DATA TABLE FOR GROWTH OF MYSID SHRIMP (Continued)

Replicate	Mean dry weight in milligrams in replicate chambers					
	0%	3%	5%	6%	8%	11%
F						
G						
H						
Mean Dry Weight (mg)						
CV%*						
PMSD						

1. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

   Is the mean survival at 7 days significantly less than the control survival for the % effluent corresponding to lethality?

   CRITICAL DILUTION (8%): _____ YES _____ NO

2. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

   Is the mean dry weight (growth) at 7 days significantly less than the control's dry weight (growth) for the % effluent corresponding to non-lethal effects?

   CRITICAL DILUTION (8%): _____ YES _____ NO

3. Enter percent effluent corresponding to each NOEC\LOEC below:

   a.) NOEC survival = _____% effluent

   b.) LOEC survival = _____% effluent

   c.) NOEC growth = _____% effluent

   d.) LOEC growth = _____% effluent

TABLE 1 (SHEET 3 OF 4)

INLAND SILVERSIDE MINNOW LARVAL SURVIVAL AND GROWTH TEST

		Date Time	Date Time
Dates and Times Composites Collected	No. 1 FROM:	_____	TO: _____
	No. 2 FROM:	_____	TO: _____
	No. 3 FROM:	_____	TO: _____

Test initiated: _____am/pm _____date

Dilution water used: _____ Receiving water _____ Synthetic Dilution water

INLAND SILVERSIDE SURVIVAL

Percent Effluent	Percent Survival in Replicate Chambers					Mean Percent Survival			CV%*
	A	B	C	D	E	24h	48h	7 days	
0%									
3%									
5%									
6%									
8%									
11%									

* Coefficient of Variation = standard deviation x 100/mean

TABLE 1 (SHEET 4 OF 4)

INLAND SILVERSIDE LARVAL SURVIVAL AND GROWTH TEST

INLAND SILVERSIDE GROWTH

Percent Effluent	Average Dry Weight in milligrams in replicate chambers					Mean Dry Weight (mg)	CV%*
	A	B	C	D	E		
0%							
3%							
5%							
6%							
8%							
11%							
PMSD							

Weights are for: ____ preserved larvae, or ____ unpreserved larvae

1. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

   Is the mean survival at 7 days significantly less than the control survival for the % effluent corresponding to lethality?

   CRITICAL DILUTION (8%): _____ YES _____ NO

2. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

   Is the mean dry weight (growth) at 7 days significantly less than the control's dry weight (growth) for the % effluent corresponding to non-lethal effects?

   CRITICAL DILUTION (8%): _____ YES _____ NO

3. Enter percent effluent corresponding to each NOEC/LOEC below:

   a.) NOEC survival = _____% effluent

   b.) LOEC survival = _____% effluent

   c.) NOEC growth = _____% effluent

   d.) LOEC growth = _____% effluent

24-HOUR ACUTE BIOMONITORING REQUIREMENTS: MARINE

The provisions of this section apply to Outfall 001 for whole effluent toxicity (WET) testing.

1. Scope, Frequency, and Methodology

a. The permittee shall test the effluent for lethality in accordance with the provisions in this Section. Such testing will determine compliance with Texas Surface Water Quality Standard 30 TAC § 307.6(e)(2)(B), which requires greater than 50% survival of the appropriate test organisms in 100% effluent for a 24-hour period.

b. The toxicity tests specified shall be conducted once per six months. The permittee shall conduct the following toxicity tests using the test organisms, procedures, and quality assurance requirements specified in this section of the permit and in accordance with "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms," fifth edition (EPA-821-R-02-012) or its most recent update:

1) Acute 24-hour static toxicity test using the mysid shrimp (*Americamysis bahia*). A minimum of five replicates with eight organisms per replicate shall be used in the control and each dilution.

2) Acute 24-hour static toxicity test using the inland silverside (*Menidia beryllina*). A minimum of five replicates with eight organisms per replicate shall be used in the control and each dilution.

A valid test result must be submitted for each reporting period. The permittee must report, then repeat, an invalid test during the same reporting period. The repeat test shall include the control and all effluent dilutions and use the appropriate number of organisms and replicates, as specified above. An invalid test is defined as any test failing to satisfy the test acceptability criteria, procedures, and quality assurance requirements specified in the test methods and permit.

c. In addition to an appropriate control, a 100% effluent concentration shall be used in the toxicity tests. Except as discussed in Part 2.b., the control and dilution water shall consist of standard, synthetic, reconstituted seawater.

d. This permit may be amended to require a WET limit, a best management practice, a chemical-specific limit, additional toxicity testing, and other appropriate actions to address toxicity. The permittee may be required to conduct a toxicity reduction evaluation (TRE) after multiple toxic events.

2. Required Toxicity Testing Conditions

a. Test Acceptance - The permittee shall repeat any toxicity test, including the control, if the control fails to meet a mean survival equal to or greater than 90%.

b. Dilution Water - In accordance with Part 1.c., the control and dilution water shall consist of standard, synthetic, reconstituted seawater.

c. Samples and Composites

1) The permittee shall collect one composite sample from Outfall 001.

2) The permittee shall collect the composite sample such that the sample is representative of any periodic episode of chlorination, biocide usage, or other potentially toxic substance being discharged on an intermittent basis.

3) The permittee shall initiate the toxicity tests within 36 hours after collection of the last portion of the composite sample. The sample shall be maintained at a temperature of 0-6 degrees Centigrade during collection, shipping, and storage.

4) If Outfall 001 ceases discharging during the collection of the effluent composite sample, the requirements for the minimum number of effluent portions are waived. However, the permittee must have collected a composite sample volume sufficient for completion of the required test. The abbreviated sample collection, duration, and methodology must be documented in the full report.

3. Reporting

All reports, tables, plans, summaries, and related correspondence required of this section shall be submitted to the attention of the Standards Implementation Team (MC 150) of the Water Quality Division.

a. The permittee shall prepare a full report of the results of all tests conducted in accordance with the manual referenced in Part 1.b. for every valid and invalid toxicity test initiated.

b. The permittee shall routinely report the results of each biomonitoring test on the Table 2 forms provided with this permit.

1) Semiannual biomonitoring test results are due on or before July 20th and January 20th for biomonitoring conducted during the previous 6-month period.

2) Quarterly biomonitoring test results are due on or before April 20th, July 20th, October 20th, and January 20th for biomonitoring conducted during the previous calendar quarter.

c. Enter the following codes for the appropriate parameters for valid tests only:

1) For the mysid shrimp, Parameter TIE3E, enter a “0” if the mean survival at 24-hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter a “1.”

2) For the inland silverside, Parameter TII6J, enter a “0” if the mean survival at 24-hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter a “1.”

d. Enter the following codes for retests only:

1) For retest number 1, Parameter 22415, enter a "0" if the mean survival at 24-hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter "1."

2) For retest number 2, Parameter 22416, enter a "0" if the mean survival at 24-hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter "1."

4. Persistent Mortality

The requirements of this part apply when a toxicity test demonstrates significant lethality, here defined as a mean mortality of 50% or greater to organisms exposed to the 100% effluent concentration after 24-hours.

a. The permittee shall conduct 2 additional tests (retests) for each species that demonstrates significant lethality. The two retests shall be conducted once per week for 2 weeks. Five effluent dilution concentrations in addition to an appropriate control shall be used in the retests. These additional effluent concentrations are 6%, 13%, 25%, 50% and 100% effluent. The first retest shall be conducted within 15 days of the laboratory determination of significant lethality. All test results shall be submitted within 20 days of test completion of the second retest. Test completion is defined as the 24th hour.

b. If one or both of the two retests specified in item 4.a. demonstrates significant lethality, the permittee shall initiate the TRE requirements as specified in Part 5 of this Section.

5. Toxicity Reduction Evaluation

a. Within 45 days of the retest that demonstrates significant lethality, the permittee shall submit a general outline for initiating a TRE. The outline shall include, but not be limited to, a description of project personnel, a schedule for obtaining consultants (if needed), a discussion of influent and effluent data available for review, a sampling and analytical schedule, and a proposed TRE initiation date.

b. Within 90 days of the retest that demonstrates significant lethality, the permittee shall submit a TRE action plan and schedule for conducting a TRE. The plan shall specify the approach and methodology to be used in performing the TRE. A TRE is a step-wise investigation combining toxicity testing with physical and chemical analyses to determine actions necessary to eliminate or reduce effluent toxicity to a level not effecting significant lethality at the critical dilution. The TRE action plan shall lead to the successful elimination of significant lethality for both test species defined in Part 1.b. At a minimum, the TRE action plan shall include the following:

1) Specific Activities - The TRE action plan shall specify the approach the permittee intends to utilize in conducting the TRE, including toxicity characterizations, identifications, confirmations, source evaluations, treatability studies, and alternative approaches. When conducting characterization analyses, the permittee shall perform multiple characterizations and follow the procedures specified in the document entitled “Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures” (EPA/600/6-91/003) or alternate procedures. The permittee shall perform multiple identifications and follow the methods specified in the documents entitled “Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity” (EPA/600/R-92/080) and “Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for

Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/081). All characterization, identification, and confirmation tests shall be conducted in an orderly and logical progression;

2) Sampling Plan - The TRE action plan should describe sampling locations, methods, holding times, chain of custody, and preservation techniques. The effluent sample volume collected for all tests shall be adequate to perform the toxicity characterization/identification/confirmation procedures and chemical-specific analyses when the toxicity tests show significant lethality. Where the permittee has identified or suspects a specific pollutant and source of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical-specific analyses for the identified and suspected pollutant and source of effluent toxicity;

3) Quality Assurance Plan - The TRE action plan should address record keeping and data evaluation, calibration and standardization, baseline tests, system blanks, controls, duplicates, spikes, toxicity persistence in the samples, randomization, reference toxicant control charts, and mechanisms to detect artifactual toxicity; and

4) Project Organization - The TRE action plan should describe the project staff, project manager, consulting engineering services (where applicable), consulting analytical and toxicological services, etc.

c. Within 30 days of submittal of the TRE action plan and schedule, the permittee shall implement the TRE.

d. The permittee shall submit quarterly TRE activities reports concerning the progress of the TRE. The quarterly TRE activities reports are due on or before April 20th, July 20th, October 20th, and January 20th. The report shall detail information regarding the TRE activities including:

1) results and interpretation of any chemical-specific analyses for the identified and suspected pollutant performed during the quarter;

2) results and interpretation of any characterization, identification, and confirmation tests performed during the quarter;

3) any data and substantiating documentation that identifies the pollutant and source of effluent toxicity;

4) results of any studies/evaluations concerning the treatability of the facility's effluent toxicity;

5) any data that identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to eliminate significant lethality; and

6) any changes to the initial TRE plan and schedule that are believed necessary as a result of the TRE findings.

e. During the TRE, the permittee shall perform, at a minimum, quarterly testing using the more sensitive species. Testing for the less sensitive species shall continue at the

frequency specified in Part 1.b.

f. If the effluent ceases to effect significant lethality, i.e., there is a cessation of lethality, the permittee may end the TRE. A cessation of lethality is defined as no significant lethality for a period of 12 consecutive weeks with at least weekly testing. At the end of the 12 weeks, the permittee shall submit a statement of intent to cease the TRE and may then resume the testing frequency specified in Part 1.b.

This provision accommodates situations where operational errors and upsets, spills, or sampling errors triggered the TRE, in contrast to a situation where a single toxicant or group of toxicants cause lethality. This provision does not apply as a result of corrective actions taken by the permittee. Corrective actions are defined as proactive efforts that eliminate or reduce effluent toxicity. These include, but are not limited to, source reduction or elimination, improved housekeeping, changes in chemical usage, and modifications of influent streams and effluent treatment.

The permittee may only apply this cessation of lethality provision once. If the effluent again demonstrates significant lethality to the same species, the permit will be amended to add a WET limit with a compliance period, if appropriate. However, prior to the effective date of the WET limit, the permittee may apply for a permit amendment removing and replacing the WET limit with an alternate toxicity control measure by identifying and confirming the toxicant and an appropriate control measure.

g. The permittee shall complete the TRE and submit a final report on the TRE activities no later than 18 months from the last test day of the retest that demonstrates significant lethality. The permittee may petition the Executive Director (in writing) for an extension of the 18-month limit. However, to warrant an extension the permittee must have demonstrated due diligence in its pursuit of the toxicity identification evaluation/TRE and must prove that circumstances beyond its control stalled the toxicity identification evaluation/TRE. The report shall specify the control mechanism that will, when implemented, reduce effluent toxicity as specified in Part 5.h. The report shall also specify a corrective action schedule for implementing the selected control mechanism.

h. Within 3 years of the last day of the test confirming toxicity, the permittee shall comply with 30 TAC § 307.6(e)(2)(B), which requires greater than 50% survival of the test organism in 100% effluent at the end of 24-hours. The permittee may petition the Executive Director (in writing) for an extension of the 3-year limit. However, to warrant an extension the permittee must have demonstrated due diligence in its pursuit of the toxicity identification evaluation/TRE and must prove that circumstances beyond its control stalled the toxicity identification evaluation/TRE.

The permittee may be exempted from complying with 30 TAC § 307.6(e)(2)(B) upon proving that toxicity is caused by an excess, imbalance, or deficiency of dissolved salts. This exemption excludes instances where individually toxic components (e.g., metals) form a salt compound. Following the exemption, the permit may be amended to include an ion-adjustment protocol, alternate species testing, or single species testing.

i. Based upon the results of the TRE and proposed corrective actions, this permit may be amended to modify the biomonitoring requirements where necessary, require a compliance schedule for implementation of corrective actions, specify a WET limit, specify a best management practice, and to specify a chemical specific limit.

j. Copies of any and all required TRE plans and reports shall also be submitted to the U.S. EPA Region 6 office, 6WQ-PO.

TABLE 2 (SHEET 1 OF 2)

MYSID SHRIMP SURVIVAL

GENERAL INFORMATION

	Time	Date
Composite Sample Collected		
Test Initiated		

PERCENT SURVIVAL

Time	Rep	Percent effluent					
		0%	6%	13%	25%	50%	100%
24h	A						
	B						
	C						
	D						
	E						
	MEAN						

Enter percent effluent corresponding to the LC50 below:

24 hour LC50 = _____% effluent

TABLE 2 (SHEET 2 OF 2)

INLAND SILVERSIDE SURVIVAL

GENERAL INFORMATION

	Time	Date
Composite Sample Collected		
Test Initiated		

PERCENT SURVIVAL

Time	Rep	Percent effluent					
		0%	6%	13%	25%	50%	100%
24h	A						
	B						
	C						
	D						
	E						
	MEAN						

Enter percent effluent corresponding to the LC50 below:

24 hour LC50 = _____% effluent

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

For draft Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0004344000, U.S. Environmental Protection Agency (EPA) ID No. TX0124303, to discharge to water in the state

Issuing Office:	Texas Commission on Environmental Quality (TCEQ) P.O. Box 13087 Austin, Texas 78711-3087
Applicant:	Deer Park Energy Center LLC and Calpine Operating Services Company, Inc. 717 Texas Street, Suite 1000 Houston, Texas 77002
Prepared By:	Thomas E. Starr Wastewater Permitting Section Water Quality Division (512) 239-4570
Date:	May 6, 2024
Permit Action:	Renewal

I. EXECUTIVE DIRECTOR RECOMMENDATION

The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The draft permit will expire at midnight, five years from the date of permit issuance according to the requirements of 30 Texas Administrative Code (TAC) §305.127(1)(C)(i).

II. APPLICANT ACTIVITY

The applicant currently operates Deer Park Energy Center, a natural gas-fired, combined cycle power generation facility.

III. DISCHARGE LOCATION

As described in the application, the facility is located at 5665 State Highway 225, in the City of Deer Park, Harris County, Texas 77536. Discharge is directly to the Houston Ship Channel Tidal in Segment No. 1006 of the San Jacinto River Basin.

IV. RECEIVING STREAM USES

The designated uses for Segment No. 1006 are navigation and industrial water supply.

V. STREAM STANDARDS

The general criteria and numerical criteria that make up the stream standards are provided in 30 TAC §§ 307.1 - 307.10.

VI. DISCHARGE DESCRIPTION

The following is a quantitative description of the discharge described in the monthly effluent report data for the period January 2018 through December 2023. The "average of daily average"

values presented in the following table are the average of all daily average values for the reporting period for each pollutant. The "maximum of daily maximum" values presented in the following table are the individual maximum values for the reporting period for each pollutant. Flows are expressed in million gallons per day (MGD). All pH values are expressed in standard units (SU).

A. Flow

Outfall	Frequency	Average of Daily Average, MGD	Maximum of Daily Maximum, MGD
001	Continuous	0.820	2.02
101	Intermittent	1.39*	3.14*
201	Intermittent	No Discharge	No Discharge

*Outfall 101 flows consistently exceed the flows from Outfall 001. This is because some of the effluent is routed to the cooling tower as make up water.

B. Temperature

Outfall	Average of Daily Average, °F	Maximum of Daily Maximum, °F
001	88.9	128

C. Effluent Characteristics

Outfall	Pollutant	Average of Daily Average		Maximum of Daily Maximum	
		lbs/day	mg/L	lbs/day	mg/L
001	Total Residual Chlorine	-	-	-	0.100
	Copper, Total	0.203	0.035	1.83	0.530
	Biochemical Oxygen Demand, 5-days	20.8	4.77	149	114
	pH	6.0 SU, minimum		8.9 SU	
101	Oil and Grease	-	4.42	-	69.0
	Total Suspended Solids (TSS)	-	12.6	-	100
201	Oil and Grease	No Discharge			
	TSS	No Discharge			
	Copper, Total	No Discharge			
	Iron, Total	No Discharge			

Effluent limit violations documented in the monthly effluent reports are summarized in the following table (Daily maximum of total copper 0.53 mg/L was April 2020 prior to the more stringent limit October 2022).

D. Effluent Limitation Violations

Outfall	Pollutant (units)	Month/ Year	Daily Average		Daily Maximum	
			Limit	Reported	Limit	Reported
101	Oil and Grease	2/2019	15	17.3	20	69
		6/2020		-		23
		6/2023		-		32
	TSS	1/2020	30	36.8	-	-

The draft permit was not changed to address these effluent limit violations because of the infrequent nature of the exceedances.

VII. DRAFT EFFLUENT LIMITATIONS

Effluent limitations are established in the draft permit as follows:

Outfall	Pollutant	Daily Average		Daily Maximum	
		mg/L	lbs/day	mg/L	lbs/day
001	Flow	1.48 MGD		2.70 MGD	
	Temperature	Report, °F		106 °F	
	Total Residual Chlorine	N/A	N/A	0.1	N/A
	Copper, Total[1]	0.0432	0.533	0.0915	1.129
	Copper, Total[2]	0.0239	0.295	0.0506	0.625
	pH	6.0 SU (minimum)		9.0 SU	
101	Flow	Report, MGD		Report, MGD	
	Oil and Grease	15	N/A	20	N/A
	Total Suspended Solids	30	N/A	100	N/A
201	Flow	Report, MGD		Report, MGD	
	Oil and Grease	15	N/A	20	N/A
	Total Suspended Solids	30	N/A	100	N/A
	Copper, total	0.5	N/A	1.0	N/A
	Iron, total	1.0	N/A	1.0	N/A

OUTFALL LOCATIONS

Outfall	Latitude	Longitude
001	29.712917 N	95.134588 W

VIII. SUMMARY OF CHANGES FROM APPLICATION

No changes were made from the application.

IX. SUMMARY OF CHANGES FROM EXISTING PERMIT

The following changes have been made to the draft permit:

1. Just the street address is now used in the location of the facility.
2. The permittee has selected the optional complex and comprehensive temperature analysis to show compliance with temperature in place of the maximum temperature limit being placed in the draft permit. The maximum temperature limit is still placed in the draft permit with a three-year compliance period in case the study does not show otherwise.
3. The requirement at Outfall 001 for BOD_5 was set to expire before the end of the existing permit and was not carried forward in the draft permit.

[1] Interim effluent limitations begin on the issuance of the permit and last for two-years and 364 days.
[2] Final effluent limitations begin three-years from issuance of the permit.

4. Other Requirement No. 3 was carried forward from the existing permit to the draft permit to address cooling water intake structure requirements under CWA §316(b). Although CWA §316(b) does not currently apply to this facility, the applicant would be required to notify the TCEQ if there is a change in how the facility obtains cooling water.
5. Other Requirement No. 14 was not carried forward as the total copper compliance period has been met.
6. Other Requirement No. 14 was added to the draft permit to require a temperature study to be submitted and evaluated otherwise the temperature limit will go into place after three years from permit issuance.

X. DRAFT PERMIT RATIONALE

The following section sets forth the statutory and regulatory requirements considered in preparing the draft permit. Also set forth are any calculations or other necessary explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guidelines and water quality standards.

A. REASON FOR PERMIT ISSUANCE

The applicant applied to the TCEQ for a renewal of Permit No. WQ0004344000, which authorizes cooling tower blowdown and previously monitored effluent (low-volume waste sources at an intermittent and flow-variable basis via Outfall 101 and metal cleaning waste at an intermittent and flow-variable basis via Outfall 201) at a daily average flow not to exceed 1.48 million gallons per day (MGD) via Outfall 001.

B. WATER QUALITY SUMMARY

Discharge Route
The discharge route is directly to the Houston Ship Channel Tidal in Segment No. 1006 of the San Jacinto River Basin. The designated uses for Segment No. 1006 are navigation and industrial water supply. Effluent limitations and conditions established in the draft permit comply with state water quality standards and the applicable water quality management plan. The effluent limits in the draft permit will maintain and protect the existing instream uses. Additional discussion of the water quality aspects of the draft permit can be found at Section X.D. of this fact sheet.

Endangered Species Review
The discharge from this permit is not expected to have an effect on any federal endangered or threatened aquatic or aquatic-dependent species or proposed species or their critical habitat. This determination is based on the United States Fish and Wildlife Service's (USFWS) biological opinion on the State of Texas authorization of the TPDES program (September 14, 1998; October 21, 1998 update). To make this determination for TPDES permits, TCEQ and EPA only considered aquatic or aquatic-dependent species occurring in watersheds of critical concern or high priority as listed in Appendix A of the USFWS's biological opinion. The determination is subject to reevaluation due to subsequent updates or amendments to the biological opinion. The permit does not require EPA review with respect to the presence of endangered or threatened species.

Impaired Water Bodies
Segment No. 1006 is currently listed on the state's inventory of impaired and threatened waters, the 2014 Clean Water Act Section 303(d) list. The listings are for bacteria in water in Goodyear Creek from the confluence with Greens Bayou Tidal to Granada St. in Harris County (AU 1006_05); for toxicity in sediment in Patrick Bayou tidal from the confluence with the Houston Ship Channel to 100 m upstream of the railroad bridge (AU 1006_04); and for dioxin and polychlorinated biphenyls (PCBs) in edible tissue in the Houston Ship Channel from Greens Bayou confluence to San Jacinto River Tidal (1005) confluence (AUs 1006_01 & 1006_02) as well as in Greens Bayou Tidal (AU 1006_03), Patrick Bayou Tidal (AU 1006_04), Goodyear Creek (AU 1006_05), Tucker Bayou (AU 1006_06), and Carpenters Bayou (AU 1006_07).

According to the application, the facility is connected to a domestic wastewater treatment plant and domestic wastewater is not authorized for discharge; therefore, this permit action is not expected to contribute to the bacteria impairment in Segment No. 1006. The permittee does not manufacture nor use dioxin compounds or PCBs,; therefore, this permit action is not expected to contribute to those impairments in Segment No. 1006. Additionally, there are no other sources of bacteria, dioxins, or PCBs, at the facility. This permit action is not expected to further contribute to the toxicity in sediment impairment as this permit action will not authorize any increase in pollutant loadings. Therefore, this permit action is not expected to contribute to any of the listed impairments.

Completed Total Maximum Daily Loads (TMDLs)
TMDL Project No. 1 has been withdrawn and is no longer applicable.

C. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

1. GENERAL COMMENTS

Regulations in Title 40 of the Code of Federal Regulations (40 CFR) require that technology-based limitations be placed in wastewater discharge permits based on effluent limitations guidelines, where applicable, or on best professional judgment (BPJ) in the absence of guidelines.

The draft permit authorizes the discharge of cooling tower blowdown and previously monitored effluent at a daily average flow not to exceed 1.48 million gallons per day (MGD) via Outfall 001; low volume waste on an intermittent and flow-variable basis via internal Outfall 101; and metal cleaning waste on an intermittent and flow-variable basis via internal Outfall 201**.**

The discharge of cooling tower blowdown via Outfall 001, low volume waste via internal Outfall 101, and metal cleaning waste via internal Outfall 201 from this facility is subject to federal effluent limitation guidelines at 40 CFR Part 423. Development of these effluent limits is discussed in Appendix A. A new source determination was performed, and the discharge of cooling tower blowdown, low volume waste and metal cleaning waste is not a new source as defined at 40 CFR §122.2. Therefore, new source performance standards (NSPS) are not required for this discharge.

The daily maximum effluent limitation of 0.1 mg/L total residual chlorine at Outfall 001 is consistent with 40 CFR 423.15 and continued from the existing permit. Limiting total residual chlorine to 0.1 mg/L is more stringent than limiting free available chlorine to 0.1 mg/L; this is discussed further in Appendix A.

The daily average effluent limit for total copper at internal Outfall 201 is based on 30 TAC § 319.23 for Tidal Waters, not 40 CFR Part 423. See Appendix A.

Wastewater Generation and Treatment

The applicants currently operate Deer Park Energy Center, a natural gas-fired, combined-cycle power generation facility. The facility has five combustion turbines that provide steam to five heat recovery steam generators (HRSGs) with a nominal generating capacity of 1060 megawatts (MW).

The facility has two sources of water for use in plant processes, water from the Coastal Water Authority (CWA) and hot and cold condensate water from Shell Oil Company (Shell). The CWA water is pre-treated using clarifiers and a cation and anion demineralization system. Hypochlorite may be added to the CWA water prior to routing to the clarifiers for biological control. Steam generated at Deer Park Energy Center is routed to Shell where it is passed through non-contact heat exchangers and then routed back to the Deer Park Energy Center for reuse. Hot condensate received from Shell is processed through a flash tank to reduce the pressure to atmospheric. The hot and cold condensate from Shell is commingled and routed through a heat exchanger before routing through a mixed bed polisher system. There are six mixed bed polishers that operate in parallel. The polishers are used to polish both the cation and anion train product, and the return condensate from Shell. The treated condensate is routed to the cycle make-up tank for reuse as cooling tower make-up water. Cation resin is regenerated with hydrochloric acid and anion resin is regenerated with caustic soda. The regenerate from the condensate polisher and demineralizer system is routed to the neutralization basin and treated, if necessary, then discharged via internal Outfall 101.

Clarifier wastes from CWA water treatment are routed to a sludge thickener, and clear overflow from the thickener is routed back to the clarifiers. The multimedia filters consist of five filters operated in parallel and remove trace suspended solids carried over from the clarifier. Filter backwash is collected in a storage tank and transferred back to the clarifier. The filtered water is routed to the process water/firewater storage tank and then routed through the demineralizer system for additional treatment. This water is used as make-up water for the cooling tower.

Heat Recovery Steam Generator (HRSG) blowdown, contact stormwater, and off-line compressor wash water (metal cleaning waste) may be routed to the cooling tower as make-up water. Contact stormwater and service water from the facility is routed through an oil/water separator and then routed to the cooling tower as make-up water. HRSG blowdown, service water, and demineralizer wastewater may also be discharged via internal Outfall 101 prior to Outfall 001. Chemical treatment for the cooling tower includes sulfuric acid for alkalinity control, a

polyphosphate for corrosion control, and a polymer dispersant. Sodium hypochlorite is used on a continual basis for biological control and supplemented with periodic use of a non-oxidizing biocide as a control of algae and other microbiological growth. The cooling tower blowdown is dechlorinated with sodium bisulfate prior to discharge via Outfall 001. Off-line compressor wash water (metal cleaning waste) is discharged via internal Outfall 201 prior to Outfall 001. Domestic wastewater generated at the facility is routed to Shell Oil Company for treatment and discharged under Shell Oil Company's TPDES Permit, No. WQ0000403000.

2. CALCULATIONS

See Appendix A of this fact sheet for calculations and further discussion of technology-based effluent limitations proposed in the draft permit.

Technology-based effluent limitations for cooling tower blowdown and previously monitored effluent at Outfall 001, low volume waste at internal Outfall 101, and metal cleaning wastes at internal Outfall 201 are continued from the existing permit.

