



Technical Package Cover Page

This file contains the following documents:

1. Summary of application (in plain language)
2. First notice (NORI-Notice of Receipt of Application and Intent to Obtain a Permit)
3. Second notice (NAPD-Notice of Preliminary Decision)
4. Application materials (**NOTE:** This application was declared Administratively Complete before June 1, 2024. Application materials are available for review at the Public Viewing Location provided in the NORI.)
5. Draft permit
6. Technical summary or fact sheet

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



COMBINED

NOTICE OF RECEIPT OF APPLICATION AND INTENT TO OBTAIN A WATER QUALITY PERMIT (NORI)

AND

NOTICE OF APPLICATION AND PRELIMINARY DECISION FOR TPDES PERMIT FOR INDUSTRIAL WASTEWATER (NAPD)

RENEWAL

PERMIT NO. WQ0002436000

APPLICATION AND PRELIMINARY DECISION. Formosa Plastics Corporation, Texas and Formosa Utility Venture, Ltd., P.O. Box 700, Point Comfort, Texas 77978, which operates the Formosa Point Comfort Plant, a plastics and organic and inorganic chemicals manufacturing facility has applied to the Texas Commission on Environmental Quality (TCEQ) for a renewal of Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0002436000 which authorizes the discharge of remediated groundwater, fire water, and treated previously monitored effluents (via Outfalls 101 and 201) at a daily average flow not to exceed 9,700,000 gallons per day via Outfall 001; treated process wastewater, equipment/facility washdown, stormwater, firewater, and utility wastewaters (including pretreated sanitary wastewaters) at a daily average flow not to exceed 4,400,000 gallons per day via internal Outfall 101; treated and combined Ion Exchange Membrane (IEM) wastewater streams, utility wastewaters (including pretreated sanitary wastewaters), equipment/facility washdown, stormwater, fire water, and water treatment wastewaters on a continuous and flow-variable basis via internal Outfall 201; cooling tower blowdown on an intermittent and flow-variable basis via Outfall 901; non-process area stormwater, hydrostatic test water, fire water, non-contact steam condensate, non-contact wash water, potable water, and air conditioner unit condensate on an intermittent and flow-variable basis via Outfalls 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, and 012; and non-process area stormwater, hydrostatic test water, fire water, non-contact steam condensate, non-contact wash water, potable water, air conditioner unit condensate, and ash truck wash water condensate on an intermittent and flow-variable basis via Outfall 013.

The draft permit authorizes the discharge of remediated groundwater, fire water, and treated previously monitored effluents (via Outfalls 101 and 201) at a daily average flow not to exceed 9,700,000 gallons per day via Outfall 001; treated process wastewater, equipment/facility washdown, stormwater, fire water, and utility wastewaters (including pretreated sanitary wastewaters) at a daily average flow not to exceed 6,000,000 gallons per day via Outfall 101; treated and combined Ion Exchange Membrane (IEM) wastewater streams, utility wastewaters (including pretreated sanitary wastewaters), equipment/facility washdown, stormwater, fire water, and water treatment wastes on a continuous and flow-variable basis via Outfall 201; cooling tower blowdown, cooling water filter backwash, and non-process area stormwater on an intermittent and flow-variable basis via Outfall 901 (to the ALCOA mud pits for dust suppression); non-process area stormwater, hydrostatic test water, fire water, non-contact condensate, non-contact wash water, potable water, and air conditioner unit condensate on an intermittent and flow-variable basis via Outfalls 003, 005, 006, 009, 010, 011, 012, and 013. The TCEQ received this application on July 8, 2019.

This combined NORI and NAPD is issued because the original NORI listed the permit action as a major amendment. The applicant has withdrawn the major amendment request to authorize the discharge of stormwater on an intermittent and flow-variable basis via new Outfall 014. Based on the withdrawal of the lone major amendment request with remaining amendment requests classified as minor amendments, the application is reclassified as a renewal application.

The facility is located at 201 Formosa Drive, one-mile north of the intersection of State Highway 35 and Farm-to-Market Road 1593, northeast of the City of Point Comfort, in Calhoun County, Texas 77978. 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://tceq.maps.arcgis.com/apps/webappviewer/index.html?id=db5bac44afbc468bbddd360f8168250f&marker=-96.55155%2C28.692753&level