The following technology-based effluent limitations are proposed in the draft permit:

Outfall	Pollutant	Daily Average, mg/L	Daily Maximum, mg/L
001	Total Residual Chlorine	N/A	0.1
	pH	6.0 SU, minimum	9.0 SU
101	Oil and Grease	15	20
	Total Suspended Solids	30	100
201	Oil and Grease	15	20
	Total Suspended Solids	30	100
	Total Copper	-	1.0
	Total Iron	1.0	1.0

3. 316(B) COOLING WATER INTAKE STRUCTURES

a. SCREENING

The facility obtains water from a public water system (PWS), PWS No. 1010013, for cooling purposes. In accordance with 40 CFR 125.91(c), obtaining water from a PWS for cooling purposes within an existing facility does not constitute the use of a cooling water intake structure; therefore, the facility is not subject to Clean Water Act Section 316(b) or 40 CFR Part 125, Subpart J.

b. PERMIT ACTION

Other Requirement No. 3 has been carried forward from the existing permit to the draft permit and requires the permittee to notify the TCEQ in the event that a change in procedure or a facility modification alters the

method by which cooling water is obtained. Upon receipt of such notification, the TCEQ may reopen the permit to include additional terms and conditions as necessary.

D. WATER QUALITY-BASED EFFLUENT LIMITATIONS/CONDITIONS

1. GENERAL COMMENTS

The *Texas Surface Water Quality Standards* found at 30 TAC Chapter 307 state that surface waters will not be toxic to man from ingestion of water, consumption of aquatic organisms, or contact with the skin, or to terrestrial or aquatic life. The methodology outlined in the TCEQ guidance document *Procedures to Implement the Texas Surface Water Quality Standards* (IPs) is designed to ensure compliance with 30 TAC Chapter 307. Specifically, the methodology is designed to ensure that no source will be allowed to discharge any wastewater that (1) results in instream aquatic toxicity; (2) causes a violation of an applicable narrative or numerical state water quality standard; (3) results in the endangerment of a drinking water supply; or (4) results in aquatic bioaccumulation that threatens human health. Calculated water quality-based effluent limits can be found in Appendix B of this fact sheet.

TPDES permits contain technology-based effluent limits reflecting the best controls available. Where these technology-based permit limits do not protect water quality or the designated uses, additional water quality-based effluent limitations or conditions are included. State narrative and numerical water quality standards are used in conjunction with EPA criteria and other toxicity databases to determine the adequacy of technology-based permit limits and the need for additional water quality-based controls. A comparison of technology-based effluent limits and calculated water quality-based effluent limits can be found in Appendix D of this fact sheet.

2. AQUATIC LIFE CRITERIA

a. SCREENING

Water quality-based effluent limitations are calculated from saltwater aquatic life criteria found in Table 1 of the *Texas Surface Water Quality Standards* (30 TAC Chapter 307).

Acute saltwater criteria are applied at the edge of the zone of initial dilution (ZID), and chronic saltwater criteria are applied at the edge of the aquatic life mixing zone. The ZID for this discharge is defined as a volume within a radius of 50 feet from the point where the discharge enters the Houston Ship Channel Tidal The aquatic life mixing zone for this discharge is defined as a volume within a radius of 200 feet from the point where the discharge enters the Houston Ship Channel Tidal.

TCEQ practice is to establish minimum estimated effluent percentages at the edges of the ZID and aquatic life mixing zone for discharges that are 10 MGD or less into bays, estuaries, or wide tidal rivers that are at least 400 feet wide. These critical effluent percentages are as follows:

Acute Effluent %	30%	Chronic Effluent %	8%

General Screening Procedures
Wasteload allocations (WLAs) are calculated using the above estimated effluent percentages, criteria outlined in the *Texas Surface Water Quality Standards*, and partitioning coefficients for metals (when appropriate and designated in the implementation procedures). The WLA is the end-of-pipe effluent concentration that can be discharged when, after mixing in the receiving stream, the instream numerical criteria will not be exceeded.

From the WLA, a long-term average (LTA) is calculated using a lognormal probability distribution, a given coefficient of variation (0.6), and a 99th percentile confidence level. The LTA is the long-term average effluent concentration for which the WLA will never be exceeded using a selected percentile confidence level.

The lower of the two LTAs (acute and chronic) is used to calculate a daily average and daily maximum effluent limitation for the protection of aquatic life using the same statistical considerations with the 99th percentile confidence level and a standard number of monthly effluent samples collected (12).

Assumptions used in deriving the effluent limitations include the segment-specific value for TSS according to the *IPs*. The segment value is 9 mg/L for TSS. For additional details on the calculation of water quality-based effluent limitations, refer to the *IPs*.

TCEQ practice for determining significant potential is to compare the reported analytical data against percentages of the calculated daily average water quality-based effluent limitation. Permit limitations are required when analytical data reported in the application equals or exceeds 85 percent of the calculated daily average water quality-based effluent limitation. Monitoring and reporting is required when analytical data reported in the application equals or exceeds 70 percent of the calculated daily average water quality-based effluent limitation.

b. PERMIT ACTION

Water quality-based effluent limitations for total copper are proposed at the same levels at Outfall 001. Analytical data reported in the application does not exceed 70 percent of the calculated water quality-based effluent limitations for the protection of aquatic life.

3. WHOLE EFFLUENT TOXICITY (BIOMONITORING) CRITERIA (7-DAY CHRONIC)

a. SCREENING AND REASONABLE POTENTIAL ANALYSIS

The existing permit includes chronic marine biomonitoring requirements at Outfall 001.

A reasonable potential determination was performed in accordance with 40 CFR §122.44(d)(1)(ii) to determine whether the discharge will

reasonably be expected to cause or contribute to an exceedance of a state water quality standard or criterion within that standard. Each test species is evaluated separately. The RP determination is based on representative data from the previous three years of chronic WET testing. This determination was performed in accordance with the methodology outlined in the TCEQ letter to the EPA dated December 28, 2015, and approved by the EPA in a letter dated December 28, 2015.

In the past three years, the permittee performed twenty-four chronic tests, with zero demonstration of significant toxicity (i.e., zero failures) by the mysid shrimp and inland silverside respectively. With zero failures, a determination of no RP was made.

b. PERMIT ACTION

The provisions of this section apply to Outfall 001.

Based on information contained in the permit application, the TCEQ has determined that there may be pollutants present in the effluent(s) that may have the potential to cause toxic conditions in the receiving stream.

Whole effluent toxicity testing (biomonitoring) is the most direct measure of potential toxicity, which incorporates the effects of synergism of effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity. The biomonitoring procedures stipulated as a condition of this permit are as follows:

i) Chronic static renewal 7-day survival and growth test using the mysid shrimp (*Americamysis bahia*). The frequency of the testing shall be once per quarter.

ii) Chronic static renewal 7-day larval survival and growth test using the inland silverside (*Menidia beryllina*). The frequency of the testing shall be once per month.

Toxicity tests shall be performed in accordance with protocols described in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms,* Third Edition (EPA-821-R-02-014) or the latest revision. The stipulated test species are appropriate to measure the toxicity of the effluent consistent with the requirements of the state water quality standards. The biomonitoring frequency has been established to reflect the likelihood of ambient toxicity and to provide data representative of the toxic potential of the facility's discharge.

This permit may be reopened to require effluent limits, additional testing, or other appropriate actions to address toxicity if biomonitoring data show actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or water body.

If none of the first four consecutive quarterly tests demonstrates significant lethal or sublethal effects, the permittee may submit this information in writing and, upon approval, reduce the testing frequency to once per six months for the invertebrate test species and once per year for the vertebrate test species. If one or more of the first four consecutive quarterly tests demonstrates significant sublethal effects, the permittee is required by the permit to continue quarterly testing for that species until four consecutive quarterly tests demonstrate no significant sublethal effects. At that time, the permittee may apply for the appropriate testing frequency reduction for that species. If one or more of the first four consecutive quarterly tests demonstrates significant lethal effects, the permittee is required by the permit to continue quarterly testing for that species until the permit is reissued.

c. DILUTION SERIES

The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. These additional effluent concentrations shall be 3%, 5%, 6%, 8%, and 11%. The low-flow effluent concentration (critical dilution) is defined as 8% effluent.

The dilution series outlined above was calculated using a 0.75 factor applied to the critical dilution. The critical dilution is the estimated effluent dilution at the edge of the aquatic life mixing zone, which is discussed in Section X.D.2.a. of this fact sheet.

4. AQUATIC ORGANISM TOXICITY CRITERIA (24-HOUR ACUTE)

a. SCREENING

The existing permit includes 24-hour acute marine biomonitoring requirements for Outfall 001. In the past three years, the permittee has performed fourteen 24-hour acute tests, with zero demonstrations of significant mortality (i.e., zero failures). Minimum 24-hour acute marine biomonitoring requirements are proposed in the draft permit as outlined below.

b. PERMIT ACTION

24-hour 100% acute biomonitoring tests are required at Outfall 001 at a frequency of once per six months for the life of the permit.

The biomonitoring procedures stipulated as a condition of this permit are as follows:

i) Acute 24-hour static toxicity test using the mysid shrimp (*Americamysis bahia*). A minimum of five (5) replicates with eight (8) organisms per replicate shall be used for this test.

ii) Acute 24-hour static toxicity test using the inland silverside (*Menidia beryllina*). A minimum of five (5) replicates with eight (8) organisms per replicate shall be used for this test.

Toxicity tests shall be performed in accordance with protocols described in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition (EPA-821-R-02-012) or the latest revision.

5. AQUATIC ORGANISM BIOACCUMULATION CRITERIA

a. SCREENING

Water quality-based effluent limitations for the protection of human health are calculated using criteria for the consumption of fish tissue found in Table 2 of the *Texas Surface Water Quality Standards* (30 TAC Chapter 307).

Fish tissue bioaccumulation criteria are applied at the edge of the human health mixing zone for discharges into bays, estuaries and wide tidal rivers. The human health mixing zone for this discharge is defined as a volume within a radius of 400 feet from the point where the discharge enters Houston Ship Channel Tidal. TCEQ practice is to establish a minimum estimated effluent percentage at the edge of the human health mixing zone for discharges that are 10 MGD or less into bays, estuaries, and wide tidal rivers that are at least 400 feet wide. This critical effluent percentage is:

Human Health Effluent %: 4%

Water quality-based effluent limitations for human health protection against the consumption of fish tissue are calculated using the same procedure as outlined for calculation of water quality-based effluent limitations for aquatic life protection. A 99th percentile confidence level in the long-term average calculation is used, with only one long-term average value being calculated.

Significant potential is again determined by comparing reported analytical data against 70 percent and 85 percent of the calculated daily average water quality-based effluent limitation.

b. PERMIT ACTION

Analytical data reported in the application was screened against calculated water quality-based effluent limitations for the protection of human health. Reported analytical data does not exceed 70 percent of the calculated daily average water quality-based effluent limitation for human health protection. No additional limits or monitoring and reporting requirements have been added to the draft permit.

6. DRINKING WATER SUPPLY PROTECTION

a. SCREENING

Segment No. 1006, which receives the discharge from this facility, is not designated as a public water supply. Screening reported analytical data of the effluent against water quality-based effluent limitations calculated for the protection of a drinking water supply is not applicable.

b. PERMIT ACTION

None.

7. TOTAL DISSOLVED SOLIDS, CHLORIDE, AND SULFATE STANDARDS PROTECTION

a. SCREENING

Segment No. 1006, which receives the discharge from this facility, does not have criteria established for TDS, chloride, or sulfate in 30 TAC Chapter 307; therefore, no screening was performed for TDS, chloride, or sulfate in the effluent.

b. PERMIT ACTION

None.

8. PROTECTION OF pH STANDARDS

a. SCREENING

The existing permit includes pH limits of 6.0 – 9.0 SU at Outfall 001, which discharges directly into Houston Ship Channel Tidal, Segment No. 1006. Screening was performed to ensure that these existing pH limits would not cause a violation of the 6.5 – 9.0 SU pH criteria for Houston Ship Channel Tidal (see Appendix C).

b. PERMIT ACTION

The existing effluent limits of 6.0 – 9.0 SU are adequate to ensure that the discharge will not violate the pH criteria in Houston Ship Channel Tidal.

9. DISSOLVED OXYGEN PROTECTION

a. SCREENING

A dissolved oxygen analysis for Outfall 001 was conducted using an updated version of the calibrated QUAL-TX model documented in the Waste Load Evaluation WLE-1R for the Houston Ship Channel System (September 2006) for the reported values of BOD5, reported NH3-N, and assumed effluent DO.

Based on model results, discharge via Outfall 001, modeled with reported BOD_5 and Ammonia-Nitrogen and assumed 2.0 mg/L dissolved oxygen, is predicted to be adequate to maintain dissolved oxygen levels above the criteria stipulated by the Standards Implementation Team for Segment No. 1006 (2.0 mg/L).

Coefficients and kinetics used in the model are a combination of site-specific, standardized default, and estimated values. The results of this evaluation can be reexamined upon receipt of information that conflicts with the assumptions employed in this analysis.

b. PERMIT ACTION

BOD_5 self-expiring monitoring requirements from the existing permit are not carried forward.

10. THERMAL STANDARDS PROTECTION

a. SCREENING

A thermal screening was conducted for this permit application using TCEQ's draft thermal screening procedures which were authorized for use as an SOP by EPA on April 1, 2020. There are two thermal criteria applicable to this proposed discharge - thermal maximum and maximum temperature differential (rise over ambient).

b. PERMIT ACTION

The monitoring requirement is carried forward from the existing permit. Thermal screening calculations demonstrate that the maximum reported effluent temperature of 128 degrees F, exceeds the rise over ambient or thermal maximum at the edge of the aquatic life mixing zone. In order to ensure that TSWQS for temperature will be met at the edge of the aquatic life mixing zone, temperature limits of 106 degrees F shall be required in the draft permit. The permittee may accept the limits or propose to perform a more complex and comprehensive temperature analysis to show compliance with temperature criteria. Other Requirement No. 14 has been added to the draft permit to require the study to be submitted.

XI. PRETREATMENT REQUIREMENTS

This facility is not defined as a publicly owned treatment works. Pretreatment requirements are not proposed in the draft permit.

XII. VARIANCE REQUESTS

No variance requests have been received.

XIII. PROCEDURES FOR FINAL DECISION

When an application is declared administratively complete, the Chief Clerk sends a letter to the applicant advising the applicant to publish the Notice of Receipt of Application and Intent to Obtain Permit in the newspaper. In addition, the Chief Clerk instructs the applicant to place a copy of the application in a public place for reviewing and copying in the county where the facility is or will be located. This application will be in a public place throughout the comment period. The Chief Clerk also mails this notice to any interested persons and, if required, to landowners identified in the permit application. This notice informs the public about the application and provides that an interested person may file comments on the application or request a contested case hearing or a public meeting.

Once a draft permit is completed, it is sent, along with the Executive Director's preliminary decision, as contained in the technical summary or fact sheet, to the Chief Clerk. At that time, the Notice of Application and Preliminary Decision will be mailed to the same people and published in the same newspaper as the prior notice. This notice sets a deadline for making public comments. The applicant must place a copy of the Executive Director's preliminary decision and draft permit in the public place with the application.

Any interested person may request a public meeting on the application until the deadline for filing public comments. A public meeting is intended for the taking of public comment and is not a contested case proceeding.

After the public comment deadline, the Executive Director prepares a response to all significant public comments on the application or the draft permit raised during the public comment period. The Chief Clerk then mails the Executive Director's response to comments and final decision to people who have filed comments, requested a contested case hearing, or requested to be on the mailing list. This notice provides that if a person is not satisfied with the Executive Director's response and decision, they can request a contested case hearing or file a request to reconsider the Executive Director's decision within 30 days after the notice is mailed.

The Executive Director will issue the permit unless a written hearing request or request for reconsideration is filed within 30 days after the Executive Director's response to comments and final decision is mailed. If a hearing request or request for reconsideration is filed, the Executive Director will not issue the permit and will forward the application and request to the TCEQ commissioners for their consideration at a scheduled commission meeting. If a contested case hearing is held, it will be a legal proceeding similar to a civil trial in state district court.

If the Executive Director calls a public meeting or the commission grants a contested case hearing as described above, the commission will give notice of the date, time, and place of the meeting or hearing. If a hearing request or request for reconsideration is made, the commission will consider all public comments in making its decision and shall either adopt the Executive Director's response to public comments or prepare its own response.

For additional information about this application, contact Thomas E. Starr at (512) 239-4570.

XIV. ADMINISTRATIVE RECORD

The following section is a list of the fact sheet citations to applicable statutory or regulatory provisions and appropriate supporting references.

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

A. PERMIT(S)

TPDES Permit No. WQ0004344000 issued on October 6, 2022.

B. APPLICATION

TPDES wastewater permit application received on February 26, 2024 and additional information received on March 28, 2024.

C. 40 CFR CITATION(S)

40 CFR Part 423 (BAT, BPT, NSPS).

D. LETTERS/MEMORANDA/RECORDS OF COMMUNICATION

Letter dated April 29, 2014, from L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ, to Bill Honker, Director, Water Quality Protection Division, EPA (TCEQ proposed development strategy for thermal evaluation procedures).

Letter dated May 12, 2014, from William K. Honker, P.E., Director, Water Quality Protection Division, EPA, to L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ (Approval of TCEQ proposed development strategy for thermal evaluation procedures).

Letter dated May 28, 2014, from L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ, to Bill Honker, Director, Water Quality Protection Division, EPA (TCEQ proposed development strategy for pH evaluation procedures).

Letter dated June 2, 2014, from William K. Honker, P.E., Director, Water Quality Protection Division, EPA, to L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ (Approval of TCEQ proposed development strategy for pH evaluation procedures).

Letter dated December 28, 2015, from L'Oreal Stepney, P.E., Deputy Director, Office of Water, TCEQ, to Bill Honker, Director, Water Quality Protection Division, EPA (TCEQ proposed development strategy for procedures to determine reasonable potential for whole effluent toxicity limitations).

Letter dated December 28, 2015, from William K. Honker, P.E., Director, Water Quality Protection Division, EPA, to L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ (Approval of TCEQ proposed development strategy for procedures to determine reasonable potential for whole effluent toxicity limitations).

TCEQ Interoffice Memorandum dated July 22, 2024, from Jenna R. Lueg of the Standards Implementation Team, Water Quality Assessment Section, to the Industrial Permits Team, Wastewater Permitting Section (Standards Memo).

TCEQ Interoffice Memorandum dated April 5, 2024, from Brian Christman of the Water Quality Assessment Team, Water Quality Assessment Section, to the Industrial Permits Team, Wastewater Permitting Section (Critical Conditions Memo).

TCEQ Interoffice Memorandum dated April 8, 2024, from Josi Robertson of the Water Quality Assessment Team, Water Quality Assessment Section, to the Industrial Permits Team, Wastewater Permitting Section (Modeling Memo).

TCEQ Interoffice Memorandum dated April 10, 2024, from Brittany M. Lee of the Standards Implementation Team, Water Quality Assessment Section, to the Industrial Permits Team, Wastewater Permitting Section (Biomonitoring Memo).

E. MISCELLANEOUS

The *State of Texas 2022 Integrated Report* – Texas 303(d) List (Category 5), TCEQ, July 7, 2022.

Texas Surface Water Quality Standards, 30 TAC §§307.1 - 307.10, TCEQ, effective March 1, 2018, as approved by EPA Region 6.

Texas Surface Water Quality Standards, 30 TAC §§307.1 - 307.10, TCEQ, effective March 6, 2014, as approved by EPA Region 6, for portions of the 2018 standards not approved by EPA Region 6.

Texas Surface Water Quality Standards, 30 TAC §§307.1 - 307.10, TCEQ, effective July 22, 2010, as approved by EPA Region 6, for portions of the 2014 standards not yet approved by EPA Region 6.

Texas Surface Water Quality Standards, 30 TAC §§307.1 - 307.10, TCEQ, effective August 17, 2000, and Appendix E, effective February 27, 2002, for portions of the 2010 standards not yet approved by EPA Region 6.

Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third Edition (EPA-821-R-02-014).

Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition (EPA-821-R-02-012).

Procedures to Implement the Texas Surface Water Quality Standards, TCEQ, June 2010, as approved by EPA Region 6.

Procedures to Implement the Texas Surface Water Quality Standards, TCEQ, January 2003, for portions of the 2010 IPs not approved by EPA Region 6.

Guidance Document for Establishing Monitoring Frequencies for Domestic and Industrial Wastewater Discharge Permits, TCEQ Document No. 98-001.000-OWR-WQ, May 1998.

Appendix A
Calculated Technology-Based Effluent Limits

New Source Determination

The discharge of cooling tower blowdown via Outfall 001, low volume waste via internal Outfall 101, and metal cleaning waste via internal Outfall 201 is subject to federal effluent limitation guidelines at 40 CFR Part 423. A new source determination was performed, and the discharge of cooling tower blowdown, low volume waste and metal cleaning waste is not a new source as defined at 40 CFR §122.2. Therefore, new source performance standards (NSPS) are not required for this discharge.

Outfall 001

Discharge of cooling tower blowdown with a daily average flow not to exceed 1.48 million gallons per day (MGD).

Concentration effluent limitations for free available chlorine are based on 40 CFR § 423.12(b)(7) for cooling tower blowdown. See below for discussion of the use of total residual chlorine in lieu of free available chlorine.

Parameter	Daily Average	Daily Maximum
Total Residual Chlorine	N/A	0.1 mg/l

Outfall 101

Discharges of low volume waste on an intermittent and flow-variable basis.

Concentration effluent limitations for total suspended solids and oil and grease at internal Outfall 101 are based on 40 CFR § 423.12(b)(3) for low volume waste sources.

Parameter	Daily Average	Daily Maximum
Total Suspended Solids	30 mg/l	100 mg/l
Oil and Grease	15 mg/l	20 mg/l

Outfall 201

Discharges of metal cleaning waste on an intermittent and flow-variable basis.

Concentration effluent limitations for total suspended solids, oil and grease, total copper and total iron at internal Outfall 201 are based on 40 CFR § 423.12(b)(5) for metal cleaning waste sources.

Parameter	Daily Average	Daily Maximum
Total Suspended Solids	30 mg/l	100 mg/l
Oil and Grease	15 mg/l	20 mg/l
Total Copper	0.5 mg/L*	1.0 mg/L
Total Iron	1.0 mg/L	1.0 mg/L

*The daily average effluent limit for total copper at Outfall 201 is based on 30 TAC 319 for Tidal Waters and is more stringent than the requirement based on 40 CFR § 423.12(b)(5). Therefore, this is a water quality-based effluent limitation.

Calculations of Technology-based Effluent Limitations for Total Residual Chlorine

The permittee will meet the following effluent limitations and monitoring requirements for total residual chlorine at Outfall 001.

1. To eliminate the possibility of any effluent limitations exceedances for free available chlorine due to continuous chlorination the daily average and daily maximum concentration-based and mass-based effluent limitations for free available chlorine at Outfall 001 were removed, and replaced with a daily maximum effluent limitation of 0.1 mg/L total residual chlorine at Outfall 001 in the December 7, 2010 permit. This change, which is consistent with 40 CFR 423.12(b)(8), was determined to make the permit conditions more stringent than those in the preceding (August 5, 2008) permit for the following reasons:
    a. The preceding permit and the NSPS allowed the discharge of free available chlorine, while the 2010 permit required the permittee to remove total residual chlorine to 0.1 mg/L of daily maximum concentration.
    b. Limiting total residual chlorine to 0.1 mg/L is more stringent than limiting free available chlorine to 0.1 mg/L.
2. The EPA has previously approved the same changes at this facility in 2010, 2015 and 2019.

    Concentrations below 0.1 mg/L will be considered as non-detectable levels even though an MAL has not been established for total residual chlorine because the TCEQ's domestic wastewater discharge permits consider the effluent to be sufficiently dechlorinated when total residual chlorine concentrations are below 0.1 mg/L.
3. The information below supports the daily maximum effluent limitation of 0.1 mg/L total residual chlorine:
    a. Chlorine, in the form of sodium hypochlorite, is used at Deer Park Energy Center for control of bacteria and algae in the cooling tower and heat exchanger/condenser tubes that are part of the recirculating cooling system. Build-up of bacteria and algae can clog and damage the cooling tower media and condenser tubes as well as pose potential health risk to plant employees through the growth of bacteria.
    b. Simultaneous multi-unit chlorination, continuous chlorination, and de-chlorination have been allowed at this facility since the September 28, 2004 permit. Even though the statement of basis for the 2004 permit did not discuss whether the facility could operate at less than two hours of chlorination per unit per day, the facility meets the technology requirements contemplated by the rule. The *Federal Register* notice for the 1982 rule says that the proposed rule requirement (a 0.14 mg/L limit) could be achieved by dechlorination or a chlorine reduction program (see 47 FR 52293-52294). The EPA opted not to include the 0.14 mg/L limit in the final rule because dechlorination would have been the only feasible technology for many facilities. This permit limits total residual chlorine to 0.1 mg/L.
    c. The permittee is required to conduct 7-day chronic biomonitoring and 24-hour acute biomonitoring. This requirement serves as an additional monitoring control for any increase in toxicity of the effluent due to excessive chlorine residual.
    d. The self-report data from January 2018 through October 2023 with respect to free available chlorine shows compliance; no exceedances have been reported.

Appendix B
Calculated Water Quality-Based Effluent Limits

TEXTOX MENU #5 - BAY OR WIDE TIDAL RIVER

The water quality-based effluent limitations developed below are calculated using:

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Saltwater Aquatic Life
Table 2, 2018 Texas Surface Water Quality Standards for Human Health
"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

PERMIT INFORMATION

Permittee Name:	Deer Park Energy Center LLC & Calpine Operating Services Company, Inc.
TPDES Permit No:	WQ0004344000
Outfall No:	001
Prepared by:	Thomas Starr
Date:	May 20, 2024

DISCHARGE INFORMATION

Receiving Waterbody:	Houston Ship Channel
Segment No:	1006
TSS (mg/L):	9
Effluent Flow for Aquatic Life (MGD)	1.22
% Effluent for Chronic Aquatic Life (Mixing Zone):	8
% Effluent for Acute Aquatic Life (ZID):	30
Oyster Waters?	**no**
Effluent Flow for Human Health (MGD):	0.973
% Effluent for Human Health:	4

CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):

Estuarine Metal	*Intercept (b)*	*Slope (m)*	*Partition Coefficient (Kp)*	*Dissolved Fraction (Cd/Ct)*	*Source*	*Water Effect Ratio (WER)*	*Source*
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Cadmium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (total)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (trivalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (hexavalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	4.85	-0.72	14552.76	0.884		1.80	Assumed
Lead	6.06	-0.85	177375.60	0.385		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	5.86	-0.74	142514.99	0.438		1.00	Assumed
Zinc	5.36	-0.52	73079.22	0.603		1.00	Assumed

AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	*SW Acute Criterion (µg/L)*	*SW Chronic Criterion (µg/L)*	*WLAa (µg/L)*	*WLAc (µg/L)*	*LTAa (µg/L)*	*LTAc (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Acrolein	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aldrin	1.3	N/A	4.33	N/A	1.39	N/A	2.03	4.31
Aluminum	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arsenic	149	78	497	975	159	595	233	494
Cadmium	40.0	8.75	133	109	42.7	66.7	62.7	132
Carbaryl	613	N/A	2043	N/A	654	N/A	961	2033
Chlordane	0.09	0.004	0.300	0.0500	0.0960	0.0305	0.0448	0.0948
Chlorpyrifos	0.011	0.006	0.0367	0.0750	0.0117	0.0458	0.0172	0.0364
Chromium (trivalent)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium (hexavalent)	1090	49.6	3633	620	1163	378	555	1176
Copper	24.3	6.48	91.6	91.6	29.3	55.9	43.0	91.1
Copper (oyster waters)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cyanide (free)	5.6	5.6	18.7	70.0	5.97	42.7	8.78	18.5
4,4'-DDT	0.13	0.001	0.433	0.0125	0.139	0.00763	0.0112	0.0237
Demeton	N/A	0.1	N/A	1.25	N/A	0.763	1.12	2.37
Diazinon	0.819	0.819	2.73	10.2	0.874	6.24	1.28	2.71
Dicofol [Kelthane]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dieldrin	0.71	0.002	2.37	0.0250	0.757	0.0153	0.0224	0.0474
Diuron	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endosulfan I (*alpha*)	0.034	0.009	0.113	0.113	0.0363	0.0686	0.0533	0.112
Endosulfan II (*beta*)	0.034	0.009	0.113	0.113	0.0363	0.0686	0.0533	0.112
Endosulfan sulfate	0.034	0.009	0.113	0.113	0.0363	0.0686	0.0533	0.112
Endrin	0.037	0.002	0.123	0.0250	0.0395	0.0153	0.0224	0.0474
Guthion [Azinphos Methyl]	N/A	0.01	N/A	0.125	N/A	0.0763	0.112	0.237
Heptachlor	0.053	0.004	0.177	0.0500	0.0565	0.0305	0.0448	0.0948
Hexachlorocyclohexane (*gamma*) [Lindane]	0.16	N/A	0.533	N/A	0.171	N/A	0.250	0.530
Lead	133	5.3	1151	172	368	105	154	326
Malathion	N/A	0.01	N/A	0.125	N/A	0.0763	0.112	0.237
Mercury	2.1	1.1	7.00	13.8	2.24	8.39	3.29	6.96
Methoxychlor	N/A	0.03	N/A	0.375	N/A	0.229	0.336	0.711
Mirex	N/A	0.001	N/A	0.0125	N/A	0.00763	0.0112	0.0237
Nickel	118	13.1	393	164	126	99.9	146	310
Nonylphenol	7	1.7	23.3	21.3	7.47	13.0	10.9	23.2
Parathion (ethyl)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pentachlorophenol	15.1	9.6	50.3	120	16.1	73.2	23.6	50.0
Phenanthrene	7.7	4.6	25.7	57.5	8.21	35.1	12.0	25.5
Polychlorinated Biphenyls [PCBs]	10	0.03	33.3	0.375	10.7	0.229	0.336	0.711
Selenium	564	136	1880	1700	602	1037	884	1870
Silver	2	N/A	15.2	N/A	4.87	N/A	7.15	15.1
Toxaphene	0.21	0.0002	0.700	0.00250	0.224	0.00153	0.00224	0.00474
Tributyltin [TBT]	0.24	0.0074	0.800	0.0925	0.256	0.0564	0.0829	0.175
2,4,5 Trichlorophenol	259	12	863	150	276	91.5	134	284
Zinc	92.7	84.2	512	1745	164	1064	240	509

HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	*Fish Only Criterion (µg/L)*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Acrylonitrile	115	2875	2674	3930	8315
Aldrin	1.147E-05	0.000287	0.000267	0.000392	0.000829
Anthracene	1317	32925	30620	45011	95228
Antimony	1071	26775	24901	36604	77441
Arsenic	N/A	N/A	N/A	N/A	N/A
Barium	N/A	N/A	N/A	N/A	N/A
Benzene	581	14525	13508	19857	42010
Benzidine	0.107	2.68	2.49	3.65	7.73
Benzo(*a*)anthracene	0.025	0.625	0.581	0.854	1.80
Benzo(*a*)pyrene	0.0025	0.0625	0.0581	0.0854	0.180
Bis(chloromethyl)ether	0.2745	6.86	6.38	9.38	19.8
Bis(2-chloroethyl)ether	42.83	1071	996	1463	3096
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthala	7.55	189	176	258	545
Bromodichloromethane [Dichlorobromomethane]	275	6875	6394	9398	19884
Bromoform [Tribromomethane]	1060	26500	24645	36228	76645
Cadmium	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	46	1150	1070	1572	3326
Chlordane	0.0025	0.0625	0.0581	0.0854	0.180
Chlorobenzene	2737	68425	63635	93543	197905
Chlorodibromomethane [Dibromochloromethane]	183	4575	4255	6254	13232
Chloroform [Trichloromethane]	7697	192425	178955	263064	556550
Chromium (hexavalent)	502	12550	11672	17157	36298
Chrysene	2.52	63.0	58.6	86.1	182
Cresols [Methylphenols]	9301	232525	216248	317884	672532
Cyanide (free)	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.002	0.0500	0.0465	0.0683	0.144
4,4'-DDE	0.00013	0.00325	0.00302	0.00444	0.00939
4,4'-DDT	0.0004	0.0100	0.00930	0.0136	0.0289
2,4'-D	N/A	N/A	N/A	N/A	N/A
Danitol [Fenpropathrin]	473	11825	10997	16165	34201
1,2-Dibromoethane [Ethylene Dibromide]	4.24	106	98.6	144	306
m-Dichlorobenzene [1,3-Dichlorobenzene]	595	14875	13834	20335	43022
o-Dichlorobenzene [1,2-Dichlorobenzene]	3299	82475	76702	112751	238542
p-Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	2.24	56.0	52.1	76.5	161
1,2-Dichloroethane	364	9100	8463	12440	26319
1,1-Dichloroethylene [1,1-Dichloroethene]	55114	1377850	1281401	1883658	3985155
Dichloromethane [Methylene Chloride]	13333	333325	309992	455688	964075
1,2-Dichloropropane	259	6475	6022	8851	18727
1,3-Dichloropropene [1,3-Dichloropropylene]	119	2975	2767	4067	8604
Dicofol [Kelthane]	0.30	7.50	6.98	10.2	21.6
Dieldrin	2.0E-05	0.000500	0.000465	0.000683	0.00144
2,4-Dimethylphenol	8436	210900	196137	288321	609986
Di-*n*-Butyl Phthalate	92.4	2310	2148	3158	6681
Dioxins/Furans [TCDD Equivalents]	7.97E-08	0.0000020	0.0000019	0.0000027	0.0000058
Endrin	0.02	0.500	0.465	0.683	1.44
Epichlorohydrin	2013	50325	46802	68799	145554
Ethylbenzene	1867	46675	43408	63809	134998
Ethylene Glycol	1.68E+07	420000000	390600000	574182000	1214766000
Fluoride	N/A	N/A	N/A	N/A	N/A
Heptachlor	0.0001	0.00250	0.00233	0.00341	0.00723
Heptachlor Epoxide	0.00029	0.00725	0.00674	0.00991	0.0209
Hexachlorobenzene	0.00068	0.0170	0.0158	0.0232	0.0491
Hexachlorobutadiene	0.22	5.50	5.12	7.51	15.9

Parameter	*Fish Only Criterion (µg/L)*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Hexachlorocyclohexane (*alpha*)	0.0084	0.210	0.195	0.287	0.607
Hexachlorocyclohexane (*beta*)	0.26	6.50	6.05	8.88	18.7
Hexachlorocyclohexane (*gamma*) [Lindane]	0.341	8.53	7.93	11.6	24.6
Hexachlorocyclopentadiene	11.6	290	270	396	838
Hexachloroethane	2.33	58.3	54.2	79.6	168
Hexachlorophene	2.90	72.5	67.4	99.1	209
4,4'-Isopropylidenediphenol [Bisphenol A]	15982	399550	371582	546224	1155618
Lead	3.83	249	231	339	719
Mercury	0.0250	0.625	0.581	0.854	1.80
Methoxychlor	3.0	75.0	69.8	102	216
Methyl Ethyl Ketone	9.92E+05	24800000	23064000	33904080	71729040
Methyl *tert* -butyl ether [MTBE]	10482	262050	243707	358248	757927
Nickel	1140	28500	26505	38962	82430
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	1873	46825	43547	64014	135431
N-Nitrosodiethylamine	2.1	52.5	48.8	71.7	151
N-Nitroso-di-*n* -Butylamine	4.2	105	97.7	143	303
Pentachlorobenzene	0.355	8.88	8.25	12.1	25.6
Pentachlorophenol	0.29	7.25	6.74	9.91	20.9
Polychlorinated Biphenyls [PCBs]	6.4E-04	0.0160	0.0149	0.0218	0.0462
Pyridine	947	23675	22018	32366	68475
Selenium	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.24	6.00	5.58	8.20	17.3
1,1,2,2-Tetrachloroethane	26.35	659	613	900	1905
Tetrachloroethylene [Tetrachloroethylene]	280	7000	6510	9569	20246
Thallium	0.23	5.75	5.35	7.86	16.6
Toluene	N/A	N/A	N/A	N/A	N/A
Toxaphene	0.011	0.275	0.256	0.375	0.795
2,4,5-TP [Silvex]	369	9225	8579	12611	26681
1,1,1-Trichloroethane	784354	19608850	18236231	26807258	56714676
1,1,2-Trichloroethane	166	4150	3860	5673	12003
Trichloroethylene [Trichloroethene]	71.9	1798	1672	2457	5198
2,4,5-Trichlorophenol	1867	46675	43408	63809	134998
TTHM [Sum of Total Trihalomethanes]	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	16.5	413	384	563	1193

Aquatic Life	***70% of Daily Avg.***	***85% of Daily Avg.***
Parameter	***(µg/L)***	***(µg/L)***
Acrolein	N/A	N/A
Aldrin	1.42	1.73
Aluminum	N/A	N/A
Arsenic	163	198
Cadmium	43.9	53.3
Carbaryl	672	817
Chlordane	0.0313	0.0381
Chlorpyrifos	0.0120	0.0146
Chromium (trivalent)	N/A	N/A
Chromium (hexavalent)	389	472
Copper	30.1	36.6
Copper (oyster waters)	N/A	N/A
Cyanide (free)	6.14	7.46
4,4'-DDT	0.00784	0.00952
Demeton	0.784	0.952
Diazinon	0.898	1.09
Dicofol [Kelthane]	N/A	N/A
Dieldrin	0.0156	0.0190
Diuron	N/A	N/A
Endosulfan I (*alpha*)	0.0373	0.0453
Endosulfan II (*beta*)	0.0373	0.0453
Endosulfan sulfate	0.0373	0.0453
Endrin	0.0156	0.0190
Guthion [Azinphos Methyl]	0.0784	0.0952
Heptachlor	0.0313	0.0381
Hexachlorocyclohexane (*gamma*) [Lindane]	0.175	0.213
Lead	107	131
Malathion	0.0784	0.0952
Mercury	2.30	2.79
Methoxychlor	0.235	0.285
Mirex	0.00784	0.00952
Nickel	102	124
Nonylphenol	7.68	9.32
Parathion (ethyl)	N/A	N/A
Pentachlorophenol	16.5	20.1
Phenanthrene	8.45	10.2
Polychlorinated Biphenyls [PCBs]	0.235	0.285
Selenium	619	751
Silver	5.01	6.08
Toxaphene	0.00156	0.00190
Tributyltin [TBT]	0.0580	0.0705
2,4,5 Trichlorophenol	94.1	114
Zinc	168	204

Human Health *Parameter*	*70% of Daily Avg. (µg/L)*	*85% of Daily Avg. (µg/L)*
Acrylonitrile	2751	3340
Aldrin	0.000274	0.000333
Anthracene	31508	38260
Antimony	25622	31113
Arsenic	N/A	N/A
Barium	N/A	N/A
Benzene	13899	16878
Benzidine	2.55	3.10
Benzo(*a*)anthracene	0.598	0.726
Benzo(*a*)pyrene	0.0598	0.0726
Bis(chloromethyl)ether	6.56	7.97
Bis(2-chloroethyl)ether	1024	1244
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthala	180	219
Bromodichloromethane [Dichlorobromomethane]	6579	7988
Bromoform [Tribromomethane]	25359	30793
Cadmium	N/A	N/A
Carbon Tetrachloride	1100	1336
Chlordane	0.0598	0.0726
Chlorobenzene	65480	79512
Chlorodibromomethane [Dibromochloromethane]	4378	5316
Chloroform [Trichloromethane]	184144	223604
Chromium (hexavalent)	12009	14583
Chrysene	60.2	73.2
Cresols [Methylphenols]	222519	270202
Cyanide (free)	N/A	N/A
4,4'-DDD	0.0478	0.0581
4,4'-DDE	0.00311	0.00377
4,4'-DDT	0.00956	0.0116
2,4'-D	N/A	N/A
Danitol [Fenpropathrin]	11316	13741
1,2-Dibromoethane [Ethylene Dibromide]	101	123
m-Dichlorobenzene [1,3-Dichlorobenzene]	14234	17285
o-Dichlorobenzene [1,2-Dichlorobenzene]	78926	95838
p-Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A
3,3'-Dichlorobenzidine	53.5	65.0
1,2-Dichloroethane	8708	10574
1,1-Dichloroethylene [1,1-Dichloroethene]	1318561	1601109
Dichloromethane [Methylene Chloride]	318982	387335
1,2-Dichloropropane	6196	7524
1,3-Dichloropropene [1,3-Dichloropropylene]	2846	3457
Dicofol [Kelthane]	7.17	8.71
Dieldrin	0.000478	0.000581
2,4-Dimethylphenol	201824	245073
Di-*n*-Butyl Phthalate	2210	2684
Dioxins/Furans [TCDD Equivalents]	0.0000019	0.0000023
Endrin	0.478	0.581
Epichlorohydrin	48159	58479
Ethylbenzene	44666	54237
Ethylene Glycol	401927400	488054700
Fluoride	N/A	N/A
Heptachlor	0.00239	0.00290
Heptachlor Epoxide	0.00693	0.00842
Hexachlorobenzene	0.0162	0.0197
Hexachlorobutadiene	5.26	6.39

Human Health *Parameter*	*70% of Daily Avg. (µg/L)*	*85% of Daily Avg. (µg/L)*
Hexachlorocyclohexane (*alpha*)	0.200	0.244
Hexachlorocyclohexane (*beta*)	6.22	7.55
Hexachlorocyclohexane (*gamma*) [Lindane]	8.15	9.90
Hexachlorocyclopentadiene	277	336
Hexachloroethane	55.7	67.6
Hexachlorophene	69.3	84.2
4,4'-Isopropylidenediphenol [Bisphenol A]	382357	464291
Lead	237	288
Mercury	0.598	0.726
Methoxychlor	71.7	87.1
Methyl Ethyl Ketone	23732856	28818468
Methyl *tert* -butyl ether [MTBE]	250773	304511
Nickel	27273	33117
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	44810	54412
N-Nitrosodiethylamine	50.2	61.0
N-Nitroso-di-*n* -Butylamine	100	122
Pentachlorobenzene	8.49	10.3
Pentachlorophenol	6.93	8.42
Polychlorinated Biphenyls [PCBs]	0.0153	0.0185
Pyridine	22656	27511
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	5.74	6.97
1,1,2,2-Tetrachloroethane	630	765
Tetrachloroethylene [Tetrachloroethylene]	6698	8134
Thallium	5.50	6.68
Toluene	N/A	N/A
Toxaphene	0.263	0.319
2,4,5-TP [Silvex]	8828	10719
1,1,1-Trichloroethane	18765081	22786170
1,1,2-Trichloroethane	3971	4822
Trichloroethylene [Trichloroethene]	1720	2088
2,4,5-Trichlorophenol	44666	54237
TTHM [Sum of Total Trihalomethanes]	N/A	N/A
Vinyl Chloride	394	479

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

Appendix C
pH Screening

Calculation of pH of a mixture in seawater.
Based on the CO2SYS program (Lewis and Wallace, 1998)
http://cdiac.esd.ornl.gov/oceans/co2rprt.html

INPUT

1. MIXING ZONE BOUNDARY CHARACTERISTICS		
Dilution factor at mixing zone boundary	12.500	12.500
Depth at plume trapping level (m)	2.000	2.000
2. BACKGROUND RECEIVING WATER CHARACTERISTICS		
Temperature (deg C):	20.00	30.00
pH:	7.20	7.20
Salinity (psu):	5.00	25.00
Total alkalinity (meq/L)	1.00	10.00
3. EFFLUENT CHARACTERISTICS		
Temperature (deg C):	25.00	35.00
pH:	6.00	9.00
Salinity (psu)	5.00	5.00
Total alkalinity (meq/L):	0.40	0.40

4. CLICK THE 'calculate" BUTTON TO UPDATE OUTPUT RESULTS >>>

OUTPUT

CONDITIONS AT THE MIXING ZONE BOUNDARY		
Temperature (deg C):	20.40	30.40
Salinity (psu)	5.00	23.40
Density (kg/m^3)	1001.93	1012.94
Alkalinity (mmol/kg-SW):	0.95	9.24
Total Inorganic Carbon (mmol/kg-SW):	1.05	9.42
pH at Mixing Zone Boundary:	7.04	7.25

Notes:
To convert from units of mgCaCO3/L to meq/L divide by 50.044 mg/meq
PSU refers to the Practical Salinity Scale (PSS) and is approximately equivalent to parts per thousand (ppt)

Appendix D
Comparison of Technology-Based Effluent Limits and Water Quality-Based Effluent Limits

The following table is a summary of technology-based effluent limitations calculated/assessed in the draft permit (Technology-Based), calculated/ assessed water quality-based effluent limitations (Water Quality-Based), and effluent limitations in the existing permit (Existing Permit). Effluent limitations appearing in bold are the most stringent of the three and are included in the draft permit.

Outfall	*Pollutant*	*Technology-Based*				*Water Quality-Based*				*Existing Permit*			
		Daily Avg		*Daily Max*		*Daily Avg*		*Daily Max*		*Daily Avg*		*Daily Max*	
		lbs/day	*mg/L*	*lbs/day*	*mg/L*	*lbs/day*	*mg/L*	*lbs/day*	*mg/L*	*lbs/day*	*mg/L*	*lbs/day*	*mg/L*
001	Flow	1.48 MGD		2.7 MGD		N/A	N/A	N/A	N/A	**1.48 MGD**		**2.7 MGD**	
	Temperature	N/A		N/A		N/A		**106 °F**		**Report, °F**		**Report, °F**	
	Total Residual Chlorine	N/A	N/A	N/A	0.1	N/A	N/A	N/A	N/A	**N/A**	**N/A**	**N/A**	**0.1**
	Total Copper	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**0.533**	**0.0432**	**1.129**	**0.0915**
	BOD_5 (Removed)	-	-	-	-	**-**	**-**	**-**	**-**	Report	Report	Report	Report
	pH	6.0 SU, minimum		9.0 SU		N/A	N/A	N/A	N/A	**6.0 SU, minimum**		**9.0 SU**	
101	Flow	Report, MGD		Report, MGD		N/A	N/A	N/A	N/A	**Report, MGD**		**Report, MGD**	
	Oil and Grease	N/A	15	N/A	20	N/A	N/A	N/A	N/A	**N/A**	**15**	**N/A**	**20**
	Total Suspended Solids	N/A	30	N/A	100	N/A	N/A	N/A	N/A	**N/A**	**30**	**N/A**	**100**
201	Flow	Report, MGD		Report, MGD		N/A	N/A	N/A	N/A	**Report, MGD**		**Report, MGD**	
	Oil and Grease	N/A	15	N/A	20	N/A	N/A	N/A	N/A	**N/A**	**15**	**N/A**	**20**
	Total Suspended Solids	N/A	30	N/A	100	N/A	N/A	N/A	N/A	**N/A**	**30**	**N/A**	**100**
	Total Copper	N/A	0.5	N/A	1.0	N/A	N/A	N/A	N/A	**N/A**	**0.5**	**N/A**	**1.0**
	Total Iron	N/A	1.0	N/A	1.0	N/A	N/A	N/A	N/A	**N/A**	**1.0**	**N/A**	**1.0**

Weston Solutions, Inc.
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512-651-7100
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26 February 2024

Texas Commission on Environmental Quality
Water Quality Section
Waste Permits Division
Building F, 2nd Floor – MC 145
P.O. Box 13087
12100 Park 35 Circle
Austin, Texas 78711-3087

Via: WQDeCopy@tceq.texas.gov

Re: Transmittal of TPDES Renewal Application WQ0004344000
CN 603598624 Deer Park Energy Center, LLC.
CN 602680076 Calpine Operating Services Company, Inc.
RN 100222033 Deer Park Energy Center

Dear Sir or Madam:

Weston Solutions, Inc. (WESTON®) is pleased to submit this Texas Pollutant Discharge Eliminations System (TPDES) permit renewal application for the above-referenced facility on behalf of Deer Park Energy Center. An electronic copy is being submitted and one original and three hard copies are being transmitted separately.

Payment for the permit application fee has been made via E-Pay; documentation is included in the application.

Please contact me at 512-651-7104 or nancy.koch@westonsolutions.com should you have any questions regarding this application.

Very truly yours,
Weston Solutions, Inc.

N. L. Koch

Nancy L. Koch, P.E.
Project Manager

cc: Jan Stavinoha, Calpine

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

TCEQ INDUSTRIAL WASTEWATER PERMIT APPLICATION

INDUSTRIAL ADMINISTRATIVE REPORT 1.0

This report is required for all applications for TPDES permits and TLAPs. Contact the Applications Review and Processing Team at 512-239-4671 with any questions about completing this report

Item 1. Application Information and Fees (Instructions, Page 25)

a. Complete each field with the requested information, if applicable.

Applicant Name: Deer Park Energy Center, LLC and Calpine Operating Services Company, Inc
EPA ID No.: TX00124303

Permit No.: WQ0004344000 Expiration Date: October 2024

b. Check the box next to the appropriate authorization type.

☒ Industrial Wastewater (wastewater and stormwater)

☐ Industrial Stormwater (stormwater only)

c. Check the box next to the appropriate facility status.

☒ Active ☐ Inactive

d. Check the box next to the appropriate permit type.

☒ TPDES Permit ☐ TLAP

e. Check the box next to the appropriate application type.

☐ New

☐ Renewal with changes ☒ Renewal without changes

☐ Major amendment with renewal ☐ Major amendment without renewal

☐ Minor amendment without renewal ☐ Minor modification without renewal

f. If applying for an amendment or modification, describe the request: Click to enter text.

g. Application Fee

EPA Classification	New	Major Amend. (with or without renewal)	Renewal (with or without changes)	Minor Amend. / Minor Mod. (without renewal)
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 [1]	☐ $2,050	☒ $2,015	☐ $450

For TCEQ Use Only

Segment Number _____County _____
Expiration Date _____Region _____

[1] All facilities are designated as minors until formally classified as a major by EPA.

h. Payment Information

Mailed

Check or money order No.: Click to enter text. Check or money order amt.: Click to enter text.

Named printed on check or money order: Click to enter text.

Epay

Voucher number: 688603, 688604 Copy of voucher attachment: **A**

Item 2. Applicant Information (Instructions, Pages 25)

a. Customer Number, if applicant is an existing customer: CN603598624

Note: Locate the customer number using the TCEQ's Central Registry Customer Search[2].

b. Legal name of the entity (applicant) applying for this permit: Deer Park Energy, LLC

Note: The owner of the facility must apply for the permit. The legal name must be spelled exactly as filed with the TX SOS, Texas Comptroller of Public Accounts, County, or in the legal documents forming the entity.

c. Name and title of the person signing the application. (**Note:** The person must be an executive official that meets signatory requirements in 30 TAC § 305.44.)

☒ Mr. ☐ Ms. First/Last Name: Richard Davis

Title: Plant Manager Credential: Click to enter text.

d. Will the applicant have overall financial responsibility for the facility?

☐ Yes ☒ No

Note: The entity with overall financial responsibility for the facility must apply as a co-applicant, if not the facility owner.

Item 3. Co-applicant Information (Instructions, Page 26)

☐ Check this box if there is no co-applicant.; otherwise, complete the below questions.

a. Legal name of the entity (co-applicant) applying for this permit: Calpine Operating Services Company, LLC

Note: The legal name must be spelled exactly as filed with the TX SOS, Texas Comptroller of Public Accounts, County, or in the legal documents forming the entity.

b. Customer Number (if applicant is an existing customer): CN602680076

Note: Locate the customer number using the TCEQ's Central Registry Customer Search.

c. Name and title of the person signing the application. (**Note:** The person must be an executive official that meets signatory requirements in 30 TAC § 305.44.)

☒ Mr. ☐ Ms. First/Last Name: Richard Davis

Title: Plant Manager Credential: Click to enter text.

d. Will the co-applicant have overall financial responsibility for the facility?

☒ Yes ☐ No

[2] https://www15.tceq.texas.gov/crpub/index.cfm?fuseaction=cust.CustSearch

Note: The entity with overall financial responsibility for the facility must apply as a co-applicant, if not the facility owner.

Item 4. Core Data Form (Instructions, Pages 26)

a. Complete one Core Data Form (TCEQ Form 10400) for each customer (applicant and co-applicant(s)) and include as an attachment. If the customer type selected on the Core Data Form is Individual, complete Attachment 1 of the Administrative Report. Attachment: **B**

Item 5. Application Contact Information (Instructions, Page 26)

Provide names of two individuals who can be contact for additional information about this application. Indicate if the individual can be contact about administrative or technical information, or both.

a. ☒ Administrative Contact . ☒ Technical Contact

☐ Mr. ☒ Ms. Full Name (First and Last): Nancy Koch

Title: Project Manager Credential: PE

Organization Name: Weston Solutions

Mailing Address: 5301 Southwest Parkway, Suite 450

City: Austin State: TX Zip Code: 78735

Phone No: 512-651-7104 Fax No: 512-591-7101 Email: Nancy.Koch@westonsolutions.com

b. ☒ Administrative Contact . ☒ Technical Contact

☐ Mr. ☒ Ms. Full Name (First and Last): Jan Stavinoha

Title: EHS Manager Credential: Click to enter text.

Organization Name: Calpine Operating Services Company, Inc.

Mailing Address: 717 Texas Avenue, Suite 1000

City: Houston State: TX Zip Code: 77002

Phone No: 713-570-4814 Fax No: Click to enter text. Email: Jan.Stavinoha@calpine.com

Attachment: Click to enter text.

Item 6. Permit Contact Information (Instructions, Pages 26)

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

a. ☒ Mr. ☐ Ms. Full Name (First and Last): Ty Pate

Title: Vice President, Regional Operations Credential: Click to enter text.

Organization Name: Calpine Operating Services Company, Inc.

Mailing Address: 717 Texas Avenue, Suite 1000

City: Houston State: TX Zip Code: 77002

Phone No: 713-570-4823 Fax No: Click to enter text. Email: Ty.Pate@calpine.com

b. ☒ Mr. ☐ Ms. Full Name (First and Last): Jaron Bergin

Title: Director EHS Credential: Click to enter text.

Organization Name: Calpine Operating Services Company, Inc.

Mailing Address: 717 Texas Avenue, Suite 1000

City: Houston State: TX Zip Code: 77002

Phone No: Click to enter text. Fax No: Click to enter text. Email: Jaron.Bergin@calpine.com

Attachment: Click to enter text.

Item 7. Billing Contact Information (Instructions, Page 27)

The permittee is responsible for paying the annual fee. The annual fee will be assessed for 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 (form TCEQ-20029).

Provide the complete mailing address where the annual fee invoice should be mailed and the name and phone number of the permittee's representative responsible for payment of the invoice.

☒ Mr. ☐ Ms. Full Name (First and Last): Brian Smith

Title: EHS Specialist III Credential: Click to enter text.

Organization Name: Calpine Operating Services Company, Inc.

Mailing Address: PO Box 1048

City: Deer Park State: TX Zip Code: 77536-1048

Phone No: 281-604-6366 Fax No: Click to enter text. Email: Brian.Smith@calpine.com

Item 8. DMR/MER Contact Information (Instructions, Page 27)

Provide the name and mailing address of the person delegated to receive and submit DMRs or MERs. **Note:** DMR data must be submitted through the NetDMR system. An electronic reporting account can be established once the facility has obtained the permit number.

☒ Mr. ☐ Ms. Full Name (First and Last): Brian Smith

Title: EHS Specialist III Credential: Click to enter text.

Organization Name: Calpine Operating Services Company, Inc.

Mailing Address: PO Box 1048

City: Deer Park State: TX Zip Code: 77536-1048

Phone No: 281-604-6366 Fax No: Click to enter text. Email: Brian.Smith@calpine.com

Item 9. NOTICE INFORMATION (Instructions, Pages 27

a. Individual Publishing the Notices

☐ Mr. ☒ Ms. Full Name (First and Last): Nancy Koch

Title: Project Manager Credential: PE

Organization Name: Weston Solutions

Mailing Address: 5301 Southwest Parkway, Suite 450

City: Austin, TX 78735 State: TX Zip Code: 78735

Phone No: 512-651-7104 Fax No: Click to enter text. Email: Nancy.Koch@westonsolutions.com

b. Method for Receiving Notice of Receipt and Intent to Obtain a Water Quality Permit Package (only for NORI, NAPD will be sent via regular mail)

☒ E-mail: Nancy.Koch@westonsolutions.com

☐ Fax: Click to enter text.

☐ Regular Mail (USPS)

Mailing Address: Click to enter text.

City: Click to enter text. State: Click to enter text. Zip Code: Click to enter text.

c. Contact in the Notice

☐ Mr. ☒ Ms Full Name (First and Last): Jan Stavinoha

Title: EHS Manager Credential: Click to enter text.

Organization Name: Calpine Operating Services Company, Inc.

Phone No: 713-570-4814 Fax No: Click to enter text. Email: Jan.Stavinoha@calpine.com

d. Public Viewing Location Information

Note: If the facility or outfall is located in more than one county, provide a public viewing place for each county.

Public building name: TCEQ Region 12 Location within the building: 3rd Floor, Reception Desk

Physical Address of Building: 5425 Polk Street

City: Houston County: Harris

e. Bilingual Notice Requirements

This information is required for new, major amendment, minor amendment or minor modification, and renewal 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 ☐ N/A

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

f. Plain Language Summary Template – Complete the Plain Language Summary at the end of this application.

g. Complete one Public Involvement Plan (PIP) Form (TCEQ Form 20960) for each application for a new permit or major amendment and include as an attachment. Attachment: Not required

Item 10. Regulated Entity and Permitted Site Information (Instructions Pages 28-30)

a. TCEQ issued Regulated Entity Number (RN), if available: RN100222033

Note: If your business site 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 to determine the RN or to see if the larger site may already be registered as a Regulated Entity. If the site is found, provide the assigned RN.

b. Name of project or site (the name known by the community where located): Deer Park Energy Center

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

☒ Yes ☐ No ☐ N/A (new permit)

Note: 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.

d. Owner of treatment facility:

☐ Mr. ☐ Ms. Full Name (First and Last): Click to enter text.

or Organization Name: Deer Park Energy Center, LLC

Mailing Address: PO Box 1048

City: Deer Park State: Texas Zip Code: 77536-1048

Phone No: 281-604-6341 Fax No: Click to enter text. Email: Richard.Davis@calpine.com

e. Ownership of facility: ☐ Public ☒ Private ☐ Both ☐ Federal

f. Owner of land where treatment facility is or will be: Shell Chemical, LP

☐ Mr. ☐ Ms. Full Name (First and Last): Click to enter text.

or Organization Name: Shell Chemical, LP

Mailing Address: 5900 Hwy 225

City: Deer Park State: TX Zip Code: 77536

Phone No: 713-246-6462 Fax No: Click to enter text. Email: DPK-Contact-Shell-Deerpark@shell.com

Note: If not the same as the facility owner, attach 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 TLAP disposal site (if applicable): Not applicable

☐ Mr. ☐ Ms. Full Name (First and Last): Click to enter text.

or Organization Name: Click to enter text.

Mailing Address: Click to enter text.

City: Click to enter text. State: Click to enter text. Zip Code: Click to enter text.

Phone No: Click to enter text. Fax No: Click to enter text. Email: Click to enter text.

Note: If not the same as the facility owner, attach a long-term lease agreement in effect for at least six years. Attachment: Click to enter text.

h. Owner of sewage sludge disposal site (if applicable):

☐ Mr. ☐ Ms. Full Name (First and Last): Not applicable

or Organization Name: Click to enter text.

Mailing Address: Click to enter text.

City: Click to enter text. State: Click to enter text. Zip Code: Click to enter text.

Phone No: Click to enter text. Fax No: Click to enter text. Email: Click to enter text.

Note: If not the same as the facility owner, attach a long-term lease agreement in effect for at least six years. Attachment: Click to enter text.

Item 11. TDPES Discharge/TLAP Disposal Information (Instructions, Pages 30-32)

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

☐ Yes ☒ No

b. Attach an original full size USGS Topographic Map (or an 8.5"×11" reproduced portion for renewal or amendment applications) with all required information. Check the box next to each item below to confirm it has been included on the map.

☒ One-mile radius

☒ Applicant's property boundaries

☒ Labeled point(s) of discharge

☐ Effluent disposal site boundaries

☐ Sewage sludge disposal site

☒ Three-miles downstream information

☐ Treatment facility boundaries

☒ Highlighted discharge route(s)

☐ All wastewater ponds

☐ New and future construction

Attachment: **D**

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

☐ Yes ☐ No or New Permit

If no, or a new application, provide an accurate location description: Not applicable

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

☒ Yes ☐ No or New Permit

If no, or a new application, provide an accurate location description: Click to enter text.

e. Are the discharge route(s) in the existing permit correct?

☒ Yes ☐ No or New Permit

If no, or a new permit, provide an accurate description of the discharge route: Click to enter text.

f. City nearest the outfall(s): Deer Park

g. County in which the outfalls(s) is/are located: Harris

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, attach copies of letters that show proof of contact and provide the approval letter upon receipt. Attachment: Click to enter text.

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: Click to enter text.

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

☐ Yes ☐ No or New Permit

If no, or a new application, provide an accurate location description: Not applicable

j. City nearest the disposal site: Not applicable

k. County in which the disposal site is located: Not applicable

l. Disposal Site Latitude: Not applicable Longitude: Not applicable

m. For TLAPs, describe how effluent is/will be routed from the treatment facility to the disposal site: Not applicable

n. For TLAPs, identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained: Not applicable

Item 12. MISCELLANEOUS INFORMATION (Instructions, Page 32)

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

☐ Yes ☒ No

If yes, list each person: Click to enter text.

b. Do you owe any fees to the TCEQ?

☐ Yes ☒ No

If yes, provide the account no.: Click to enter text. and total amount due: Click to enter text.

c. Do you owe any penalties to the TCEQ?

☐ Yes ☒ No

If yes, provide the enforcement order no.: Click to enter text. and amount due: Click to enter text.

Item 13. SIGNATURE PAGE (Instructions, Pages 32-33)

Permit No: WQ0004344000

Applicant Name: Deer Park Energy Center, LLC

Certification: I, Richard Davis, 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): Richard Davis

Signatory title: Plant Manager

Signature: _____ Date: 2-15-2024
(Use blue ink)

Subscribed and Sworn to before me by the said Richard Davis

on this 15th day of February, 2024.

My commission expires on the 9th day of Februany, 2026.

Deanna Marie Weekly
Notary Public

Galveston
County, Texas

DEANNA MARIE WEEKLY
Notary ID #8619685
My Commission Expires
February 9, 2026

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

Item 13. SIGNATURE PAGE (Instructions, Pages 32-33)

Permit No: WQ0004344000

Applicant Name: Calpine Operating Services Company, Inc.

Certification: I, Richard Davis, 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): Richard Davis

Signatory title: Plant Manager

Signature: _____ Date: 2-15-2024
(Use blue ink)

Subscribed and Sworn to before me by the said Richard Davis

on this 15th day of February, 2024.

My commission expires on the 9th day of February, 2026.

Deanna Marie Weekly
Notary Public

Galveston
County, Texas

[STAMP] DEANNA MARIE WEEKLY
Notary ID #8619685
My Commission Expires
February 9, 2026

Note: *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 36)

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 Name: Deer Park Energy Center, LLC and Calpine Operating Services Company, Inc.

2. Permit No.: WQ0004344000 EPA ID No.: TX00124303

3. Address of the project (location description that includes street/highway, city/vicinity, and county): 5665 Hwy 225, Deer Park, Harris County. The facility is located on the north side of State Highway 225, 1,500' east of Shell Dock Road

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

   Full Name (First and Last): Brian Smith

   Organization Name: Calpine Operating Services Company, Inc. Mailing Address: PO Box 1048

   City: Deer Park State: TX Zip Code: 77536-1048

   Phone No: 281-604-6366 Fax No: Click to enter text. Email: Brian.Smith@calpine.com

5. List the county in which the facility is located: Harris

6. If the property is publicly owned and the owner is different than the permittee/applicant, please list the owner of the property: The property is not publicly owned.

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: Houston Ship Channel Tidal, Segment 1006

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.) Attachment: **E**

9. Provide original photographs of any structures 50 years or older on the property. Attachment: Not applicable

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): No construction is associated with this application

12. Describe existing disturbances, vegetation, and land use: Heavy industrial complexes are present in the area. The land is largely disturbed with impervious cover.

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: Click to enter text.

14. Provide a brief history of the property, and name of the architect/builder, if known: Click to enter text.

Plain Language Summary Template and Instructions for Texas Pollutant Discharge Elimination System (TPDES) and Texas Land Application (TLAP) Permit Applications

This template is a guide to assist applicant's in developing a plain language summary as required by 30 Texas Administrative Code Chapter 39 Subchapter H. Applicant's may modify the template as necessary to accurately describe their facility as long as the summary includes the following information: (1) the function of the proposed plant or facility; (2) the expected output of the proposed plant or facility; (3) the expected pollutants that may be emitted or discharged by the proposed plant or facility; and (4) how the applicant will control those pollutants, so that the proposed plant will not have an adverse impact on human health or the environment.

Fill in the highlighted areas below to describe your facility and application in plain language. Instructions and examples are provided below. Make any other edits necessary to improve readability or grammar and to comply with the rule requirements.

If you are subject to the alternative language notice requirements in 30 Texas Administrative Code §39.426, **you must provide a translated copy of the completed plain language summary in the appropriate alternative language as part of your application package**. For your convenience, a Spanish template has been provided below.

ENGLISH TEMPLATE FOR TPDES or TLAP NEW/RENEWAL/AMENDMENT APPLICATIONS INDUSTRIAL WASTEWATER/STORMWATER

The following summary is provided for this pending water quality permit application being reviewed by the Texas Commission on Environmental Quality as required by 30 Texas Administrative Code Chapter 39. The information provided in this summary may change during the technical review of the application and are not federal enforceable representations of the permit application.

Calpine Operating Services Company, LLC (CN602680076) and Deer Park Energy, LLC (CN603598624) operate the Deer Park Energy Center (RN100222033), a combined cycle power generation facility. The facility is located at 5665 State Highway 225, in Deer Park, Harris County, Texas 77536. This application is for a renewal to discharge a daily average flow not to exceed 1,480,000 gallons per day, with the daily maximum flow not to exceed 2,700,000 gallons per day, via main Outfall 001.

Discharges from the facility are expected to contain residual chlorine, copper, and biological oxygen demand. All wastewater effluent goes through Outfall 001, which discharges directly into the Houston Ship Channel Tidal in Segment No. 1006 of the San Jacinto River Basin. The primary sources of the effluent are cooling tower blowdown and demineralizer and polisher regeneration. No treatment (aside from dechlorination) is currently used, nor will be needed to meet the effluent limitations of the permit.

PLANTILLA EN ESPAÑOL PARA SOLICITUDES NUEVAS/RENOVACIONES/ENMIENDAS DE TPDES o TLAP

AGUAS RESIDUALES INDUSTRIALES/AGUAS PLUVIALES

El siguiente resumen se proporciona para esta solicitud de permiso de calidad del agua pendiente que está siendo revisada por la Comisión de Calidad Ambiental de Texas según lo

requerido por el Capítulo 39 del Código Administrativo de Texas 30. La información proporcionada en este resumen puede cambiar durante la revisión técnica de la solicitud y no son representaciones federales exigibles de la solicitud de permiso.

Calpine Operating Services Company, Inc. (CN602680076) y Deer Park Energy Center, LLC (CN602680076) opera Deer Park Energy Center (RN100222033), una instalación de generación de energía de ciclo combinado. La instalación está ubicado en 5665 State Highway 225, en Deer Park, Condado de Harris, Texas 77536. Esta solicitud es para una renovación para descargar un flujo promedio diario que no exceda los 1,480,000 galones por día, con un flujo máximo diario que no exceda los 2,700,000 galones por día, a través del emisario principal 001.

Se espera que las descargas de la instalación contengan residual de cloro, cobre y la demanda oxígeno biológico. Todos los efluentes de aguas residuales pasan por el emisario 001, que descarga directamente en la marea del canal de navegación de Houston en el segmento No. 1006 de la cuenca del río San Jacinto. Las principales fuentes del efluente son la purga de la torre de enfriamiento y la regeneración del desmineralizador y pulidor. Actualmente no se utiliza ningún tratamiento (aparte de la decloración), ni será necesario para cumplir con las limitaciones de efluentes del permiso.

INSTRUCTIONS

1. Enter the name of applicant in this section. The applicant name should match the name associated with the customer number.
2. Enter the Customer Number in this section. Each Individual or Organization is issued a unique 11-digit identification number called a CN (e.g. CN123456789).
3. Choose “operates” in this section for existing facility applications or choose “proposes to operate” for new facility applications.
4. Enter the name of the facility in this section. The facility name should match the name associated with the regulated entity number.
5. Enter the Regulated Entity number in this section. Each site location is issued a unique 11-digit identification number called an RN (e.g. RN123456789).
6. Choose the appropriate article (a or an) to complete the sentence.
7. Enter a description of the facility in this section. For example: steam electric generating facility, nitrogenous fertilizer manufacturing facility, etc.
8. Choose “is” for an existing facility or “will be” for a new facility.
9. Enter the location of the facility in this section.
10. Enter the City nearest the facility in this section.
11. Enter the County nearest the facility in this section.
12. Enter the zip code for the facility address in this section.
13. Enter a summary of the application request in this section. For example: renewal to discharge 25,000 gallons per day of treated domestic wastewater, new application to discharge process wastewater and stormwater on an intermittent and flow-variable basis, or major amendment to reduce monitoring frequency for pH, etc. If more than one outfall is included in the application, provide applicable information for each individual outfall.

14. List all pollutants expected in the discharge from this facility in this section. If applicable, refer to the pollutants from any federal numeric effluent limitations that apply to your facility.
15. Enter the discharge types from your facility in this section (e.g., stormwater, process wastewater, once through cooling water, etc.)
16. Choose the appropriate verb tense to complete the sentence.
17. Enter a description of the wastewater treatment used at your facility. Include a description of each process, starting with initial treatment and finishing with the outfall/point of disposal. Use additional lines for individual discharge types if necessary.

TECHNICAL REPORT 1.0
INDUSTRIAL

The following information **is required** for all applications for a TLAP or an individual TPDES discharge permit.

For additional information or clarification on the requested information, refer to the Instructions for Completing the Industrial Wastewater Permit Application[1] available on the TCEQ website.

If more than one outfall is included in the application, provide applicable information for each individual outfall. **If an item does not apply to the facility, enter N/A** to indicate that the item has been considered. Include separate reports or additional sheets as **clearly cross-referenced attachments** and provide the attachment number in the space provided for the item the attachment addresses.

NOTE: This application is for an industrial wastewater permit only. Additional authorizations from the TCEQ Waste Permits Division or the TCEQ Air Permits Division may be needed.

1. FACILITY/SITE INFORMATION (Instructions, Pages 39-40)

a. Describe the general nature of the business and type(s) of industrial and commercial activities. Include all applicable SIC codes (up to 4).

The facility is a 1,060 MW combined-cycle cogeneration facility. Five combustion turbine generators provide steam to five heat recovery steam generators. Steam is provided to the adjacent Shell facility.

b. Describe all wastewater-generating processes at the facility.

There are two sources of water for the facility: The Coastal Water Authority (CWA) and Shell Condensate (hot and cold). The cold condensate from Shell is treated in the condensate polishers (also referred to as the mixed bed polisher system). Cooling tower blowdown from the recirculation of water used in the power generating process is the primary waste stream. Demineralizer reject from the raw water (CWA) treatment and condensate polisher reject from Shell condensate treatment is the second-largest wastewater stream. Heat Recovery Steam Generator (HRSG) boiler blowdown is discharged only during cooling tower upset conditions.

[1] https://www.tceq.texas.gov/permitting/wastewater/industrial/TPDES_industrial_wastewater_steps.html

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

Materials List

Raw Materials	Intermediate Products	Final Products
Pipeline quality natural gas		Electricity
Petroleum lubricating oils		
Electrical insulating oils		
Anhydrous ammonia (air pollution control)		
Water treatment chemicals		

Attachment: Click to enter text

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

- Production areas, maintenance areas, materials-handling areas, waste-disposal areas, and water intake structures.
- The location of each unit of the WWTP including the location of wastewater collection sumps, impoundments, outfalls, and sampling points, if significantly different from outfall locations.

Attachment: F

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

☐ Yes ☒ No

If **yes**, provide background discussion: Click to enter text

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

☐ Yes ☒ No

List source(s) used to determine 100-year frequency flood plain: FEMA Flood Map Service Center

If **no**, provide the elevation of the 100-year frequency flood plain and describe what protective measures are used/proposed to prevent flooding (including tail water and rainfall run-on controls) of the treatment facility and disposal area: There is no treatment facility or disposal site; therefore, flood plain information should not be required.

Attachment:

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

☐ Yes ☐ No ☒ N/A (renewal only)

h. If **yes** to Item 1.g, has the applicant applied for a USACE CWA Chapter 404 Dredge and Fill permit?

☐ Yes ☐ No

If **yes**, provide the permit number: Click to enter text

If **no**, provide an approximate date of application submittal to the USACE: Click to enter text

2. TREATMENT SYSTEM (Instructions, Page 40)

a. List any physical, chemical, or biological treatment process(es) used/proposed to treat wastewater at this facility. Include a description of each treatment process, starting with initial treatment and finishing with the outfall/point of disposal.

Wastewater treatment is not provided aside from dechlorination of the cooling tower blowdown with sodium bisulfite. No other treatment is necessary to meet permitted effluent limitations.

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

Attachment: G

3. IMPOUNDMENTS (Instructions, Pages 40-42)

Does the facility use or plan to use any wastewater impoundments (e.g., lagoons or ponds?)

☐ Yes ☒ No

If **no**, proceed to Item 4. If **yes**, complete **Item 3.a** for **existing** impoundments and **Items 3.a - 3.e** for **new or proposed** impoundments. **NOTE:** See instructions, Pages 40-42, for additional information on the attachments required by Items 3.a – 3.e.

a. Complete the table with the following information for each existing, new, or proposed impoundment:

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

Associated Outfall Number: Provide an outfall number if a discharge occurs or will occur.

Liner Type: Indicate the liner type as Compacted clay liner (**C**), In-situ clay liner (**I**), Synthetic/plastic/rubber liner (**S**), or Alternate liner (**A**). **NOTE:** See instructions for further detail on liner specifications. If an alternate liner (A) is selected, include an attachment that provides a description of the alternate liner and any additional technical information necessary for an evaluation.

Leak Detection System: If any leak detection systems are in place/planned, enter **Y** for yes. Otherwise, enter **N** for no.

Groundwater Monitoring Wells and Data: If groundwater monitoring wells are in place/planned, enter **Y** for yes. Otherwise, enter **N** for no. Attach any existing groundwater monitoring data.

Dimensions: Provide the dimensions, freeboard, surface area, storage capacity of the impoundments, and the maximum depth (not including freeboard). For impoundments with irregular shapes, submit surface area instead of length and width.

Compliance with 40 CFR Part 257, Subpart D: If the impoundment is required to be in compliance with 40 CFR Part 257, Subpart D, enter **Y** for yes. Otherwise, enter **N** for no.

Date of Construction: Enter the date construction of the impoundment commenced (mm/dd/yy).

Impoundment Information

Parameter	Pond #	Pond #	Pond #	Pond #
Use Designation: (T) (D) (C) or (E)				
Associated Outfall Number				
Liner Type (C) (I) (S) or (A)				
Alt. Liner Attachment Reference				
Leak Detection System, Y/N				
Groundwater Monitoring Wells, Y/N				
Groundwater Monitoring Data Attachment				
Pond Bottom Located Above The Seasonal High-Water Table, Y/N				
Length (ft)				
Width (ft)				
Max Depth From Water Surface (ft), Not Including Freeboard				
Freeboard (ft)				
Surface Area (acres)				
Storage Capacity (gallons)				
40 CFR Part 257, Subpart D, Y/N				
Date of Construction				

Impoundment Information

Parameter	Pond #	Pond #	Pond #	Pond #
Use Designation: (T) (D) (C) or (E)				
Associated Outfall Number				
Liner Type (C) (I) (S) or (A)				
Alt. Liner Attachment Reference				
Leak Detection System, Y/N				
Groundwater Monitoring Wells, Y/N				
Groundwater Monitoring Data Attachment				
Pond Bottom Located Above The Seasonal High-Water Table, Y/N				
Length (ft)				
Width (ft)				
Max Depth From Water Surface (ft), not including freeboard				
Freeboard (ft)				
Surface Area (acres)				
Storage Capacity (gallons)				
40 CFR Part 257, Subpart D, Y/N				
Date of Construction				

Attachment: Click to enter text

The following information (**Items 3.b – 3.e**) is required only for **new or proposed** impoundments.

b. For new or proposed impoundments, attach any available information on the following items. If attached, check **yes** in the appropriate box. Otherwise, check **no** or **not yet designed**.

i. Liner data

☐ Yes ☐ No ☐ Not yet designed

ii. Leak detection system or groundwater monitoring data

☐ Yes ☐ No ☐ Not yet designed

iii. Groundwater impacts

☐ Yes ☐ No ☐ Not yet designed

NOTE: Item b.iii is required if the bottom of the pond is not above the seasonal high-water table in the shallowest water-bearing zone.

Attachment: Click to enter text

For TLAP applications: Items 3.c – 3.e are **not required**, continue to Item 4.

c. Attach a USGS map or a color copy of original quality and scale which accurately locates and identifies all known water supply wells and monitor wells within ½-mile of the impoundments.

Attachment: Click to enter text

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

Attachment: Click to enter text

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

Attachment: Click to enter text

4. OUTFALL/DISPOSAL METHOD INFORMATION (Instructions, Pages 42-43)

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.

If there are more outfalls/points of disposal at the facility than the spaces provided, copies of pages 6 and/or numbered accordingly (i.e., page 6a, 6b, etc.) may be used to provide information on the additional outfalls.

For TLAP 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** number (e.g. **E1** for evaporation pond 1, **I2** for irrigation area No. 2, etc.).

Outfall Latitude and Longitude

Outfall Number	Latitude-decimal degrees	Longitude-decimal degrees
001	29.733456	- 95.139719
101	29.713569	- 95.133533
201	29.713097	- 95.134061

Outfall Location Description

Outfall Number	Location Description
001	8,000' north of Highway 225 and 2,000' west of Boggy Bayou Basin on the Houston Ship Channel
101	Outlet of the hot drain sumps. There are multiple locations, only one latitude and longitude provided.
201	Combustion turbine compressor. There are multiple locations; only one latitude and longitude provided.

Description of Sampling Points (if different from Outfall location)

Outfall Number	Description of Sampling Point
001	The sump prior to pumping to the Houston Ship Channel

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)	Anticipated Discharge Date (mm/dd/yy)
001	1.48	2.7			
101	report	report			
201	report	report			

Outfall Discharge – Method and Measurement

Outfall Number	Pumped Discharge? Y/N	Gravity Discharge? Y/N	Type of Flow Measurement Device Used
001	Y	N	meter
101	Y	N	estimate
201	N	Y	estimate

Outfall Discharge – Flow Characteristics

Outfall Number	Intermittent Discharge? Y/N	Continuous Discharge? Y/N	Seasonal Discharge? Y/N	Discharge Duration (hrs/day)	Discharge Duration (days/mo)	Discharge Duration (mo/yr)
001	N	Y	N	24	31	12
101	Y	N	N	variable	variable	variable
201	Y	N	N	variable	variable	variable

Wastestream Contributions

Outfall No.: 001

Contributing Wastestreams	Volume (MGD)	% of Total Flow
Cooling tower blowdown	0.78	53
Demineralizer and polisher regeneration	0.7	47

Outfall No.: 101

Contributing Wastestreams	Volume (MGD)	% of Total Flow
Wet scrubber air pollution control system (CEMS)	Not determined	
Ion exchange water treatment system wastewater	Not determined	
Water treatment system evaporator blowdown	Not determined	
Boiler blowdown	Not determined	
Heat recovery steam generator blowdown	Not determined	
Laboratory and sampling streams	Not determined	
Floor drainage	Not determined	

Outfall No.: 201

Contributing Wastestreams	Volume (MGD)	% of Total Flow
Metal cleaning waste	Not determined	100

Attachment: Click to enter text

5. BLOWDOWN AND ONCE-THROUGH COOLING WATER DISCHARGES (Instructions, Page 44)

a. Does the facility use/propose to use any cooling towers which discharge blowdown or other wastestreams to the outfall(s)?

☒ Yes ☐ No

NOTE: If the facility uses or plans to use cooling towers, Item 12 **is required**.

b. Does the facility use or plan to use any boilers that discharge blowdown or other wastestreams to the outfall(s)?

☒ Yes ☐ No

c. Does or will the facility discharge once-through cooling water to the outfall(s)?

☐ Yes ☒ No

NOTE: If the facility uses or plans to use once-through cooling water, Item 12 **is required**.

d. If **yes** to Items 5.a, 5.b, **or** 5.c, attach the 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 or active ingredient, as appropriate, in wastestream.

Attach a summary 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

e. Cooling Towers and Boilers

If **yes** to either Item 5.a **or** 5.b, complete the following table.

Cooling Towers and Boilers

Type of Unit	Number of Units	Dly Avg Blowdown (gallons/day)	Dly Max Blowdown (gallons/day)
Cooling Towers	1	781,920	1,824,480
Boilers	5	190,000	480,000

6. STORMWATER MANAGEMENT (Instructions, Page 44)

Are there any existing/proposed outfalls which discharge stormwater associated with industrial activities, as defined at *40 CFR § 122.26(b)(14)*, commingled with any other wastestream?

☐ Yes ☒ No

If **yes**, briefly describe the industrial processes and activities that occur outdoors or in some manner which may result in exposure of the activities or materials to stormwater: Stormwater at this facility is not defined under 40 CFR 122.26(b)(14)

7. DOMESTIC SEWAGE, SEWAGE SLUDGE, AND SEPTAGE MANAGEMENT AND DISPOSAL (Instructions, Page 45)

Domestic Sewage - Waste and wastewater from humans or household operations that is discharged to a wastewater collection system or otherwise enters a treatment works.

a. Check the box next to the appropriate method of domestic sewage and domestic sewage sludge treatment or disposal. Complete Worksheet 5.0 or Item 7.b if directed to do so.

☒ Domestic sewage is routed (i.e., connected to or transported to) to a WWTP permitted to receive domestic sewage for treatment, disposal, or both. **Complete Item 7.b**.

☐ Domestic sewage disposed of by an on-site septic tank and drainfield system. **Complete Item 7.b**.

☐ 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**.

☐ Facility is a POTW. **Complete Worksheet 5.0**.

☐ Domestic sewage is not generated on-site.

☐ Other (e.g., portable toilets), specify and **Complete Item 7.b**: Click to enter text

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.
Shell	WQ0000403-000

8. IMPROVEMENTS OR COMPLIANCE/ENFORCEMENT REQUIREMENTS (Instructions, Page 45)

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

☐ Yes ☒ No

b. Has the permittee completed or planned for any improvements or construction projects?

☐ Yes ☒ No

c. If **yes** to either 8.a **or** 8.b, provide a brief summary of the requirements and a status update: Click to enter text

9. TOXICITY TESTING (Instructions, Page 45)

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

☒ Yes ☐ No

If **yes**, identify the tests and describe their purposes: All tests previously submitted

Additionally, attach a copy of all tests performed which **have not** been submitted to the TCEQ or EPA.

Attachment: Click to enter text

10. OFF-SITE/THIRD PARTY WASTES (Instructions, Page 45)

a. Does or will the facility receive wastes from off-site sources for treatment at the facility, disposal on-site via land application, or discharge via a permitted outfall?

☐ Yes ☒ No

If **yes**, provide responses to Items 10.b through 10.d below.

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

b. Attach the following information to the application:

- List of wastes received (including volumes, characterization, and capability with on-site wastes).
- Identify the sources of wastes received (including the legal name and addresses of the generators).
- Description of the relationship of waste source(s) with the facility's activities.

Attachment: Click to enter text

c. Is or will wastewater from another TCEQ, NPDES, or TPDES permitted facility commingled with this facility's wastewater after final treatment and prior to discharge via the 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: Click to enter text

d. Is this facility a POTW that accepts/will accept process wastewater from any SIU and has/is required to have an approved pretreatment program under the NPDES/TPDES program?

☐ Yes ☒ No

If **yes**, **Worksheet 6.0** of this application **is required**.

11. RADIOACTIVE MATERIALS (Instructions, Pages 46)

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

☐ Yes ☒ No

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

Radioactive Materials Mined, Used, Stored, or Processed

Radioactive Material	Concentration (pCi/L)

b. Does the applicant or anyone at the facility 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 the effluent for all radioactive materials that may be present. Provide results in pCi/L. Do not include information provided in response to Item 11.a.

Radioactive Materials Present in the Discharge

Radioactive Material	Concentration (pCi/L)

12. COOLING WATER (Instructions, Pages 46-47)

a. Does the facility use or propose to use water for cooling purposes?

☒ Yes ☐ No

If **no**, stop here. If **yes**, complete Items 12.b thru 12.f.

b. Cooling water is/will be obtained from a groundwater source (e.g., on-site well).

☐ Yes ☒ No

If **yes**, stop here. If **no**, continue.

c. Cooling Water Supplier

i. Provide the name of the owner(s) and operator(s) for the CWIS that supplies or will supply water for cooling purposes to the facility.

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

CWIS ID				
Owner	Coastal Water Authority	Less than 25% of the Independent Supplier's CWIS Actual Intake Flow is used for cooling by DPEC; therefore DPEC is not subject to 316(b).		
Operator	Coastal Water Authority			

ii. Cooling water is/will be obtained from a Public Water Supplier (PWS)

☐ Yes ☒ No

If **no**, continue. If **yes**, provide the PWS Registration No. and stop here: PWS No. Click to enter text

iii. Cooling water is/will be obtained from a reclaimed water source?

☐ Yes ☒ No

If **no**, continue. If **yes**, provide the Reuse Authorization No. and stop here: Click to enter text

iv. Cooling water is/will be obtained from an Independent Supplier

☒ Yes ☐ No

If **yes**, provide the actual intake flow of the Independent Supplier's CWIS that is/will be used to provide water for cooling purposes to the facility and proceed: 667 MGD (Trinity River Pump Station)

If **no**, proceed to Item 12.d.

d. 316(b) General Criteria

i. The CWIS(s) used to provide water for cooling purposes to the facility has or will have a cumulative design intake flow of 2 MGD or greater.

☐ Yes ☐ No

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

☐ Yes ☐ No

iii. The CWIS(s) withdraw(s)/propose(s) 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*: Click to enter text

If **yes** to all three questions in Item 12.d, the facility **meets** the minimum criteria to be subject to the full requirements of Section 316(b) of the CWA. Proceed to **Item 12.f**.

If **no** to any of the questions in Item 12.d, the facility **does not meet** the minimum criteria to be subject to the full requirements of Section 316(b) of the CWA; however, a determination is required based upon BPJ. Proceed to **Item 12.e**.

e. The facility does not meet the minimum requirements to be subject to the fill requirements of Section 316(b) **and uses/proposes to use cooling towers**.

☐ Yes ☐ No

If **yes**, stop here. If **no**, 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 BPJ.

f. Oil and Gas Exploration and Production

i. The facility is subject to requirements at 40 CFR Part 435, Subparts A or D.

☐ Yes ☐ No

If **yes**, continue. If **no**, skip to Item 12.g.

ii. The facility is an existing facility as defined at 40 CFR § 125.92(k) or a new unit at an existing facility as defined at 40 CFR § 125.92(u).

☐ Yes ☐ No

If **yes**, 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 BPJ. If **no**, skip to Item 12.g.iii.

g. Compliance Phase and Track Selection

i. Phase I – New facility subject to 40 CFR Part 125, Subpart I

☐ Yes ☐ No

If **yes**, check the box next to the facility's compliance track selection, attach the requested information, and complete Worksheet 11.0, Items 2 and 3, and Worksheet 11.2.

☐ Track I – AIF greater than 2 MGD, but less than 10 MGD
- Attach information required by *40 CFR §§ 125.86(b)(2)-(4)*.

☐ Track I – AIF greater than 10 MGD
- Attach information required by *40 CFR § 125.86(b)*.

☐ Track II
- Attach information required by *40 CFR § 125.86(c)*.

Attachment: Click to enter text

ii. Phase II – Existing facility subject to 40 CFR Part 125, Subpart J

☐ Yes ☐ No

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

iii. Phase III – New facility subject to 40 CFR Part 125, Subpart N

☐ Yes ☐ No

If **yes**, check the box next to the facility's compliance track selection and provide the requested information.

☐ Track I – Fixed facility
- Attach information required by 40 CFR § 125.136(b) and complete Worksheet 11.0, Items 2 and 3, and Worksheet 11.2.

☐ Track I – Not a fixed facility
- Attach information required by 40 CFR § 125.136(b) and complete Worksheet 11.0, Item 2 (except the CWIS latitude and longitude under Item 2.a).

☐ Track II – Fixed facility
- Attach information required by 40 CFR § 125.136(c) and complete Worksheet 11.0, Items 2 and 3.

Attachment: Click to enter text

NOTE: Item 13 is required only for existing permitted facilities.

13. PERMIT CHANGE REQUESTS (Instructions, Pages 49-50)

a. Is the facility requesting a **major amendment** of an existing permit?

☐ Yes ☒ No

If **yes**, list each request individually and provide the following information: 1) detailed information regarding the scope of each request and 2) a justification for each request. Attach any supplemental information or additional data to support each request.

Click to enter text.

b. Is the facility requesting any **minor amendments** to the permit?

☐ Yes ☒ No

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

Click to enter text.

c. Is the facility requesting any **minor modifications** to the permit?

☐ Yes ☒ No

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

Click to enter text.

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 limitation guidelines (ELGs).

1. CATEGORICAL INDUSTRIES (Instructions, Pages 50-52)

Is this facility subject to any of the 40 CFR categorical ELGs outlined on page 53 of the instructions?

☒ Yes ☐ No

If **no**, this worksheet is not required. If **yes**, provide the appropriate information in the table below.

40 CFR Effluent Guidelines

Industry	40 CFR Part
Power Generation – Combined Cycle Generating Units	423

2. PRODUCTION/PROCESS DATA (Instructions, Page 54)

NOTE: For all TPDES permit applications requesting individual permit coverage for discharges of oil and gas exploration and production wastewater (discharges into or adjacent to water in the state, falling under the Oil and Gas Extraction Effluent Guidelines – 40 CFR Part 435), see Worksheet 12.0, Item 2 instead.

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
No production-based limits			

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

Provide each applicable subpart and the percent of total production. Provide data for metal-bearing and cyanide-bearing wastestreams, as required by *40 CFR Part 414, Appendices A and B*.

Percentages of Total Production

Subcategory	Percent of Total Production	Appendix A and B - Metal	Appendix A – Cyanide
Not applicable			

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

Provide the applicable subcategory and a brief justification.

Not applicable

3. PROCESS/NON-PROCESS WASTEWATER FLOWS (Instructions, Page 54)

Provide a breakdown of wastewater flow(s) generated by the facility, including both process and non-process wastewater flow(s). Specify which wastewater flows are to be authorized for discharge under this permit and the disposal practices for wastewater flows, excluding domestic, which are not to be authorized for discharge under this permit.

There are no process wastewater flows from the power generating systems.

4. NEW SOURCE DETERMINATION (Instructions, Page 54)

Provide a list of all wastewater-generating processes subject to EPA categorical ELGs, identify the appropriate guideline Part and Subpart, and provide the date the process/construction commenced.

Wastewater-generating Processes Subject to Effluent Guidelines

Process	EPA Guideline: Part	EPA Guideline: Subpart	Date Process/ Construction Commenced
Power generation	423		1999

WORKSHEET 2.0
POLLUTANT ANALYSES REQUIREMENTS

Worksheet 2.0 **is required** for all 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 associated with industrial activities.

1. LABORATORY ACCREDITATION (Instructions, Page 56)

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:
   i. periodically inspected by the TCEQ; or
   ii. located in another state and is accredited or inspected by that state; or
   iii. performing work for another company with a unit located in the same site; or
   iv. 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.

Review *30 TAC Chapter 25* for specific requirements. The following certification statement shall be signed and submitted with every application. See Instructions, Page 34, for a list of approved signatories.

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

(Signature)

2. GENERAL TESTING REQUIREMENTS (Instructions, Pages 56-58)

a. Provide the date range of all sampling events conducted to obtain the analytical data submitted with this application (e.g., 05/01/2018-05/30/2018): 03/01/2023-03/30/2023, 01/24/2024

b. ☒ Check the box to confirm all samples were collected no more than 12 months prior to the date of application submittal.

c. Read the general testing requirements in the instructions for important information about sampling, test methods, and MALs. If a contact laboratory was used, attach a list which includes the name, contact information, and pollutants analyzed for each laboratory/firm. **Attachment: I**

3. SPECIFIC TESTING REQUIREMENTS (Instructions, Pages 58-69)

Attach correspondence from TCEQ approving submittal of less than the required number of samples, if applicable. **Attachment:**

TABLE 1 and TABLE 2 (Instructions, Page 58)

Completion of Tables 1 and 2 **is required** for **all external outfalls** for all TPDES permit applications.

Table 1 for Outfall No.: 001

Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
BOD (5-day)	<2.14	9.78	33.9	2.46
CBOD (5-day)	2.47	8.64	<2.14	<2.14
Chemical oxygen demand	123	114	61	104
Total organic carbon	7.43	7.67	11.0	10.2
Dissolved oxygen	9.41	10.2	9.37	10.1
Ammonia nitrogen	2.16	1.15	0.12	0.155
Total suspended solids	25.1	12.8	11.3	9.2
Nitrate nitrogen	6.05	4.39	3.59	4.76
Total organic nitrogen	4.91	3.17	2.72	7.71
Total phosphorus	0.80	1.74	2.32	2.66
Oil and grease	2.50	<1.57	<1.57	<1.57
Total residual chlorine	<0.05	<0.05	<0.05	<0.05
Total dissolved solids	9450	5610	1900	2000
Sulfate	563	822	726	870
Chloride	4420	2450	387	410
Fluoride	1.49	1.13	1.18	1.43
Total alkalinity (mg/L as CaCO3)	84.8	19.3	55.6	65.6
Temperature (°F)	96.7	94.5	85.9	89.6
pH (standard units)	7.6	7.4	7.5	7.4

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)	MAL (µg/L)
Aluminum, total	132	123	124	175	2.5
Antimony, total	<5	<5	<5	<5	5
Arsenic, total	13.0	13.3	7.34	8.26	0.5
Barium, total	595	595	317	405	3
Beryllium, total	<0.5	<0.5	<0.5	<0.5	0.5
Cadmium, total	<1	<1	<1	<1	1
Chromium, total	<3	<3	<3	<3	3
Chromium, hexavalent	<3	<3	<3	<3	3
Chromium, trivalent	2.29	2.69	2.71	<2	N/A
Copper, total	47.2	39.1	14.4	17.1	2
Cyanide, available	40.5	53.1	15.6	15.1	2/10
Lead, total	0.622	0.552	0.641	0.771	0.5
Mercury, total	0.0056	0.0023	0.0149	0.0071	0.005/0.0005
Nickel, total	22.1	15.3	9.95	13.4	2
Selenium, total	<5	<5	<5	<5	5
Silver, total	<0.5	<0.5	<0.5	<0.5	0.5
Thallium, total	<0.5	<0.5	<0.5	<0.5	0.5
Zinc, total	24.1	43.2	25.4	41.6	5.0

TABLE 3 (Instructions, Page 58)

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** which discharge non-process wastewater and stormwater associated with industrial activities commingled with other wastestreams (see instructions for additional guidance).

Table 3 for Outfall No.: Click to enter text

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

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

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
2,4-Dimethylphenol					10
Di-n-Butyl phthalate					10
Ethylbenzene					10
Fluoride					500
Hexachlorobenzene					5
Hexachlorobutadiene					10
Hexachlorocyclopentadiene					10
Hexachloroethane					20
Methyl ethyl ketone					50
Nitrobenzene					10
N-Nitrosodiethylamine					20
N-Nitroso-di-n-butylamine					20
Nonylphenol					333
Pentachlorobenzene					20
Pentachlorophenol					5
Phenanthrene					10
Polychlorinated biphenyls (PCBs) (**)					0.2
Pyridine					20
1,2,4,5-Tetrachlorobenzene					20
1,1,2,2-Tetrachloroethane					10
Tetrachloroethene [Tetrachloroethylene]					10
Toluene					10
1,1,1-Trichloroethane					10
1,1,2-Trichloroethane					10
Trichloroethene [Trichloroethylene]					10
2,4,5-Trichlorophenol					50
TTHM (Total trihalomethanes)					10
Vinyl chloride					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, Pages 58-59)

Partial completion of Table 4 **is required** for each **external outfall** based on the conditions below.

a. Tributyltin

Is this facility an industrial/commercial facility which currently or proposes to directly dispose of wastewater from the types of operations listed below or a domestic facility which currently or proposes to receive wastewater from the types of industrial/commercial operations listed below?

☐ Yes ☒ No

If **yes**, check the box next to each of the following criteria which apply and provide the appropriate testing results in Table 4 below (check all that apply).

☐ 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 (discharge to saltwater)

i. This facility discharges/proposes to discharge directly into saltwater receiving waters **and** Enterococci bacteria are expected to be present in the discharge based on facility processes.

☐ Yes ☒ No

ii. Domestic wastewater is/will be discharged.

☐ Yes ☒ No

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

c. E. coli (discharge to freshwater)

i. This facility discharges/proposes to discharge directly into freshwater receiving waters **and** *E. coli* bacteria are expected to be present in the discharge based on facility processes.

☐ Yes ☒ No

ii. Domestic wastewater is/will be discharged.

☐ Yes ☒ No

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

Table 4 for Outfall No.: Click to enter text.

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

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

TABLE 5 (Instructions, Page 59)

Completion of Table 5 **is required** for all **external outfalls** which discharge process wastewater from a facility which manufactures or formulates pesticides or herbicides or other wastewaters which may contain pesticides or herbicides.

If this facility does not/will not manufacture or formulate pesticides or herbicides and does not/will not discharge other wastewaters which may contain pesticides or herbicides, check N/A.

☒ N/A

Table 5 for Outfall No.: Click to enter text.

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

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (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 59)

Completion of Table 6 **is required** for all **external outfalls**.

Table 6 for Outfall No.: 001

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

Pollutants	Believed Present	Believed Absent	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)	MAL (µg/L)*
Bromide	☐	☒					400
Color (PCU)	☒	☐	10.0				—
Nitrate-Nitrite (as N)	☒	☐	6.05				—
Sulfide (as S)	☐	☒					—
Sulfite (as SO_3)	☐	☒					—
Surfactants	☐	☒					—
Boron, total	☒	☐	0.76				20
Cobalt, total	☒	☐	0.00155				0.3
Iron, total	☒	☐	0.2				7
Magnesium, total	☒	☐	44.1				20
Manganese, total	☐	☒					0.5
Molybdenum, total	☒	☐	0.018				1
Tin, total	☐	☒					5
Titanium, total	☐	☒					30

* Indicate units if different from µg/L.

TABLE 7 (Instructions, Page 60)

Check the box next to any of the industrial categories applicable to this facility. If no categories are applicable, check N/A. If GC/MS testing is required, check the box provided to confirm 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
☐ Oil and Gas Extraction - Subparts A, D, E, F, G, H	435	☐ Yes	☐ Yes	☐ Yes	No
☐ 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, Page 60)

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 **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	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acrolein	<50				50
Acrylonitrile	<50				50
Benzene	<50				10
Bromoform	<50				10
Carbon tetrachloride	<2				2
Chlorobenzene	<10				10
Chlorodibromomethane	<10				10
Chloroethane	<50				50
2-Chloroethylvinyl ether	<10				10
Chloroform	40.9				10
Dichlorobromomethane [Bromodichloromethane]	<10				10
1,1-Dichloroethane	<10				10
1,2-Dichloroethane	<10				10
1,1-Dichloroethylene [1,1-Dichloroethene]	<10				10
1,2-Dichloropropane	<10				10
1,3-Dichloropropylene [1,3-Dichloropropene]	<10				10
Ethylbenzene	<10				10
Methyl bromide [Bromomethane]	<50				50
Methyl chloride [Chloromethane]	<50				50
Methylene chloride [Dichloromethane]	<20				20
1,1,2,2-Tetrachloroethane	<10				10
Tetrachloroethylene [Tetrachloroethene]	<10				10
Toluene	<10				10
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	<10				10
1,1,1-Trichloroethane	<10				10
1,1,2-Trichloroethane	<10				10
Trichloroethylene [Trichloroethene]	<10				10
Vinyl chloride	<10				10

* Indicate units if different from µg/L.

Table 9 for Outfall No.: 001 : Acid Compounds

Samples are (check one): ☐ Composites ☒ Grabs

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
2-Chlorophenol	< 10				10
2,4-Dichlorophenol	< 10				10
2,4-Dimethylphenol	< 10				10
4,6-Dinitro-o-cresol	< 50				50
2,4-Dinitrophenol	< 50				50
2-Nitrophenol	< 20				20
4-Nitrophenol	< 50				50
p-Chloro-m-cresol	< 10				10
Pentachlorophenol	< 5				5
Phenol	472				10
2,4,6-Trichlorophenol	< 10				10

* Indicate units if different from µg/L.

Table 10 for Outfall No.: Click to enter text. : Base/Neutral Compounds

Samples are (check one): ☐ Composites ☐ Grabs

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	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
3,3'-Dichlorobenzidine					5

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
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

* Indicate units if different from µg/L.

Table 11 for Outfall No.: Click to enter text. : Pesticides

Samples are (check one): ☐ Composites ☐ Grabs

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	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
Endosulfan sulfate					0.1

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
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.

Attachment: Click to enter text.

TABLE 12 (DIOXINS/FURAN COMPOUNDS)

Complete of Table 12 **is required** for **external outfalls**, as directed below. (Instructions, Pages 60-61)

a. 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 (check all that apply).

- ☐ 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
- ☒ None of the above

Description: Click to enter text.

b. Does the applicant or anyone at the facility 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 the effluent proposed for discharge?

☐ Yes ☒ No

Description: Click to enter text.

If **yes** to either Items a **or** b, complete Table 12 as instructed.

Table 12 for Outfall No.: Click to enter text.

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	1.0					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	0.03					50
2,3,4,7,8-PeCDF	0.3					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 **is required** for all **external outfalls** as directed below. (Instructions, Page 61)

a. Are there any pollutants listed in the instructions (pages 55-62) believed present in the discharge?

☐ Yes ☒ No

b. Are there pollutants listed in Item 1.c. of Technical Report 1.0 which are believed present in the discharge and have not been analytically quantified elsewhere in this application?

☐ Yes ☒ No

If **yes** to either Items a **or** b, complete Table 13 as instructed.

Table 13 for Outfall No.: Click to enter text.

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

Pollutant	CASRN	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	Analytical Method

WORKSHEET 4.0
RECEIVING WATERS

This worksheet **is required** for all TPDES permit applications.

1. DOMESTIC DRINKING WATER SUPPLY (Instructions, Page 81)

a. There is 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 **no**, stop here and proceed to Item 2. If **yes**, provide the following information:

i. The legal name of the owner of the drinking water supply intake: Click to enter text.

v. The distance and direction from the outfall to the drinking water supply intake: Click to enter text.

b. Locate and identify the intake on the USGS 7.5-minute topographic map provided for Administrative Report 1.0.

☐ Check this box to confirm the above requested information is provided.

2. DISCHARGE INTO TIDALLY INFLUENCED WATERS (Instructions, Page 81)

If the discharge is to tidally influenced waters, complete this section. Otherwise, proceed to Item 3.

a. Width of the receiving water at the outfall: 1,600 feet

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

☐ Yes ☒ No

If **yes**, provide the distance and direction from the outfall(s) to the oyster reefs: Click to enter text.

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

☐ Yes ☒ No

If **yes**, provide the distance and direction from the outfall(s) to the grasses: Click to enter text.

3. CLASSIFIED SEGMENT (Instructions, Page 81)

The discharge is/will be 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 of this worksheet or Worksheet 4.1.

If **no**, complete Items 4 and 5 and Worksheet 4.1 may be required.

ATTACHMENT A

PAYMENT VOUCHER

Your transaction is complete. Thank you for using TCEQ ePay.

Note: It may take up to 3 working days for this electronic payment to be processed and be reflected in the TCEQ ePay system. Print this receipt and the vouchers for your records. An email receipt has also been sent.

Transaction Information

Trace Number:	582EA000594130
Date:	02/14/2024 01:08 PM
Payment Method:	CC - Authorization 0000017220
ePay Actor:	BRIAN SMITH
Actor Email:	bsmith@calpine.com
IP:	12.76.37.46
TCEQ Amount:	$2,015.00
Texas.gov Price:	$2,060.59*

* This service is provided by Texas.gov, the official website of Texas. The price of this service includes funds that support the ongoing operations and enhancements of Texas.gov, which is provided by a third party in partnership with the State.

Payment Contact Information

Name:	STEVE GIBSON
Company:	CALPINE CORPORATION
Address:	P O BOX 1048, DEER PARK, TX 77536 1048
Phone:	281-604-6312

Cart Items

Click on the voucher number to see the voucher details.

Voucher	Fee Description	AR Number	Amount
688603	WW PERMIT - MAJOR INDUSTRIAL FACILITY - RENEWAL		$2,000.00
688604	30 TAC 305.53B WQ RENEWAL NOTIFICATION FEE		$15.00
		TCEQ Amount:	$2,015.00

ePay Again | Exit ePay

Note: It may take up to 3 working days for this electronic payment to be processed and be reflected in the TCEQ ePay system. Print this receipt for your records.

ATTACHMENT B

CORE DATA FORM

TCEQ Use Only

TCEQ Core Data Form

For detailed instructions on completing 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 602680076		RN 100222033

SECTION II: Customer Information

4. General Customer Information	5. Effective Date for Customer Information Updates (mm/dd/yyyy)	1/11/2024

☐ 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:*
Calpine Operating Services Company, Inc.	

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*
800146045	17108874284	770212977	

11. Type of Customer:	☒ Corporation	☐ Individual	Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other		☐ Sole Proprietorship	☐ Other:

12. Number of Employees	13. Independently Owned and Operated?
☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☒ 501 and higher	☒ 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 ☐ VCP/BSA Applicant ☐ Other:

15. Mailing Address:	717 Texas Avenue							
	Suite 1000							
	City	Houston	State	TX	ZIP	77002	ZIP + 4	

16. Country Mailing Information *(if outside USA)*	17. E-Mail Address *(if applicable)*
	Richard.Davis@calpine.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*

(281) 604-6341		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

☐ 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 Core 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.)*

Deer Park Energy Center

23. Street Address of the Regulated Entity: *(No PO Boxes)*	5665 Highway 225							
	City	Deer Park	State	TX	ZIP	77536	ZIP + 4	
24. County	Harris							

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:					
26. Nearest City			State		Nearest ZIP Code
			TX		

Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).

27. Latitude (N) In Decimal:	29.712917		28. Longitude (W) In Decimal:	-95.134599	
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		221112	

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

Power Generation

34. Mailing Address:	PO Box 1048							
	City	Deer Park	State	TX	ZIP	77536	ZIP + 4	1048
35. E-Mail Address:	Richard.Davis@calpine.com							

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*
(281) 604-6341		( ) -

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
				87319
☐ Municipal Solid Waste	☒ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
	PSDTX979, 45642			
☐ Sludge	☐ Storm Water	☒ Title V Air	☐ Tires	☐ Used Oil
		2394		
☐ Voluntary Cleanup	☒ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:
	WQ0004344000			

SECTION IV: Preparer Information

40. Name:	Nancy Koch	41. Title:	Project Manager

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(512) 651-7104		( ) -	nancy.koch@westonsolutions.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:	Calpine Operating Services Company, Inc.	Job Title:	Plant Manager
Name *(In Print)*:	Richard Davis	Phone:	(281) 604- **6341**
Signature:		Date:	2-15-2024

TCEQ Use Only

TCEQ Core Data Form

For detailed instructions on completing 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 603598624		RN 100222033

SECTION II: Customer Information

4. General Customer Information	5. Effective Date for Customer Information Updates (mm/dd/yyyy)	1/11/2024

☐ 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:*
Deer Park Energy Center, 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)*
800451762	13522410987	352241098	

11. Type of Customer:	☐ Corporation	☐ Individual	Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other		☐ Sole Proprietorship	☒ Other: Limited Liability Company

12. Number of Employees	13. Independently Owned and Operated?
☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher	☒ 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 ☐ VCP/BSA Applicant ☐ Other:

15. Mailing Address:	717 Texas Avenue						
	Suite 1000						
	City	Houston	State	TX	ZIP	77002	ZIP + 4

16. Country Mailing Information *(if outside USA)*	17. E-Mail Address *(if applicable)*
	Richard.Davis@calpine.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*

(281) 604-6431		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

☐ 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 Core 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.)*

Deer Park Energy Center

23. Street Address of the Regulated Entity: *(No PO Boxes)*	5665 Highway 225							
	City	Deer Park	State	TX	ZIP	77536	ZIP + 4	
24. County	Harris							

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:					
26. Nearest City			State		Nearest ZIP Code

Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).

27. Latitude (N) In Decimal:	29.712917		28. Longitude (W) In Decimal:	-95.134588	
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		221112	

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

Power Generation

34. Mailing Address:	PO Box 1048							
	City	**Deer Park**	State	TX	ZIP	77536	ZIP + 4	
35. E-Mail Address:	Richard.Davis@calpine.com							

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*
(281) 604-6341		( ) -

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
				87319
☐ Municipal Solid Waste	☒ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
	PSDTX979, 45642			
☐ Sludge	☐ Storm Water	☒ Title V Air	☐ Tires	☐ Used Oil
		2394		
☐ Voluntary Cleanup	☒ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:
	WQ0004344000			

SECTION IV: Preparer Information

40. Name:	Nancy Koch	41. Title:	Project Manager

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(512) 651-7104		( ) -	nancy.koch@westonsolutions.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:	Deer Park Energy, LLC	Job Title:	Plant Manager
Name *(In Print)*:	Richard Davis	Phone:	(281) 604- **6341**
Signature:		Date:	2-15-2024

ATTACHMENT C

LEASE AGREEMENT

U953636

Memo 21 K

FINAL

MEMORANDUM OF LEASE

03/28/01 300521651 U953636 $21.00

THE STATE OF TEXAS §
§
COUNTY OF HARRIS §

This Memorandum of Lease ("Memorandum") is entered into effective as of the 8th day of March, 2001, by and between SHELL CHEMICAL LP, a Delaware limited partnership ("Shell") and DEER PARK ENERGY CENTER, L.P., a Delaware limited partnership ("DPEC").

Capitalized terms used but not defined herein shall have the meanings assigned to them in the Ground Lease and Easement Agreement by and between Shell and DPEC of even date herewith (the "Ground Lease").

1. Shell and DPEC have entered into the Ground Lease pursuant to which Shell has leased unto DPEC, and DPEC has leased from Shell, for a term commencing on Effective Date of the Ground Lease and terminating on the first September 30th after the twentieth (20th) anniversary of the earlier of the Full Commercial Operation Date and June 1, 2009, with nine (9) options to renew for additional periods of five (5) years each, as set forth therein (the "Term"), those certain tracts of land located in Harris County, Texas comprising the Project Site, referred to as the Base Facility Site, the Expansion Facility Site, the Cooling Tower Site and the Water Treatment Plant Site, as more particularly described on Exhibits A-1, A-2, A-3 and A-4 attached hereto, respectively, in accordance with the terms and conditions thereof.

2. The Ground Lease contains other terms and provisions not herein set forth but incorporated by reference for all purposes.

3. This Memorandum in no way modifies or amends the terms and provisions of the Ground Lease, is executed solely for the purpose of providing record notice of the Ground Lease, and is to be recorded in the Official Public Records of Real Property of Harris County, Texas. This Memorandum may be executed in separate counterparts, all of which shall together constitute one and the same instrument.

FILED
2001 MAR 28 PM 3:18

Houston\1262415.2

IN WITNESS WHEREOF, Shell and DPEC have each caused this Memorandum to be duly executed as of the day and year first above written.

SHELL CHEMICAL LP, a Delaware limited Partnership acting by and through its sole general partner, Shell Oil Company, a Delaware corporation, acting by and through its duly authorized agent, Shell Chemical LP, a Delaware limited partnership

By: _____
J.L. Golden, President and Chief Executive Officer of Shell Chemical LP

DEER PARK ENERGY CENTER, L.P., a Delaware limited partnership acting by and through its sole general partner, Calpine Deer Park GP, LLC, a Delaware limited liability company

By: _____
Name: Darrell W. Hayslip
Title: Vice President

AFTER RECORDING RETURN TO:
Bracewell & Patterson, L.L.P.
711 Lousiana, Ste. 2900
Houston, Texas 77002
Attn: Scott Holmes

Hold for pick up

531 58-1312

THE STATE OF TEXAS §
§
COUNTY OF Harris §

This instrument was acknowledged before me on Mar. 21, 2001, by J. L. Golden, President and Chief Executive Officer of Shell Chemical LP, acting in Shell Chemical LP's capacity as duly authorized agent for Shell Oil Company, the sole general partner of SHELL CHEMICAL LP, a Delaware limited partnership, on behalf of said limited partnership.

Given under my hand and seal of office this 21st day of March, 2001.

Deborah A. Krause
Notary Public in and for
The State of TX

Name: Deborah A Krause
My commission expires: 10-28-02

58-133

53

THE STATE OF TEXAS §
§
COUNTY OF HARRIS §

This instrument was acknowledged before me on March 8, 2001, by Darrell W. Hayslip, Vice President of Calpine Deer Park GP, LLC, a Delaware limited liability company, and the sole general partner of DEER PARK ENERGY CENTER, L.P., a Delaware limited partnership, on behalf of said limited partnership.

Given under my hand and seal of office this 8th day of March, 2001.

Hortensia Ponce
Notary Public in and for
The State of Texas

Name: HORTENSIA PONCE
My commission expires:

HORTENSIA PONCE
Notary Public, State of Texas
My Commission Expires
JANUARY 20, 2003.

EXHIBIT A-1
BASE FACILITY SITE

METES AND BOUNDS DESCRIPTION
14.5863 ACRES OF LAND OUT OF THE
DEER PARK MANUFACTURING COMPLEX
THOMAS EARLE SURVEY, A-18
GEORGE M. PATRICK SURVEY, A-624
W. H. RAGLIN SURVEY, A-677
JAMES B. WOODS SURVEY, A-837
HARRIS COUNTY, TEXAS

All that certain 14.5863 acres of land being comprised of a portion of that certain 20.0045 acre tract described as Tract 13-S, Parking and a portion of that certain 107.9878 acres of land described as Tract 45-R, Retained 11, both recorded in a deed dated March 31, 1993 from Shell Oil Company to Deer Park Refining Limited Partnership filed at Clerk File No. P159136, Film Code No. 124-52-0708, of the Official Public Records of Real Property of Harris County, Texas and being more particularly described by metes and bounds as follows:

Commencing at a steel fence corner post recognized to be located in the north right-of-way line of State Highway 225 (as widened) at its intersection with the west right-of-way line of Tidal Road (80' wide) (relocated) and also being the most southerly southeast corner of said complex, said post being a point on a curve to the left having a central angle of 13° 28' 45" and a radius of 5,729.58', the center of said curve being located on a radial line bearing S 15 ° 12' 32" W from said point; Thence with said north right-of-way line of Highway 225 and said curve to the left for an arc distance of 1,347.92', to a found 5/8" iron rod with cap for the end of curve; Thence N 88 ° 16' 13" W - 3,759.08', continuing with said north right-of-way line of Highway 225 to a found 5/8" iron rod with cap for a point on a curve to the left having a central angle of 07° 00' 00" and a radius of 5,855.00', the center of said curve being located on a radial line bearing S 01° 43' 47" W from said point; Thence continuing with said north right-of-way line of Highway 225 for an arc distance of 715.32', to a found 5/8" iron rod with cap for an angle corner; Thence S 84 ° 43' 47" W - 157.51' continuing with said north right-of-way line of Highway 225, to a set 5/8" iron rod with cap marking the POINT OF BEGINNING of the herein described tract;

THENCE S 84° 43' 47" W - 304.95', continuing with said north right-of-way line of Highway 225, to a found 5/8" iron rod with cap for an angle corner;

THENCE N 88° 15' 02" W - 908.61', continuing with said north right-of-way line of Highway 225, to a set P-K nail for corner;

THENCE N 00° 38' 32" E - 719.48', to a set 5/8" iron rod with cap for corner;

THENCE N 89° 59' 33" E - 792.08', to a set P-K nail for corner;

THENCE S 00° 01' 56" W - 609.72', to a set 5/8" iron rod with cap for corner;

THENCE N 89° 43' 54" E - 128.62', to a found chain link fence post for an angle corner;

THENCE N 88° 43' 34" E - 276.43', to a found chain link fence post for corner;

THENCE S 03° 34' 10" E - 116.52' to the POINT OF BEGINNING of the herein described tract and containing 14.5863 acres (635,380 square feet) of land, more or less.

Compiled from survey by:
PREJEAN & COMPANY, INC.
surveying/mapping
Job No 209-24
209-24bfs.mb
November 10, 2000
Revised November 28, 2000
Revised December 26, 2000
Revised January 11, 2001

EXHIBIT A-2
EXPANSION FACILITY SITE

METES AND BOUNDS DESCRIPTION
2.7010 ACRES OF LAND OUT OF THE
DEER PARK MANUFACTURING COMPLEX
THOMAS EARLE SURVEY, A-18
GEORGE M. PATRICK SURVEY, A-624
W. H. RAGLIN SURVEY, A-677
JAMES R. WOODS SURVEY, A-837
HARRIS COUNTY, TEXAS

All that certain 2.7010 acres of land being comprised of a portion of that certain 20.0045 acre tract described as Tract 13-S, Parking and a portion of that certain 120.0770 acres of land described as Tract 23-V, Southwest Tank Farm, both recorded in a deed dated March 31, 1993 from Shell Oil Company to Deer Park Refining Limited Partnership filed at Clerk File No. P159136, Film Code No. 124-52-0708, of the Official Public Records of Real Property of Harris County, Texas and being more particularly described by metes and bounds as follows:

Commencing at a steel fence corner post recognized to be located in the north right-of-way line of State Highway 225 (as widened) at its intersection with the west right-of-way line of Tidal Road (80' wide) (relocated) and also being the most southerly southeast corner of said complex, said post being a point on a curve to the left having a central angle of 13 ° 28' 45" and a radius of 5,729.58', the center of said curve being located on a radial line bearing S 15° 12' 32" W from said point; Thence with said north right-of-way line of Highway 225 and said curve to the left for an arc distance of 1,347.92', to a found 5/8" iron rod with cap for the end of curve; Thence N 88° 16' 13" W - 3,759.08', continuing with said north right-of-way line of Highway 225 to a found 5/8" iron rod with cap for a point on a curve to the left having a central angle of 07 ° 00' 00" and a radius of 5,855.00', the center of said curve being located on a radial line bearing S 01 ° 43' 47" W from said point; Thence continuing with said north right-of-way line of Highway 225 for an arc distance of 715.32', to a found 5/8" iron rod with cap for an angle corner; Thence S 84 ° 43' 47" W - 462.46' continuing with said north right-of-way line of Highway 225, to a found 5/8" iron rod with cap for angle corner; Thence N 88 ° 15' 02" W -908.81', to a set P-K nail marking the POINT OF BEGINNING of the herein described tract;

THENCE N 88° 15' 02" W -160.33', continuing with said north right-of-way line of Highway 225, to a set 5/8" iron rod with cap for corner;

THENCE N 00° 01' 58" E - 714.52', to a set 5/8" iron rod with cap for corner;

THENCE N 89° 59' 33" E - 167.92', to a set 5/8" iron rod with cap for corner;

THENCE S 00° 38' 32" W - 719.48', to the POINT OF BEGINNING of the herein described tract and containing 2.7010 acres (117,657 square feet) of land, more or less.

Compiled from survey by:
PREJEAN &. COMPANY, INC.
surveying/mapping
Job No 209-24
209-24efs.mb
November 10, 2000
Revised November 28, 2000
Revised December 26, 2000
Revised January 11, 2001

EXHIBIT A-3
COOLING TOWER SITE

METES AND BOUNDS DESCRIPTION
2.2889 ACRES OF LAND OUT OF THE
DEER PARK MANUFACTURING COMPLEX
THOMAS EARLE SURVEY, A-18
GEORGE M. PATRICK SURVEY, A-624
W. H. RAGLIN SURVEY, A-677
JAMES B. WOODS SURVEY, A-837
HARRIS COUNTY, TEXAS

All that certain 2.2889 acres of land being comprised of a portion of that certain 20.0045 acre tract described as Tract 13-S, Parking and a portion of that certain 107.9878 acres of land described as Tract 45-R, Retained 11, both recorded in a deed dated March 31, 1993 from Shell Oil Company to Deer Park Refining Limited Partnership filed at Clerk File No. P159136, Film Code No. 124-52-0708, of the Official Public Records of Real Property of Harris County, Texas and being more particularly described by metes and bounds as follows:

Commencing at a steel fence corner post recognized to be located in the north right-of-way line of State Highway 225 (as widened) at its intersection with the west right-of-way line of Tidal Road (80' wide) (relocated) and also being the most southerly southeast corner of said complex, said post being a point on a curve to the left having a central angle of 13° 28' 45" and a radius of 5,729.58', the center of said curve being located on a radial line bearing S 15° 12' 32" W from said point; Thence with said north right-of-way line of Highway 225 and said curve to the left for an arc distance of 1,347.92', to a found 5/8" iron rod with cap for the end of curve; Thence N 88 ° 16' 13" W -3,759.08', continuing with said north right-of-way line of Highway 225 to a found 5/8" iron rod with cap for a point on a curve to the left having a central angle of 07 ° 00' 00" and a radius of 5,855.00', the center of said curve being located on a radial line bearing S 01 ° 43' 47" W from said point; Thence continuing with said north right-of-way line of Highway 225 for an arc distance of 715.32', to a found 5/8" iron rod with cap for an angle corner; Thence S 84 ° 43' 47" W - 462.46' continuing with said north right-of-way line of Highway 225, to a found 5/8" iron rod with cap for angle corner; Thence N 88° 15' 02" W - 908.81', to a set P-K nail for corner; Thence N 00 ° 38' 32" E - 808.43', to a set P-K nail marking the POINT OF BEGINNING of the herein described tract;

THENCE N 00° 38' 32" E - 533.12', to a set 5/8" iron rod with cap for corner;

THENCE S 89° 21' 28" E - 178.35', to a set 5/8" iron rod with cap for corner;

THENCE S 00° 01' 05" W - 492.66', to a set 5/8" iron rod with cap for corner;

THENCE S 89° 57' 11" E - 15.00', to a set 5/8" iron rod with cap for corner;

THENCE S 00° 01' 05" W -125.33', to a set 5/8" iron rod with cap for corner;

THENCE S 89° 59' 33" W - 30.64', to a set 5/8" iron rod with cap for corner;

THENCE N 00° 08' 42" W - 86.78', to a set 5/8" iron rod with cap for corner;

THENCE N 89° 57' 11" W - 168.26', to the POINT OF BEGINNING of the herein described tract and containing 2.2889 acres (99,702 square feet) of land, more or less.

Compiled from survey by:
PREJEAN & COMPANY, INC.
surveying/mapping
Job No 209-24
209-24cts. mb
November 10, 2000
Revised November 28, 2000
Revised January 11, 2001

EXHIBIT A-4
WATER TREATMENT PLANT SITE

METES AND BOUNDS DESCRIPTION
3.1375 ACRES OF LAND OUT OF THE
DEER PARK MANUFACTURING COMPLEX
THOMAS EARLE SURVEY, A-18
GEORGE M. PATRICK SURVEY, A-624
W. H. RAGLIN SURVEY, A-677
JAMES B. WOODS SURVEY, A-837
HARRIS COUNTY, TEXAS

All that certain 3.1375 acres of land out of that certain called 230.50438 acres of land described in the deed dated November 27, 1978 from Ind-Ag Chemicals, Inc. to Shell Oil Company recorded at Clerk File No. F900743, Film Code No. 115-92-0193, of the Official Public Records of Real Property of Harris County, Texas and being more particularly described by metes and bounds as follows:

Commencing at a found 5/8" iron rod marking the southwest corner of said 230.50438 acre tract located at the intersection of the east right-of-way line of Beltway 8 (Sam Houston Parkway) (Width Varies) with the north right-of-way line of State Highway 225 (Width Varies); Thence N 12 ° 47' 25" E - 188.49', with said west line of the 230.50438 acre tract to a point for corner; Thence S 88 ° 15' 14" E - 371.31', with a line 185' north of and parallel with said north right-of-way line of State Highway 225 to a point for angle corner, Thence S 84° 08' 59" E - 132.89', continuing with a line 185' north of and parallel to said north right-of-way line of State Highway 225, to a set 5/8" iron rod with cap marking the POINT OF BEGINNING of the herein described tract;

THENCE N 00° 56' 10" W - 300.00', to a set 5/8" iron rod with cap for corner;

THENCE N 89° 03' 50" E - 430.00', to a set 5/8" iron rod with cap for corner;

THENCE S 00° 56' 10" E - 333.82', with a line 150' west of and parallel to the west right-of-way line of the 24' roadway easement reserved in the deed dated November 21, 1973 from Tenneco Chemicals, Inc. to Shell Oil Company recorded at Clerk File No. E031134, Film Code No. 171-24-0400, of the Official Public Records of Real Property of Harris County, Texas, to a set 5/8" iron rod with cap marking a point on a curve to the left having a central angle of 01 ° 42' 00" and a radius of 11,794.20', the center of said curve being located on a radial line bearing S 03° 52' 43" W from said point;

THENCE with a line 185' north of and parallel to the aforementioned north right-of-way line of State Highway 225 and said curve to the left for an arc distance of 349.94' to a set 5/8" iron rod with cap for the end of curve;

THENCE N 84° 08' 59" W - 81.49', continuing with a line 185' north of and parallel to said north right-of-way line of State Highway 225 to the POINT OF BEGINNING of the herein described tract and containing 3.1375 acres (136,671 square feet) of land, more or less.

Compiled from survey by:
PREJEAN & COMPANY, INC.
surveying/mapping
Job No 209-23
209-23wtps. mb
November 6, 2000
Revised December 26, 2000

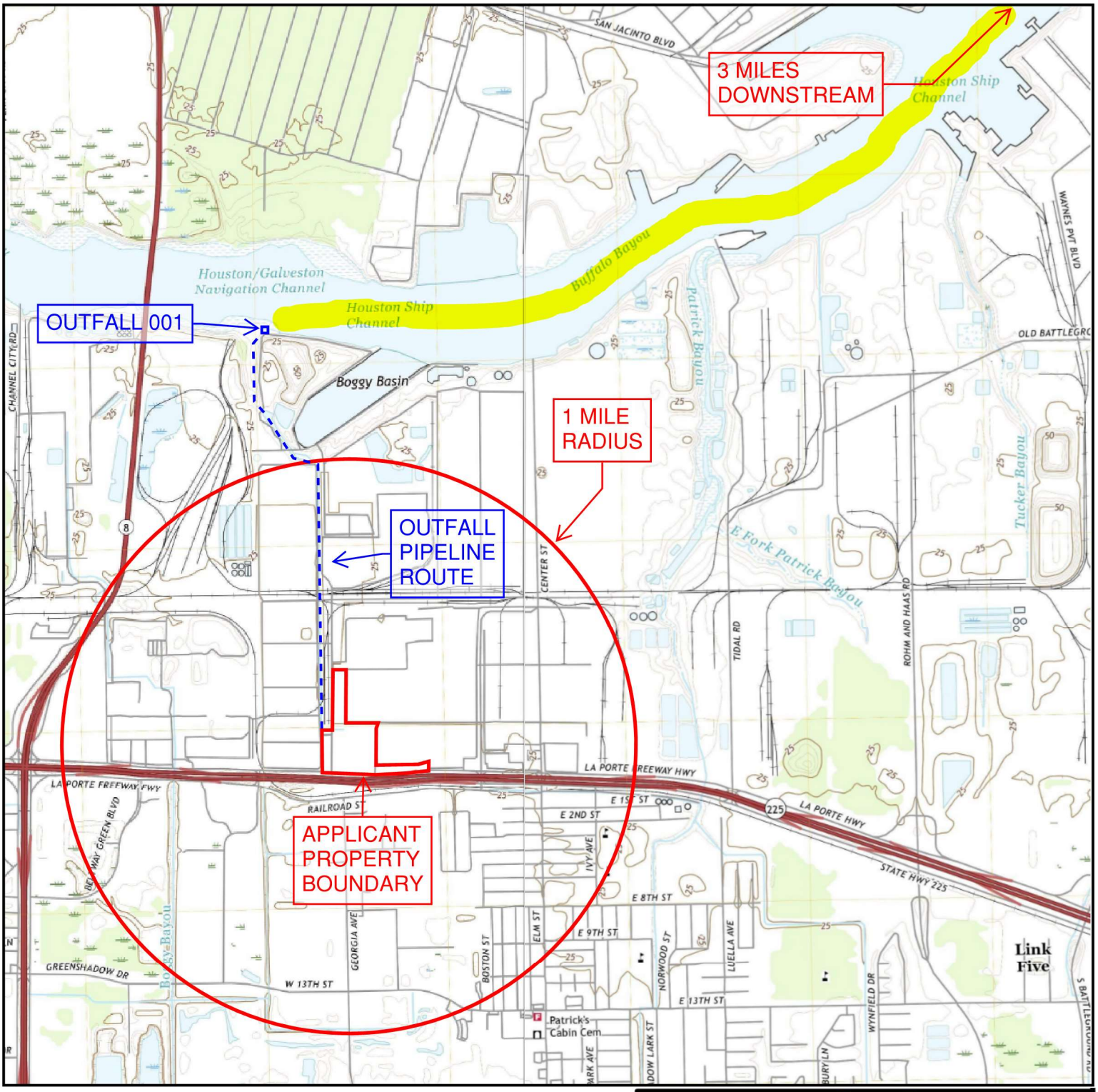
ANY PROVISION HEREIN WHICH RESTRICTS THE SALE, RENTAL, OR USE OF THE DESCRIBED REAL PROPERTY BECAUSE OF COLOR OR RACE IS INVALID AND UNENFORCEABLE UNDER FEDERAL LAW.
THE STATE OF TEXAS
COUNTY OF HARRIS
I hereby certify that this instrument was FILED in File Number Sequence on the date and at the time stamped hereon by me; and was duly RECORDED, in the Official Public Records of Real Property of Harris County, Texas on

MAR 28 2001

COUNTY CLERK
HARRIS COUNTY, TEXAS

ATTACHMENT D

USGS QUAD MAP



ROAD CLASSIFICATION

Expressway	Local Connector
Secondary Hwy	Local Road
Ramp	4WD
Interstate Route	US Route
State Route	

N

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
FEET

CONTOUR INTERVAL 5 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

WESTON SOLUTIONS

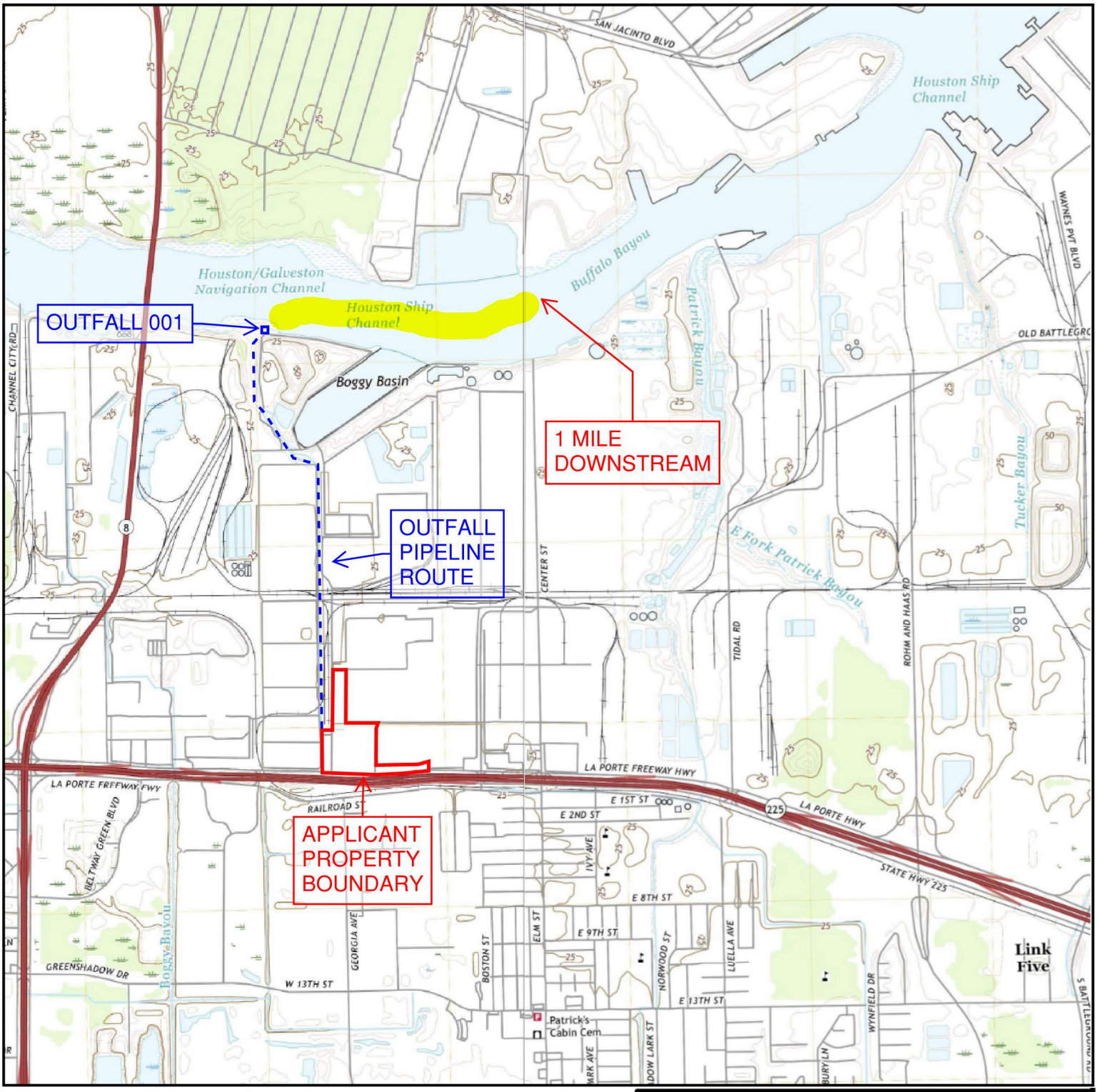
ATTACHMENT D
USGS QUAD MAP
DEER PARK ENERGY CENTER
5665 HWY 225
DEER PARK, TX 77536

DATE	PROJECT NO.	SCALE
JAN 2024		AS SHOWN

SOURCE: USGS 7.5 MINUTE SERIES 1:24000 TOPOGRAPHIC MAPS: PASADENA, TX 2022; LA PORTE, TX 2022

ATTACHMENT E

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF) FIGURE 1



ROAD CLASSIFICATION

Expressway	Local Connector
Secondary Hwy	Local Road
Ramp	4WD

Interstate Route | US Route | State Route

N

1 0.5 0 KILOMETERS 1 2

1000 500 0 METERS 1000 2000

1 0.5 0 1

MILES

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

FEET

CONTOUR INTERVAL 5 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

WESTON SOLUTIONS

ATTACHMENT E
SPIF FIGURE 1
DEER PARK ENERGY CENTER
5665 HWY 225
DEER PARK, TX 77536

DATE	PROJECT NO.	SCALE
JAN 2024		AS SHOWN

SOURCE: USGS 7.5 MINUTE SERIES 1:24000 TOPOGRAPHIC MAPS: PASADENA, TX 2022; LA PORTE, TX 2022

ATTACHMENT F

SITE DRAWINGS

EAST AND WEST STORMWATER SUMPS DISCHARGE TO BIG DITCH

UNIT 6 | STEAM TURBINE | UNIT 4 | UNIT 3 | UNIT 2 | UNIT 1

CHEMICAL BLDG.

AMMONIA TANK

HOT DRAIN SUMP

SWITCH YARD

DECHLORINATION AND OUTFALL 001 SAMPLING POINT

GAS YARD

DEMIN TANK

PROCESS CONDENSATE TANK

WATER TREATMENT AREA

MCC

WTU/CR

CONTROL ROOM

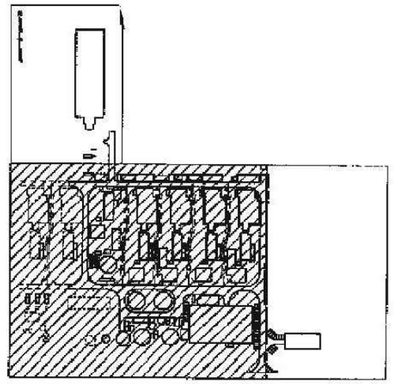
MAINT. SHOP

SPILL KITS

CLARIFIER

CLARIFIER

TX-225



KEY PLAN

N

LEGEND

- STORM DRAIN
- DRAINAGE FLOW DIRECTION
- OIL-FILLED OPERATIONAL EQUIPMENT
- BULK STORAGE CONTAINERS
- OIL/WATER SEPARATORS

0 50 100

SCALE IN FEET

SOURCE: ORIGINAL BASEMAP PROVIDED BY DEER PARK ENERGY CENTER.

WESTON SOLUTIONS

ATTACHMENT F

SITE PLAN
SHEET 1 of 3

DEER PARK ENERGY CENTER, LP
DEER PARK, TX

DATE	PROJECT NO.	SCALE
OCT 2017	14847.003.001	AS SHOWN

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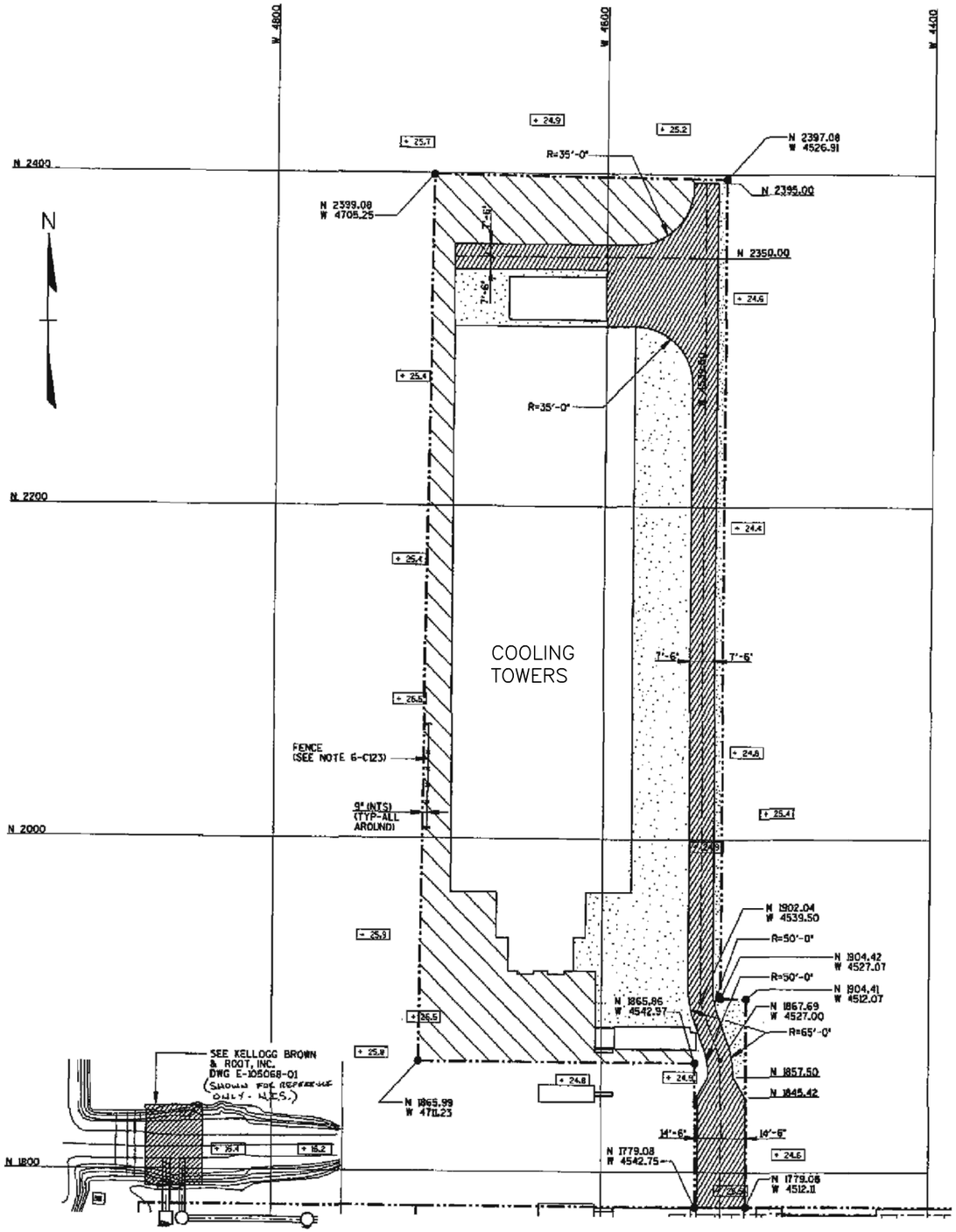
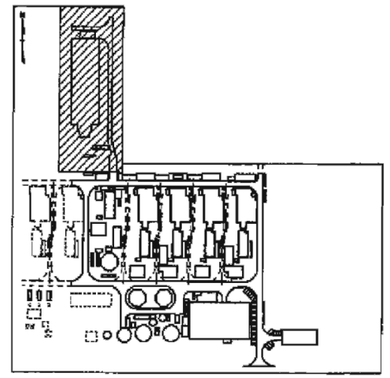




KEY PLAN

GRAPHIC SCALE

80 0 40 80 160

(SCALE IN FEET)

1" = 80'

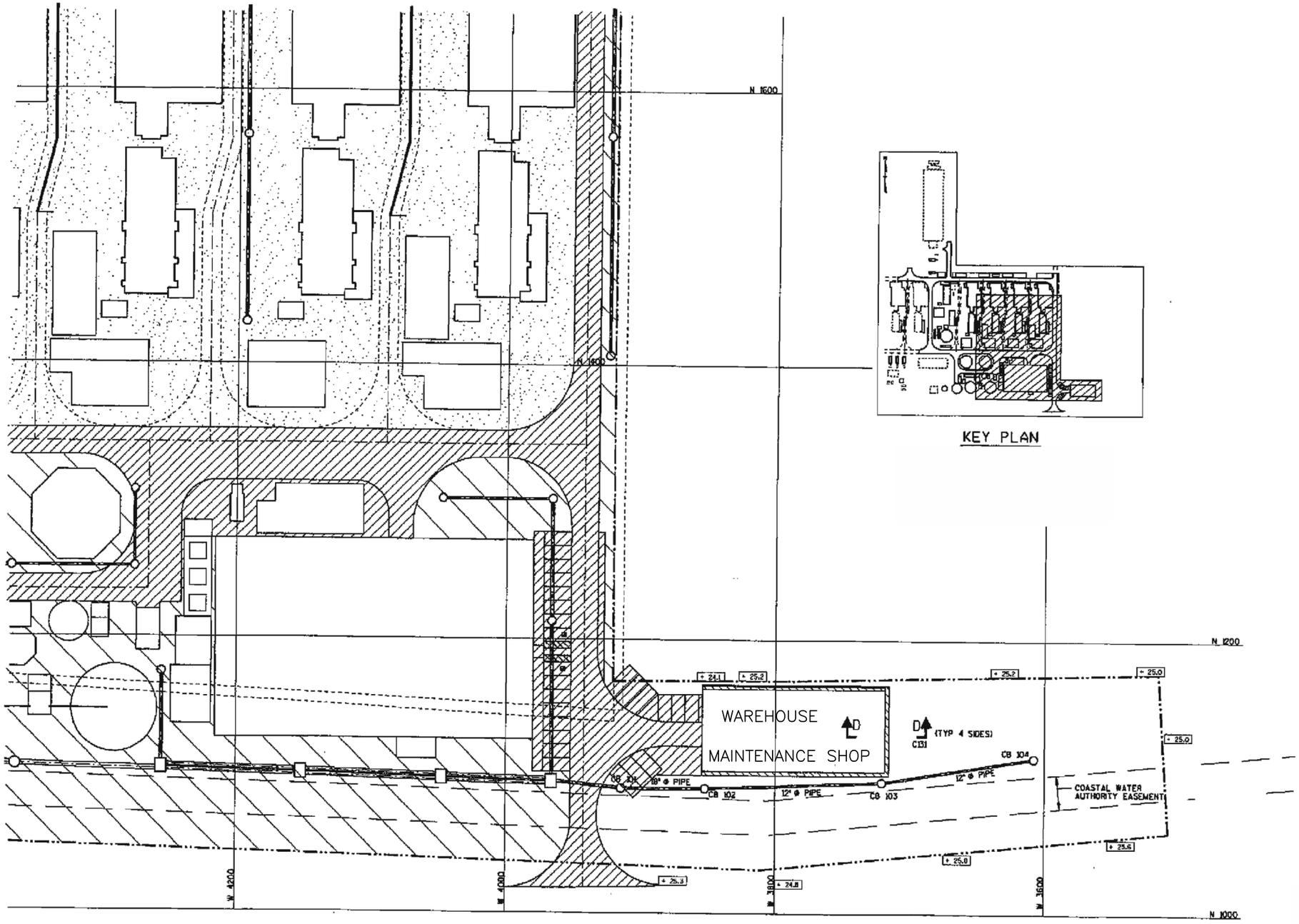
SOURCE: ORIGINAL DRAWING PROVIDED BY DEER PARK ENERGY CENTER LP & RMT.

ATTACHMENT F

SITE PLAN
SHEET 2 of 3

DEER PARK ENERGY CENTER, LP
DEER PARK, TX

DATE	PROJECT NO.	SCALE
OCT 2017	14847.003.001	AS SHOWN



KEY PLAN

GRAPHIC SCALE

80 0 40 80 160

(SCALE IN FEET)

1" = 80'

SOURCE: ORIGINAL DRAWING PROVIDED BY DEER PARK ENERGY CENTER LP & RMT.

WESTON SOLUTIONS

ATTACHMENT F

SITE PLAN
SHEET 3 of 3

DEER PARK ENERGY CENTER, LP
DEER PARK, TX

DATE	PROJECT NO.	SCALE
OCT 2017	14847.003.001	AS SHOWN

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ATTACHMENT G

FLOW DIAGRAM

WATER BALANCE DIAGRAM
DEER PARK ENERGY CENTER

FLOWS ARE IN MILLION GPD
CASE 1/CASE 2
CASE 1 – AVERAGE
CASE 2 – MAXIMUM

A. DEMIN REGEN
B. REGEN NEUTRALIZATION

CWA WATER
13.7/16.57
BACKWASH
CLARIFIERS
MULTI MEDIA FILTERS
DENIM. SYSTEM
7/8.7
A 0.64/0.802
REJECT 0.64/0.83
DEWATERING SYSTEM
SOLIDS FOR OFF-SITE DISPOSAL
NEUTRALIZATION TANKS
B 0.017/0.017
0.7/0.89
TRUCKED OFF-SITE DISPOSAL
COOLING TOWER MAKE-UP
TO ATMOSPHERE
DEWATERING SYSTEM
TO ATMOSPHERE
CT INLET AIR FOGGING
INT.
0.43/0.43
DENIM. WATER STORAGE TANKS
4.8/6.48
11.71/15.16
INT.
0.039/0.043
REGEN WASTE
OFF-LINE CT COMPRESSOR WASH
TO ATMOSPHERE
5.70/6.00
6.25/7.3
COOLING TOWER
BLOWDOWN
CONDENSER
DRAIN
CYCLE MAKEUP TANK
CONDENSATE POLISHERS (MIXED BED)
CONDENSATE RETURN TANKS
HEAT EXCHANGER
5.70/6.72
LIQUID
3.01/4.03
COLD CONDENSATE FROM SHELL
FLASH TANKS
800 psi HOT CONDENSATE FROM SHELL
3.17/3.17
STEAM
0.48/0.48
STEAM
HRSG'S/ STEAM TURBINE
9.50/12.67
PROCESS STEAM TO SHELL
2.06/2.06
CTG POWER AUGMENTATION
TO ATMOSPHERE
0.01/0.01
VENT LOSSES
TO ATMOSPHERE
BLOWDOWN TANKS
0.01/0.01
FLASH EVAP.
TO ATMOSPHERE
0.19/0.48
HOT DRAIN SUMPS
0.23/0.52
1.48/2.69
PLANT OUTFALL
0.78/1.8
0.7/0.89
INT.
BOILER FEED WATER
PUMP HOT DRAINS
KETTLE BOILER AREAS
HRSG DRAINS
CEMS DRAINS
0.04/0.04
0.03/0.03
POTABLE WATER FROM SHELL
0.01/0.01
POTABLE WATER SYSTEM
0.01/0.01
SANITARY SEWER TO SHELL
SERVICE WATER SYSTEM
0.03/0.03
WASHDOWN
0.03/0.03
CONTACT STORMWATER
INT.
OIL/WATER SEPARATORS
OFF-SITE DISPOSAL
0.01/0.01
STEAM SAMPLING
0.01/0.01

SOURCE: ORIGINAL DRAWING PROVIDED BY DEER PARK ENERGY CENTER LP & RMT.

WESTON SOLUTIONS

ATTACHMENT G

FLOW DIAGRAM

DEER PARK ENERGY CENTER, LP
DEER PARK, TX

DATE	PROJECT NO.	SCALE
JAN 2024	14847.003.0001	NONE

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ATTACHMENT H

COOLING WATER AND BOILER CHEMICALS

Attachment H
Summary of Cooling Tower Chemical Additives

Mfg.	Manufacturer's Product Identification/ Number	Product Use	Chemical Composition	Corresponding CAS Number	Toxicity			Toxicity for whole product? (3)	Persistent, Non-persistent, or bioaccumulative	Product or active ingred. half life			Concentration of product in blowdown (1)	Frequency of product use
					Species and Test	LC50 and NOEL	Concentration			time	pH	Temp	mg/L	
ChemTreat	CL1429	Cooling Water Treatment, Dispersant	Potassium Phosphate, dibasic, 3-7%	7758-11-4	Fathead minnow - 96 hr	LC50	2106 mg/L	Yes	Persistence and bioaccumulative potential not determined	Unknown				Continuous
					Fathead minnow - 7 d	IC25	1077 mg/L	Yes						
			Tetrapotassium pyrophosphate, 10-30%	7320-34-5	Fathead minnow - 7 d	NOEC	1000 mg/L	Yes						
					Fathead minnow - 7 d	LOEC	2000 mg/L	Yes						
					Ceriodaphnia dubia - 48 hr	LC50	1105 mg/L	Yes						
					Ceriodaphnia dubia - 7 d	IC25	285 mg/L	Yes						
					Ceriodaphnia dubia - 7 d	NOEC	500 mg/L	Yes						
					Ceriodaphnia dubia - 7 d	LOEC	1000 mg/L	Yes						
					Mysid Shrimp - 24 hr	LC50	1704 mg/L	Yes						
					Mysid Shrimp - 48 hr	LC50	1704 mg/L	Yes						
					Inland Silverside - 24 hr	LC50	>2000 mg/L	Yes						
					Inland Silverside - 96 hr	LC50	>2000 mg/L	Yes						
ChemTreat	CL2030	Cooling Water Microbiocide and Algicide	N-N-Dioctyl-N,N-dimethylammonium chloride, 50%	5538-94-3	Daphnia magna - 48 hr	EC50	0.1 mg/L	No	Persistence and bioaccumulative potential not determined	Unknown				Annual
			Proprietary solvent, 5-15%	Proprietary										
ChemTreat	CL2150	Cooling Water Microbiocide and Paper Slimicide	5-chloro-2-methyl-4-isothiazolin-3-one, 1.11%	26172-55-4	Daphnia magna - 48 hr	LC50	10.7 mg/L	Unknown	Persistence and bioaccumulative potential not determined	Unknown				Annual
					Ceriodaphnia dubia - 48 hr	EC50	10.7 mg/L	Unknown						
			2-methyl-4-isothiazolin-3-one, 0.39%	2682-20-4	Sheepshead minnow - 96 hr	LC50	70.7 mg/L	Unknown						
					Mysid Shrimp - 48 hr	LC50	46.1 mg/L	Unknown						
					Daphnia pulex - 48 hr	LC50	17 mg/L	Unknown						
					Fathead minnow - 48 hr	LC50	8.7 mg/L	Unknown						
ChemTreat	Quadrasperse CL4895	Cooling Water Treatment, Dispersant	1-Hydroxyethylidene-1,1-diphosponic acid, tetrasodium salt, 1-5%	3794-83-0	Not Tested	--	--	Unknown	Unknown	Unknown				Continuous
			Potassium hydroxide, 0.5-1.5%	1310-58-3										
Univar	Sodium Hypochlorite	Bleach, Bacterial Control	Sodium hypochlorite, 10-16%	7681-52-9	Aquatic crustacea	LC50	1 mg/L	Yes	Not biodegradable, not bioaccumulative	Unknown				Continuous
			Sodium hydroxide, 0.3-5%	1310-73-2	Daphnia magna, 96 hr	LC50	2.1 mg/L	Yes						
			Water, 80-89.7%	7732-18-5	Green algae, 24 hr	EC50	0.6 mg/L	Yes						
Univar	Sulfuric Acid	pH Control	Sulfuric Acid, 70-100%	7664-93-9	Brachydanio rerio, 96 hr	LC50	500 mg/L	Yes	Is biodegradable, not expected to bioaccumulate	Unknown				Daily

(1) Based on average chemical usage and a discharge rate of XXX MGD.
(2) Assume density of water = 1 kg/L, then 1% by weight = 10,000 mg/L
(3) Toxicity data is for individual chemicals (listed to the left), ecological data is for the mixture.

SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat CL1429
Product Use:	Cooling Water Treatment
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424−9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648−4579
Date of SDS:	May 9, 2016
Revision Date:	May 9, 2016
Revision Number:	16050901AN

Section 2. Hazard(s) Identification

Signal Word: **WARNING**

GHS Classification(s):
Eye damage/irritation − Category 2b
Skin corrosion/irritation − Category 2
Acute Toxicity Inhalation − Category 4
Acute Toxicity Oral − Category 4

Hazard Statement(s):
H320 Causes eye irritation.
H315 Causes skin irritation.
H332 Harmful if inhaled.
H302 Harmful if swallowed.

Precautionary Statement(s): No significant health risks are expected from exposures under normal conditions of use.

Prevention: None.

Response: None.

Storage: None.

Disposal: None.

System of Classification Used: Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified: None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt.%
Potassium phosphate, dibasic	7758−11−4	3 − 7
Tetrapotassium pyrophosphate	7320−34−5	10 − 30

Comments If chemical identity and/or exact percentage of composition has been withheld, this information is considered to be a trade secret.

Section 4. First Aid Measures

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

Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

Skin: Wash with plenty of soap and water. Take off contaminated clothing and wash before re−use. If skin irritation occurs, seek medical advice/attention.

Ingestion: DO NOT INDUCE VOMITING. Rinse mouth. Call a POISON CENTER or doctor/physician.

Most Important Symptoms: N/D

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary: N/A

Section 5. Fire Fighting Measures

Flammability of the Product:	Not flammable.
Suitable Extinguishing Media:	Use extinguishing media suitable to surrounding fire.
Specific Hazards Arising from the Chemical:	Product may emit toxic gases or fumes under fire conditions.
Protective Equipment:	If product is involved in a fire, wear full protective clothing including a positive−pressure, NIOSH approved, self−contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions:	Use appropriate Personal Protective Equipment (PPE).
Environmental Precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.
Methods for Cleaning up:	Contain and recover liquid when possible. Flush spill area with water spray.
Other Statements:	None.

Section 7. Handling and Storage

Handling:	Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.
Storage:	Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only. Store above Freeze Point.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Potassium phosphate, dibasic	N/E	N/E
Tetrapotassium pyrophosphate	N/E	N/E

Engineering Controls: Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.

Personal Protection

Eyes: Wear chemical splash goggles or safety glasses with full−face shield. Maintain eyewash fountain in work area.

Skin: Maintain quick−drench facilities in work area. Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.

Respiratory: If misting occurs, use NIOSH approved organic vapor/acid gas dual cartridge respirator with a dust/mist prefilter in accordance with 29 CFR 1910.134.

Section 9. Physical and Chemical Properties

Physical State and Appearance: Liquid, Colorless, Clear
Specific Gravity: 1.235 @ 20°C
pH: 8.0 @ 20°C, 100.0%
Freezing Point: 25°F
Flash Point: N/D
Odor: Mild
Melting Point: N/A
Initial Boiling Point and Boiling Range: 212°F
Solubility in Water: Complete
Evaporation Rate: N/D
Vapor Density: N/D
Molecular Weight: N/D
Viscosity: N/A
Flammability (solid, gas): N/D
Flammable Limits: N/A
Autoignition Temperature: N/A

Density:	10.30 LB/GA
Vapor Pressure:	<17.5
% VOC:	0
Odor Threshold	N/D
n−octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability: Stable at normal temperatures and pressures.

Incompatibility with Various Substances: Strong oxidizers, Strong acids, Cationic polymers.

Hazardous Decomposition Products: Oxides of carbon, Oxides of nitrogen.

Possibility of Hazardous Reactions: None known.

Reactivity: N/D

Conditions To Avoid: N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
Tetrapotassium pyrophosphate	Oral	LD50	2980 MG/KG	Rat
	Dermal	LD50	>7940 MG/KG	Rabbit

Carcinogenicity Category

Component	Source	Code	Brief Description
Potassium phosphate, dibasic	N/E	N/E	N/E
Tetrapotassium pyrophosphate	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Fathead Minnow	96h	LC50	2106 mg/l
	7d	IC25	1077 mg/l
	7d	NOEC	1000 mg/l
	7d	LOEC	2000 mg/l
Ceriodaphnia dubia	48h	LC50	1105 mg/l
	7d	IC25	285 mg/l
	7d	NOEC	500 mg/l
	7d	LOEC	1000 mg/l
Mysid Shrimp	24h	LC50	1704 mg/l
	48h	LC50	1704 mg/l
Inland Silverside	24h	LC50	>2000 mg/l
	96h	LC50	>2000 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: NOEC effect = Survival

Section 13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations.
Not a RCRA−regulated hazardous waste when disposed in the original product form.

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
TDG	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
ICAO	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A

Note: N/A

Section 15. Regulatory Information

Inventory Status

United States (TSCA): All ingredients listed.
Canada (DSL/NDSL): All ingredients listed.

Federal Regulations

SARA Title III Rules

Sections 311/312 Hazard Classes

Fire Hazard:	No
Reactive Hazard:	No
Release of Pressure:	No
Acute Health Hazard:	Yes
Chronic Health Hazard:	No

Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
Potassium phosphate, dibasic	N/A	N/A	N/A
Tetrapotassium pyrophosphate	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Potassium phosphate, dibasic	None.
Tetrapotassium pyrophosphate	None.

International Regulations

Canada

WHMIS Classification: D2B (Toxic Material)

Controlled Product Regulations (CPR): This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Compliance Information

NSF: N/A

Food Regulations: N/A

KOSHER: This product has not been evaluated for Kosher approval.

FIFRA: N/A

Other: None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

Health:	1
Flammability:	0
Physical Hazard:	0
PPE:	X

Notes: The PPE rating depends on circumstances of use. See Section 8 for recommended PPE.
The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha−numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end−user must determine if the code is appropriate for their use.

Abbreviations

Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept
N/A	Not Applicable
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept
PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weight Average
UNK	Unknown

Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com

Revision Date: May 9, 2016

Disclaimer

Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.

SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat CL2030
Product Use:	Cooling Water Microbiocide and Algicide
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424-9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648-4579
Date of SDS:	March 7, 2017
Revision Date:	March 7, 2017
Revision Number:	17030701AN

Section 2. Hazard(s) Identification

Signal Word: **DANGER**

GHS Classification(s):

Acute Toxicity Oral - Category 4
Acute Toxicity Inhalation - Category 4
Acute Toxicity Dermal - Category 3
Skin corrosion/irritation - Category 1b
Eye damage/irritation - Category 2a

Hazard Statement(s):

H302 Harmful if swallowed.
H332 Harmful if inhaled.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H319 Causes serious eye irritation.

Precautionary Statement(s):

Prevention:

P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P264 Wash thoroughly after handling.
P270 Do not eat, drink, or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response:	P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell P303 + P361 + P353 IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 If eye irritation persists, get medical advice/attention.
Storage:	P405 Store locked up.
Disposal:	None.

System of Classification Used: Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified: None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt.%
N,N-Dioctyl-N,N-dimethylammonium chloride	5538-94-3	50
Proprietary solvent	Proprietary	5 - 15

Comments If chemical identity and/or exact percentage of composition has been withheld, this information is considered to be a trade secret.

Section 4. First Aid Measures

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.

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.

Skin: Wash with plenty of soap and water. Remove/take off all contaminated clothing. Immediately call a POISON CENTER or doctor/physician.

Ingestion:	DO NOT INDUCE VOMITING. Rinse mouth. Immediately call a POISON CENTER or doctor/physician.
Most Important Symptoms:	N/D
Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary:	Probable mucosal damage may contraindicate the use of gastric lavage.

Section 5. Fire Fighting Measures

Flammability of the Product:	Not flammable.
Suitable Extinguishing Media:	Use extinguishing media suitable to surrounding fire.
Specific Hazards Arising from the Chemical:	Product emits toxic gases or fumes under fire conditions.
Protective Equipment:	If product is involved in a fire, wear full protective clothing including a positive-pressure, NIOSH approved, self-contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions:	Use appropriate Personal Protective Equipment (PPE).
Environmental Precautions:	Do not discharge effluent containing this product into lakes, ponds, streams, estuaries, oceans or public waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit, and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.
Methods for Cleaning up:	Contain and recover liquid when possible. Flush spill area with water spray.
Other Statements:	None.

Section 7. Handling and Storage

Handling: Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.

Storage: Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only.
Protect from heat and sources of ignition.
Do not store above 140°F.
Store above Freeze Point.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
N,N-Dioctyl-N,N-dimethylammonium chloride	N/E	N/E
Proprietary solvent	N/E	N/E

Engineering Controls: Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.

Personal Protection

Eyes: Wear chemical splash goggles or safety glasses with full-face shield.

Skin: Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.

Respiratory: If misting occurs, use NIOSH approved organic vapor/acid gas dual cartridge respirator with a dust/mist prefilter in accordance with 29 CFR 1910.134.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, Light Straw, Clear
Specific Gravity:	0.962 @ 20°C
pH:	8.8 @ 20°C, 100.0%
Freezing Point:	25°F
Flash Point:	>200.1°F
Odor:	Moderate
Melting Point:	N/D
Initial Boiling Point and Boiling Range:	203°F
Solubility in Water:	Soluble
Evaporation Rate:	N/D
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	N/D
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	8.02 LB/GA
Vapor Pressure:	N/D
% VOC:	N/D
Odor Threshold	N/D
n-octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability:	Stable at normal temperatures and pressures.
Incompatibility with Various Substances:	Strong oxidizers, Strong acids.
Hazardous Decomposition Products:	Oxides of carbon, Oxides of nitrogen, Toxic vapors/fumes/gases.
Possibility of Hazardous Reactions:	None known.
Reactivity:	N/D
Conditions To Avoid:	N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
ChemTreat CL2030	Oral	LD50	360 MG/KG	Mouse
	Dermal	LD50	259 MG/KG	Rabbit
	Inhalation	LC50	10 MG/L	Rat

Carcinogenicity Category

Component	Source	Code	Brief Description
N,N-Dioctyl-N,N-dimethylammonium chloride	N/E	N/E	N/E
Proprietary solvent	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Bluegill Sunfish	48h	LC50	0.1 mg/l
Rainbow Trout	96h	LC50	0.7 mg/l
Daphnia magna	48h	EC50	0.1 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: Based on active ingredient

Section 13. Disposal Considerations

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.
CONTAINER DISPOSAL: Non-refillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by procedures approved by state and local authorities.

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	UN1903	DISINFECTANTS, LIQUID, CORROSIVE, N.O.S.	(DIOCTYL DIMETHYL AMMONIUM CHLORIDE)	8	PGII
TDG	UN1903	DISINFECTANTS, LIQUID, CORROSIVE, N.O.S.	(DIOCTYL DIMETHYL AMMONIUM CHLORIDE)	8	PGII
IMDG	UN1903	DISINFECTANTS, LIQUID, CORROSIVE, N.O.S.	(DIOCTYL DIMETHYL AMMONIUM CHLORIDE)	8	PGII
ICAO	UN1903	DISINFECTANTS, LIQUID, CORROSIVE, N.O.S.	(DIOCTYL DIMETHYL AMMONIUM CHLORIDE)	8	PGII

Note: N/A

Section 15. Regulatory Information

Inventory Status

United States (TSCA): All ingredients listed.
Canada (DSL/NDSL): All ingredients listed.

Federal Regulations

SARA Title III Rules

Sections 311/312 Hazard Classes

Fire Hazard: No
Reactive Hazard: No
Release of Pressure: No
Acute Health Hazard: Yes
Chronic Health Hazard: No

Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
N,N-Dioctyl-N,N-dimethylammonium chloride	N/A	N/A	N/A
Proprietary solvent	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
N,N-Dioctyl-N,N-dimethylammonium chloride	None.
Proprietary solvent	None.

International Regulations

Canada

WHMIS Classification:	N/A
Controlled Product Regulations (CPR):	N/A

Compliance Information

NSF:	N/A
Food Regulations:	N/A
KOSHER:	This product has not been evaluated for Kosher approval.
FIFRA:	Registered pesticide under 40 CFR 152.10, Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), EPA Registration Number: 6836-60-15300.
Other:	None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

Health:	3
Flammability:	1
Physical Hazard:	0
PPE:	X

Notes: The PPE rating depends on circumstances of use. See Section 8 for recommended PPE.
The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha-numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end-user must determine if the code is appropriate for their use.

Abbreviations

Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept
N/A	Not Applicable
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept
PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weight Average
UNK	Unknown

Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com

Revision Date: March 7, 2017

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SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	Chemical Treatment CL2150
Product Use:	Cooling Water Microbiocide and Paper Slimicide
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424−9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648−4579
Date of SDS:	November 7, 2016
Revision Date:	November 7, 2016
Revision Number:	16110701AN

Section 2. Hazard(s) Identification

Signal Word: **DANGER**

GHS Classification(s):

Skin corrosion/irritation − Category 1b
Eye damage/irritation − Category 1
Acute Toxicity Dermal − Category 4
Acute Toxicity Inhalation − Category 4
Acute Toxicity Oral − Category 4
Hazardous to the aquatic environment Acute − Category 3

Hazard Statement(s):

H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H312 Harmful in contact with skin.
H332 Harmful if inhaled.
H302 Harmful if swallowed.
H402 Harmful to aquatic life.

Precautionary Statement(s):

Prevention:

P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P264 Wash thoroughly after handling.
P270 Do not eat, drink, or smoke when using this product.
P271 Use only outdoors or in a well−ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P273 Avoid release into the environment.

Response:

P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P301 + 330 + 331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P363 Wash contaminated clothing before reuse.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations.

System of Classification Used:

Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified:

None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt.%
5−chloro−2−methyl−4−isothiazolin−3−one	26172−55−4	1.11
2−methyl−4−isothiazolin−3−one	2682−20−4	0.39

Comments

If chemical identity and/or exact percentage of composition has been withheld, this information is considered to be a trade secret.

Section 4. First Aid Measures

Inhalation:

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.

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.

Skin:	Immediately remove/take off all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before re−use. Immediately call a poison center or doctor/physician.
Ingestion:	DO NOT INDUCE VOMITING. Rinse mouth. Call a POISON CENTER or doctor/physician.
Most Important Symptoms:	N/D
Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary:	Probable mucosal damage may contraindicate the use of gastric lavage. Have the product container, label or MSDS with you when calling a poison control center or doctor, or when going for treatment.

Section 5. Fire Fighting Measures

Flammability of the Product:	Not flammable.
Suitable Extinguishing Media:	Use extinguishing media suitable to surrounding fire.
Specific Hazards Arising from the Chemical:	Use water spray to keep containers cool.
Protective Equipment:	If product is involved in a fire, wear full protective clothing including a positive−pressure, NIOSH approved, self−contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions:	Use appropriate Personal Protective Equipment (PPE).
Environmental Precautions:	This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, ponds, streams, estuaries, oceans or public waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit, and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.
Methods for Cleaning up:	Contain and recover liquid when possible. Flush spill area with water spray.

Other Statements: If RQ (Reportable Quantity) is exceeded, report to National Spill Response Office at 1−800−424−8802.

Section 7. Handling and Storage

Handling: Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.

Storage: Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only.
Store in corrosive resistant container with a resistant inliner.
Store above Freeze Point.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
5−chloro−2−methyl−4−isothiazolin−3−one	N/E	N/E
2−methyl−4−isothiazolin−3−one	N/E	N/E

Engineering Controls: Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.

Personal Protection

Eyes: Wear chemical splash goggles or safety glasses with full−face shield. Maintain eyewash fountain in work area.

Skin: Maintain quick−drench facilities in work area.
Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.

Respiratory: If misting occurs, use NIOSH approved organic vapor/acid gas dual cartridge respirator with a dust/mist prefilter in accordance with 29 CFR 1910.134.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, Green, Clear
Specific Gravity:	1.025 @ 20°C
pH:	3.6 @ 20°C, 100.0%
Freezing Point:	45°F
Flash Point:	N/D
Odor:	Mild
Melting Point:	N/A
Initial Boiling Point and Boiling Range:	N/D
Solubility in Water:	Complete
Evaporation Rate:	<1
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	N/D
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	8.55 LB/GA
Vapor Pressure:	N/D
% VOC:	<0.1
Odor Threshold	N/D
n−octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability:	Stable at normal temperatures and pressures.
Incompatibility with Various Substances:	Strong oxidizers, Strong bases.
Hazardous Decomposition Products:	Oxides of nitrogen, Oxides of sulfur, Oxides of carbon, Halogenated compounds.
Possibility of Hazardous Reactions:	None known.
Reactivity:	N/D
Conditions To Avoid:	N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
Chemical Treatment CL2150	Oral	LD50	3810 MG/KG	Rat
	Dermal	LD50	>5000 MG/KG	Rabbit
	Inhalation	LD50	13.7 MG/L	Rat

Carcinogenicity Category

Component	Source	Code	Brief Description
5−chloro−2−methyl−4−isothiazolin−3−one	N/E	N/E	N/E
2−methyl−4−isothiazolin−3−one	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Daphnia magna	48h	LC50	10.7 mg/l
Bluegill Sunfish	96h	LC50	18.6 mg/l
Ceriodaphnia dubia	48h	EC50	10.7 mg/l
Rainbow Trout	96h	LC50	12.6 mg/l
Sheepshead Minnow	96h	LC50	70.7 mg/l
Mysid Shrimp	48h	LC50	46.1 mg/l
Daphnia pulex	48h	LC50	17 mg/l
Fathead Minnow	48h	LC50	8.7 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: None.

Section 13. Disposal Considerations

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.
CONTAINER DISPOSAL: Non−refillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by procedures approved by state and local authorities.

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	UN1760	CORROSIVE LIQUIDS, N.O.S.	(5−CHLORO−2−METHYL−4−ISOTHIAZOLIN−3−ONE AND 2−METHYL−4−ISOTHIAZOLIN−3−ONE)	8	PGII
IMDG	UN1760	CORROSIVE LIQUIDS, N.O.S.	(5−CHLORO−2−METHYL−4−ISOTHIAZOLIN−3−ONE AND 2−METHYL−4−ISOTHIAZOLIN−3−ONE)	8	PGII
TDG	UN1760	CORROSIVE LIQUIDS, N.O.S.	(5−CHLORO−2−METHYL−4−ISOTHIAZOLIN−3−ONE AND 2−METHYL−4−ISOTHIAZOLIN−3−ONE)	8	PGII
ICAO	UN1760	CORROSIVE LIQUIDS, N.O.S.	(5−CHLORO−2−METHYL−4−ISOTHIAZOLIN−3−ONE AND 2−METHYL−4−ISOTHIAZOLIN−3−ONE)	8	PGII
SCT	UN1760	CORROSIVE LIQUIDS, N.O.S.	(5−CHLORO−2−METHYL−4−ISOTHIAZOLIN−3−ONE AND 2−METHYL−4−ISOTHIAZOLIN−3−ONE)	8	PGII

Note: N/A

Section 15. Regulatory Information

Inventory Status

United States (TSCA): All ingredients listed.
Canada (DSL/NDSL): All ingredients listed.

Federal Regulations

SARA Title III Rules

Sections 311/312 Hazard Classes

Fire Hazard:	No
Reactive Hazard:	No
Release of Pressure:	No
Acute Health Hazard:	Yes
Chronic Health Hazard:	No

Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
5−chloro−2−methyl−4−isothiazolin−3−one	N/A	N/A	N/A
2−methyl−4−isothiazolin−3−one	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
5−chloro−2−methyl−4−isothiazolin−3−one	None.
2−methyl−4−isothiazolin−3−one	None.

International Regulations

Canada

WHMIS Classification: N/A

Controlled Product Regulations (CPR): N/A

Compliance Information

NSF: N/A

Food Regulations: FDA: All ingredients in this product are authorized in 21 CFR 176.170 and 21 CFR 176.180.

KOSHER: This product is certified by the Orthodox Union as Kosher for Passover and year−round use.
Only when prepared by the following ChemTreat facilities: Ashland, VA; Eldridge, IA; Nederland, TX; Vernon, CA; Fontana, CA.

FIFRA: Registered pesticide under 40 CFR 152.10, Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), EPA Registration Number: 15300−24.

Other: PMRA biocide registration NO. 26537.

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

Health:	3
Flammability:	0
Physical Hazard:	0
PPE:	X

Notes: The PPE rating depends on circumstances of use. See Section 8 for recommended PPE.
The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha−numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end−user must determine if the code is appropriate for their use.

Abbreviations

Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept
N/A	Not Applicable

Abbreviation	Definition
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept
PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weight Average
UNK	Unknown

Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com

Revision Date: November 7, 2016

Disclaimer

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SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	Quadrasperse® CL4895
Product Use:	Cooling Water Treatment
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424–9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648–4579
Date of MSDS:	May 7, 2015
Revision Date:	May 7, 2015
Revision Number:	15050701AN

Section 2. Hazard(s) Identification

Signal Word: **DANGER**

GHS Classification(s):

Skin corrosion/irritation – Category 1b
Eye damage/irritation – Category 1
Acute Toxicity Oral – Category 4
Acute Toxicity Dermal – Category 4
Acute Toxicity Inhalation – Category 4

Hazard Statement(s):

Causes severe skin burns and eye damage.
Causes serious eye damage.
Harmful in contact with skin.
Harmful if inhaled.
Harmful if swallowed.

Precautionary Statement(s):

Wear protective gloves/clothing and eye/face protection. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Use only outdoors or in a well–ventilated area.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt.%
1-Hydroxyethylidene-1,1-diphosphonic acid, tetrasodium salt	3794-83-0	1 - 5
Potassium hydroxide	1310-58-3	0.5 - 1.5

Comments If chemical identity and/or exact percentage of composition has been withheld, this information is considered to be a trade secret.

Section 4. First Aid Measures

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.

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.

Skin: Immediately remove/take off all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before re-use. Immediately call a poison center or doctor/physician.

Ingestion: DO NOT INDUCE VOMITING. Rinse mouth. Call a POISON CENTER or doctor/physician.

Notes to Physician: N/A

Additional First Aid Remarks: N/A

Section 5. Fire Fighting Measures

Flammability of the Product: Not flammable.

Suitable Extinguishing Media: Use extinguishing media suitable to surrounding fire.

Specific Hazards Arising from the Chemical: Product may emit toxic gases or fumes under fire conditions.

Protective Equipment: If product is involved in a fire, wear full protective clothing including a positive-pressure, NIOSH approved, self-contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions: Use appropriate Personal Protective Equipment (PPE).

Environmental Precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.

Methods for Cleaning up: Contain and recover liquid when possible. Flush spill area with water spray.

Other Statements: If RQ (Reportable Quantity) is exceeded, report to National Spill Response Office at 1-800-424-8802.

Section 7. Handling and Storage

Handling: Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.

Storage: Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only.
Store above Freeze Point.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
1-Hydroxyethylidene-1,1-diphosphonic acid, tetrasodium salt	N/E	N/E
Potassium hydroxide	ACGIH TLV	2 mg/m³ Ceiling

Engineering Controls: Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.

Personal Protection

Eyes:	Wear chemical splash goggles or safety glasses with full–face shield. Maintain eyewash fountain in work area.
Skin:	Maintain quick–drench facilities in work area. Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.
Respiratory:	If misting occurs, use NIOSH approved organic vapor/acid gas dual cartridge respirator with a dust/mist prefilter in accordance with 29 CFR 1910.134.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, Dark Straw, Clear
Specific Gravity:	1.160 @ 20°C
pH:	11.1 @ 20°C, 100.0%
Freezing Point:	28°F
Flash Point:	N/D
Odor:	Mild
Melting Point:	N/A
Boiling Point:	212°F
Solubility in Water:	Complete
Evaporation Rate:	As Water
Vapor Density:	As Water
Molecular Weight:	N/D
Viscosity:	<100 CPS @ 20°C
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	9.65 LB/GA
Vapor Pressure:	As Water
% VOC:	N/D
Odor Threshold	N/D
n–octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability:	Stable at normal temperatures and pressures.
Incompatibility with Various Substances:	Acids, Strong oxidizers.

Hazardous Decomposition Products: Oxides of carbon, Oxides of nitrogen.

Possibility of Hazardous Reactions: None known.

Section 11. Toxicological Information

Chemical Name	Exposure	Type of Effect	Concentration	Species
Potassium hydroxide	Oral	LD50	365 MG/KG	Rat

Carcinogenicity Category

Component	Source	Code	Brief Description
1-Hydroxyethylidene-1,1-diphosphonic acid, tetrasodium salt	N/E	N/E	N/E
Potassium hydroxide	N/E	N/E	N/E

Comments: None.

Section 12. Ecological Information

Species	Duration	Type of Effect	Test Results
N/D	N/D	N/D	N/D

Comments: Not tested.

Section 13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations.
EPA corrosivity characteristic hazardous waste D002 when disposed of in the original product form.

Section 14. Transport Information

Controlling Regulation	Proper Shipping Name:	Technical Name:	Hazard Class:	UN/NA#:	Packing Group:
DOT	CORROSIVE LIQUIDS, N.O.S.	(SODIUM HYDROXIDE)	Corrosive	UN1760	PGII
TDG	CORROSIVE LIQUIDS, N.O.S.	(SODIUM HYDROXIDE)	Corrosive	UN1760	PGII
ICAO	CORROSIVE LIQUIDS, N.O.S.	(SODIUM HYDROXIDE)	Corrosive	UN1760	PGII

Note: N/A

Section 15. Regulatory Information

Inventory Status

United States (TSCA): All ingredients listed.
Canada (DSL/NDSL): All ingredients listed.

Federal Regulations

SARA Title III Rules

Sections 311/312 Hazard Classes

Fire Hazard: No
Reactive Hazard: No
Release of Pressure: No
Acute Health Hazard: Yes
Chronic Health Hazard: No

Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
1-Hydroxyethylidene-1,1-diphosphonic acid, tetrasodium salt	N/A	N/A	N/A
Potassium hydroxide	N/A	N/A	1000

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
1-Hydroxyethylidene-1,1-diphosphonic acid, tetrasodium salt	None.
Potassium hydroxide	MA, MN, NY, PA, WA

International Regulations

Canada

WHMIS Classification:	D2B (Toxic Material) E (Corrosive Material)
Controlled Product Regulations (CPR):	This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Section 16. Other Information

HMIS Hazard Rating

Health:	3
Flammability:	0
Physical Hazard:	1
PPE:	X

Notes: The PPE rating depends on circumstances of use. See Section 8 for recommended PPE.
The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha–numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end–user must determine if the code is appropriate for their use.

NSF: N/A

FDA/USDA/GRAS: N/A

KOSHER: This product has not been evaluated for Kosher approval.

FIFRA: N/A

Other: None

Abbreviations

Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept

Abbreviation	Definition
N/A	Not Applicable
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept
PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weight Average
UNK	Unknown

Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com

Disclaimer

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Safety Data Sheet
SODIUM HYPOCHLORITE 12.5%

Version 1.18 Revision Date: 02/10/2022

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : SODIUM HYPOCHLORITE 12.5%

Recommended use of the chemical and restrictions on use

Recommended use : Reserved for industrial and professional use.

Manufacturer or supplier's details

Company : Univar Solutions USA, Inc.
Address 3075 Highland Pkwy Suite 200
Downers Grove, IL 60515
United States of America (USA)

Emergency telephone number:
Transport North America: CHEMTREC (1-800-424-9300)
CHEMTREC INTERNATIONAL Tel # 703-527-3887

Additional Information: : Responsible Party: Product Compliance Department
E-mail: SDSNA@univarsolutions.com
SDS Requests: 1-855-429-2661
Website: www.univarsolutions.com

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Corrosive to metals : Category 1

Skin corrosion : Category 1

Serious eye damage : Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.

Precautionary statements : **Prevention:**
P234 Keep only in original container.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 + P310 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/ doctor.
P363 Wash contaminated clothing before reuse.
P390 Absorb spillage to prevent material damage.
Storage:
P405 Store locked up.
P406 Store in corrosive resistant container with a resistant inner liner.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

CAS-No.	Chemical name	Weight percent
7681-52-9	Sodium hypochlorite	12.5
1310-73-2	Sodium hydroxide	0 - 5

Actual concentration is withheld as a trade secret
Any Concentration shown as a range is due to batch variation.

Synonyms : Liquichlor, Bleach**,**

SECTION 4. FIRST AID MEASURES

General advice : Show this safety data sheet to the doctor in attendance.
Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : Take victim immediately to hospital.

Move to fresh air.

If breathing has stopped, apply artificial respiration.

If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact	:	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Remove contaminated clothing. If irritation develops, get medical attention. Burns must be treated by a physician.
In case of eye contact	:	In case of eye contact Immediately flush eye(s) with plenty of water. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. If easy to do, remove contact lens, if worn. If eye irritation persists, consult a specialist. Take victim immediately to hospital.
If swallowed	:	Take victim immediately to hospital. Do NOT induce vomiting. Rinse mouth with water. If victim is fully conscious, give a cupful of water. If a person vomits when lying on his back, place him in the recovery position.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Carbon dioxide (CO2) Foam Dry powder
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	No hazardous combustion products are known
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment.

Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Neutralise with acid. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Do not breathe vapours/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
7681-52-9	Sodium hypochlorite	STEL	2 mg/m3	US WEEL
1310-73-2	Sodium hydroxide	C	2 mg/m3	ACGIH
		C	2 mg/m3	NIOSH REL
		TWA	2 mg/m3	OSHA Z-1
		C	2 mg/m3	OSHA P0
		C	2 mg/m3	CAL PEL

Personal protective equipment

Respiratory protection	:	General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and

use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Remarks	:	The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Eye protection	:	Eye wash bottle with pure water Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems.
Skin and body protection	:	Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	clear yellow
Odour	:	Chlorine
Odour Threshold	:	No data available
pH	:	11.5 - 13
Freezing Point (Melting point/freezing point)	:	-20 - -15 °C (-4 - 5 °F)
Boiling Point ()	:	230 °F (230 °F) Decomposition: Decomposition temperature
Flash point	:	Not Flammable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	No data available

Lower explosion limit	:	No data available
Vapour pressure	:	12 - 17.5 mmHg @ 20 °C (68 °F)
Relative vapour density	:	No data available
Relative density	:	1.17 @ 20 °C (68 °F) Reference substance: (water = 1)
Density	:	1.17 g/cm3
Solubility(ies) Water solubility	:	completely soluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Thermal decomposition	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable
Possibility of hazardous reactions	:	No hazards to be specially mentioned.
Conditions to avoid	:	Keep away from heat, flame, sparks and other ignition sources.
Incompatible materials	:	Acids Combustible material Halogenated compounds Metals metal salts Organic materials organic nitro compounds Zinc

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Components:

7681-52-9:
Acute oral toxicity : LD50 (Rat, male): > 2,000 mg/kg

1310-73-2:
Acute oral toxicity : LD50 (Rabbit): 325 mg/kg

Skin corrosion/irritation

Components:

7681-52-9:
Species: Rabbit
Result: Causes burns.

1310-73-2:
Species: Rabbit
Result: Causes severe burns.

Serious eye damage/eye irritation

Components:

7681-52-9:
Species: Rabbit
Result: Risk of serious damage to eyes.

1310-73-2:
Species: Rabbit
Result: Risk of serious damage to eyes.

Carcinogenicity

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

STOT - single exposure

Components:

7681-52-9:
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

7681-52-9:

Toxicity to fish	:	LC50 (Salmo gairdneri (Rainbow Fish)): 0.06 mg/l Exposure time: 96 h Test Type: flow-through test LC50 (Pimephales promelas (fathead minnow)): 5.9 mg/l Exposure time: 96 h Test Type: static test
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.141 mg/l Exposure time: 48 h Test Type: flow-through test EC50 (Ceriodaphnia dubia): 0.035 mg/l Exposure time: 48 h Test Type: flow-through test
Toxicity to algae	:	IC50: 0.023 mg/l Exposure time: 7 d Test Type: flow-through test
M-Factor (Acute aquatic toxicity)	:	10
Acute aquatic toxicity- Assessment	:	Very toxic to aquatic life.
Chronic aquatic toxicity- Assessment	:	Toxic to aquatic life with long lasting effects.

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential	:	Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I

Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life.
Harmful to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with all applicable local, state and federal regulations.
For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Univar Solutions ChemCare: 1-800-637-7922

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

DOT (Department of Transportation):
UN1791, Hypochlorite solutions, 8, III , Marine Pollutant (SODIUM HYPOCHLORITE)

IATA (International Air Transport Association):
UN1791, Hypochlorite solution, 8, III

IMDG (International Maritime Dangerous Goods):
UN1791, HYPOCHLORITE SOLUTION, 8, III, Marine Pollutant (SODIUM HYPOCHLORITE)

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Sodium hypochlorite	7681-52-9	100	800
Sodium hydroxide	1310-73-2	1000	20000

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Corrosive to metals

Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

7681-52-9	Sodium hypochlorite
1310-73-2	Sodium hydroxide

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

7681-52-9	Sodium hypochlorite
1310-73-2	Sodium hydroxide

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

Massachusetts Right To Know

7681-52-9	Sodium hypochlorite
1310-73-2	Sodium hydroxide

Pennsylvania Right To Know

7732-18-5	Water
7681-52-9	Sodium hypochlorite
1310-73-2	Sodium hydroxide

California Prop 65 : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory

DSL : All components of this product are on the Canadian DSL

AICS : On the inventory, or in compliance with the inventory

NZIoC : Not in compliance with the inventory

ENCS : On the inventory, or in compliance with the inventory

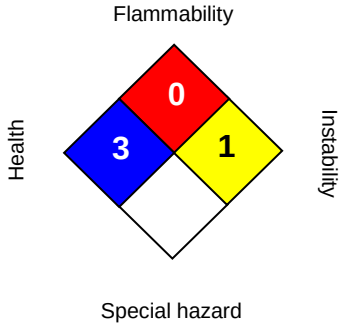
KECI : On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

SECTION16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	3/
FLAMMABILITY	0
PHYSICAL HAZARD	1

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 =Extreme, * = Chronic

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by NEXEO™ Solutions EHS Product Safety Department (1-855-429-2661) MSDS@nexeosolutions.com.

Revision Date : 02/10/2022

Legacy SDS: : R0004191

Material number:
16185565, 16185315, 16182803, 16182803, 16182146, 16180800, 16151747, 16144335, 16147791, 16179440, 16164756, 16164762, 16164766, 16173035, 16172686, 16173104, 16164347, 16164592, 16164731, 16164730, 16164686, 16164337, 16172598, 16147922, 16146040, 16151002, 16149524, 16158615, 16145640, 16148059, 16144666, 16147989, 16163791, 16160423, 16160441, 16158853, 16151253, 16149870, 16148071, 16148060, 16147684, 16147117, 16146776, 16146856, 16146855, 16146854, 16145965, 16145895, 16145890, 16145584, 16145144, 16145142, 16145140, 16145138, 16145137, 16145133, 16145130, 16145079, 16159810, 16150495, 16149123, 16147041, 16145471, 16144665, 16145772, 16145833, 16148433, 16148183, 16148162, 16145046, 16143737, 16135287, 16163624, 16161401, 16148721, 16155765, 16158840, 16145484, 16166710, 16148748, 16148260, 16166763, 16166591, 16145834, 16166014, 16159793, 16162934, 16165524, 16165444, 16165066, 16137823, 16137455, 16137753, 16147687, 16144215, 16150496, 16149504, 16145673, 16149243, 16136536

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		

1. IDENTIFICATION

Product Name (s)	**SULFURIC ACID**
Product Use	pH adjustment, water treatment and various industrial applications.
Supplier	Shrieve Chemical Company 1755 Woodstead Court, The Woodlands, TX 77380-USA
Contact Numbers	800-367-4226
E-mail Contact for SDS	Cust-Serv@shrieve.com (customer service)
Emergency Telephone Number	CHEMTREC: 800-424-9300

2. HAZARDS IDENTIFICATION

Hazard Classification

Skin Corrosion, 1B

Eye Damage, 1

Corrosive to metals, 1

Precautionary Statements

DANGER! Causes severe skin burns and eye damage. Causes serious eye damage. May be corrosive to metals

Do not breathe mists or vapors. Wash hands, face and forearms thoroughly after handling. Wear protective gloves, protective clothing, eye and face protection. Keep only in original container.

If swallowed rinse mouth, do NOT induce vomiting. If on skin or hair take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If inhaled remove person to fresh air and keep comfortable for breathing. Immediately call a doctor or poison control center. If in eyes rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing. Seek immediate medical attention Absorb spillage to prevent material damage.

Store locked up. Store in a corrosion resistant container with a resistant liner.

Dispose of contents/container in accordance with local/state/federal regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Description Mixture

Component	CAS No.	Conc. (%)
Sulfuric Acid	7664-93-9	93-98
Water	7732-18-5	balance

4. FIRST AID MEASURES

Inhalation Remove victim from immediate source of exposure and assure that the victim is breathing. If breathing is difficult, administer oxygen, if available. If victim is not breathing, administer CPR (cardio-pulmonary resuscitation). Seek medical attention.

Skin In case of contact, immediately wash with plenty of water for at least 15 minutes. Seek medical attention if irritation develops or persists. Remove contaminated clothing and shoes. Clean contaminated clothing and shoes before re-use

Eye Obtain immediate medical attention. Immediately flush eye with plenty of water for at least 20-60 minutes while holding eyelids open.

Ingestion If victim is conscious and alert, give 2-3 glasses of water to drink and do not induce vomiting. Seek immediate medical attention. Do not leave victim unattended. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. Vomiting may occur spontaneously. If vomiting occurs and the victim is conscious, give water to further dilute the chemical.

5. FIRE FIGHTING MEASURES

Extinguishing media Use extinguishing media suitable for surrounding fire

Unsuitable extinguishing media None.

Fire fighting procedures Firefighters should wear NIOSH/MSHA approved positive pressure breathing apparatus with full face-piece and full acid-resistant protective clothing. Fight fire from maximum distance. Reacts violently with water releasing heat and corrosive material.

Combustion products Oxides of sulfur.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Personnel handling this material should be thoroughly trained to handle spills and releases. Do not direct hose streams into an unignited transportation spill (tank truck or tank car).
Personal Protection	Wear protective clothing specified for normal operations (see section 8).
Environmental Protection	Do not flush to drain. Runoff from fire control or dilution water may cause pollution.
Clean up methods - small spillage	Stop leak if it can be done without risk. Dike spill using absorbent or impervious materials such as earth, sand or clay. Dike or retain dilution water or water from firefighting for later disposal.
Clean up methods - large spillage	Stop leak if it can be done without risk. Dike spill using absorbent or impervious materials such as earth, sand or clay. Dike or retain dilution water or water from firefighting for later disposal. Pump any free liquid into an appropriate closed container. Exercise caution during neutralization as considerable heat may be generated. Carefully neutralize spill with soda ash. Absorb neutralized spill with an inert absorbent. Scrape up and place in appropriate closed container (see Section 7: Handling and Storage).

7. HANDLING AND STORAGE

Handling	Do not breathe vapors and mists. Do not get on skin or in eyes. This product reacts violently with bases liberating heat and causing spattering. When diluting an acid, ALWAYS add the acid slowly to water and stir well to avoid spattering. NEVER ADD WATER TO ACID.
Storage	Store in tightly closed containers. Store in an area that is dry, well-ventilated, diked with impermeable material.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupatonal exposure limits		TWA (8 hours)			STEL (15 min)			Ceiling			
Components:	**List name**	**ppm**	**mg/m3**	**Other**	**ppm**	**mg/m3**	**Other**	**ppm**	**mg/m3**	**Other**	**Notes**
Sulfuric Acid	US ACGIH	-	0.2	-	-	3	-	-	-	-	
	OSHA PEL	-	1	-	-	-	-	-	-	-	

Occupational Exposure Standards	Provide adequate ventilation. If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
Engineering Control Measures	Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures: local exhaust ventilation at the point of generation.
Respiratory Protection	When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations. Under normal conditions, in the absence of other airborne contaminants, the following devices should provide protection from this material up to the conditions specified by the appropriate OSHA, WHMIS or ANSI standard(s): Air-purifying (half-mask/full-face) respirator with cartridges/canister approved for use against acid gases.
Hand Protection	Chemical resistant gloves: .
Eye Protection	Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material. Eye contact should be prevented through use of chemical safety glasses with side shields or splash proof goggles. An emergency eye wash must be readily accessible to the work area.
Body Protection	Skin contact must be prevented through the use of permeation resistant clothing, gloves and footwear, selected with regard for use conditions and exposure potential. An emergency shower must be readily accessible to the work area. Consideration must be given both to durability as well as permeation resistance.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance & Physical state	Colorless, oily liquid
Odor	none.
Odor Thresold	Not applicable
pH-value	1 at 1% by weight
Melting/Freezing Point	-36 to -28 C (-33 to -18 F)
Initial Boiling Point Range	151 to 276 C (304 to 529 F) at 760 mmHg
Flash Point	Not applicable

Evaporation Rate	Not available
Flammability	Not applicable
Upper/Lower Explosion Limits	Not available
Vapor Pressure	1 to 0 mmHg at 40 C (104 F)
Vapor Density	3.4
Relative density	1.6-1.8 (25.°C)
Density	1.6 to 1.8 g/ml at 25 C (77 F).
Solubility	Dispersible in water
Partial coefficient (n-octanol/water)	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity	Not available

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions of use.
Conditions To Avoid	None known.
Incompatible Materials	Reacts violently with water. Avoid strong reducting agents, halogens, bases, metals and nitrogen compounds.
Thermal Decomposition Products	Oxides of sulfur

11. TOXICOLOGICAL INFORMATION

Basis for assessment	Information given is based on the toxicology literature
Skin irritation	No test data found. This product was not tested because strong acids are known to be corrosive and cause severe tissue destruction.
Eye irritation	250 ug/24 hr, rabbit. Severely irritating.
Acute toxicity - Dermal	ND
Acute toxicity - Inhalation	LC50 - lethal concentration 50% of test species, 510 mg/cu m/2 hr, rat. LC50 - lethal concentration 50% of test species, 347 ppm/1 hr, rat.
Acute toxicity - Oral	LD50 - lethal dose 50% of test species, 2140 mg/kg, rat.
Repeated dose toxicity	This product contains substances that are considered to be probably or suspected human carcinogens. The International Agency for Research on cancer (IARC) has classified strong inorganic acid mists containing sulfuric acid as a known human carcinogen (IARC Category 1). This classification applies only to sulfuric acid when it is generated as a mist. There is still debate in the scientific community whether the studies reviewed by IARC adequately controlled for confounding occupational exposures and personal habits such as cigarette smoking and alcohol consumption. A few epidemiology studies have suggested a possible association between sulfuric acid exposure and laryngeal or lung cancer; however, in all these studies, workers were exposed to many other chemicals, some of which are recognized carcinogens, such as diethylsulfate and nickel. Considering the multiple chemical exposures and other limitations of the studies, we disagree with IARC's conclusion that a cause and effect relationship between cancer and exposure to strong inorganic acid mist containing sulfuric acid has been demonstrated.
Mutagenicity	ND.
Developmental toxicity	ND.

12. ECOLOGICAL INFORMATION

Basis for Assessment	The toxicity of sulfuric acid to fish is dependent on the resulting pH of the water. lethality at a pH of 5.0 or below. required to cause lethality varies depending on the hardness of the water (hard water has some buffering capacity) and the species of fish (some fish are more resistant to the effects of acidity). McKee, JE, and Wolf, HA (Editors), Water Quality Criteria, 2nd ed., Publication No. 3-A, p. 279, California State Water Resources Control Board, Sacramento, CA (rev. 1963).
Mobility	ND
Persistence/degradability	ND
Bioaccumulation	ND
Freshwater Fish Toxicity	ND

Freshwater Invertebrates Toxicity	ND
Acute toxicity - algae	ND
Acute toxicity - bacteria	ND

13. DISPOSAL CONSIDERATIONS

Waste disposal

Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

Container disposal

Drain container and rinse thoroughly. Puncture container to avoid reuse. Dispose to licensed disposal contractor.

Local Legislation

The recommendations given are considered appropriate for safe disposal. However, local regulations may be more stringent and these must be complied with.

14. TRANSPORT INFORMATION

DOT Classification

UN1830, 8, PGII
SULFURIC ACID

Reportable quantity: 1000 LBS

15. REGULATORY INFORMATION

INTERNATIONAL REGISTRATION:

TSCA (USA)

All components listed or exempted.
SARA 302/304/311/312 extremely hazardous substances: Sulfuric Acid, 1000 lbs.
SARA 302/304 emergency planning and notification: Sulfuric Acid
SARA 302/304/311/312 hazardous chemicals: Sulfuric Acid
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: SULFURIC ACID: Immediate (acute) health hazard, Reactive Hazard.

CERCLA: Hazardous substances.: Sulfuric Acid, 1000 lbs.

16. OTHER INFORMATION

HEALTH HAZARD: 3

FIRE HAZARD: 0

REACTIVITY: 2

Prepared by: Audris King

Revisions: 02/16/2015: Updated sections 2, 3, 9. Converted to GSH format.

1010/2013: Updated format

02/19/2019: Updated exposure limits

ATTACHMENT I

ANALYTICAL TESTING LABORATORY INFORMATION

ATTACHMENT I

ANALYTICAL TESTING LABORATORY INFORMATION

Laboratory Name	Eurofins	
Address	4145 Greenbriar Dr, Stafford, TX 77477	
Phone Number	979-484-9088	
Email	Lance.Tigrett@et.eurofins.com	
Samples	#1, 3/1/23; #2, 3/8/23; #3, 3/16/23; #4 3/29/23	1/24/24
Pollutants Analyzed	Table 1: • BOD (5-Day) • CBOD (5-Day) • Chemical oxygen demand • Total organic carbon • Dissolved oxygen **(Samples #1, #3, #4)** • Ammonia nitrogen • Total suspended solids • Nitrate nitrogen • Total organic nitrogen • Total phosphorus • Oil and grease • Total residual chlorine • Total dissolved solids • Sulfate • Fluoride • Total alkalinity (mg/L as CaCo3) • Temperature (°F) Table 2: • Aluminum • Antimony • Arsenic • Barium • Beryllium • Cadmium • Chromium, total • Chromium, hexavalent • Chromium, trivalent • Copper • Cyanide, available	Table 1: • Dissolved oxygen **(Sample #2)** Table 9: • 2-Chlorophenol • 2,4-Dichlorophenol • 2,4-Dimethylphenol • 4,6-Dinitro-o-cresol • 2,4-Dinitrophenol • 2-Nitrophenol • 4-Nitrophenol • p-Chloro-m-cresol • Pentachlorophenol • Phenol 2,4,6-Trichlorophenol

	• Lead • Mercury • Nickel • Selenium • Silver • Thallium • Zinc Table 6: • Color • Nitrate-Nitrite • Boron • Cobalt • Iron • Magnesium • Molybdenum Table 8: • Acrolein • Acrylonitrile • Benzene • Bromoform • Carbon tetrachloride • Chlorobenzene • Chlorodibromomethane • Chloroethane • 2-Chloroethylvinyl ether • Chloroform • Dichlorobromomethane [Bromodichloromethane] • 1,1-Dichloroethane • 1,2-Dichloroethane • 1,1-Dichloroethylene [1,1-Dichloroethene] • 1,2-Dichloropropane • 1,3-Dichloropropylene [1,2-Dichloropropene] • Ethylbenzene • Methyl bromide [Bromomethane] • Methyl chloride [Chloromethane] • Methylene chloride [Dichloromethane] • 1,1,2,2-Tetrachloroethane	

	• Tetrachloroethylene [Tetrachloroethene] • Toluene • 1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene] • 1,1,1-Trichlorethane • 1,1,2-Trichlorethane • Trichloroethylene [Trichloroethene] • Vinyl chloride	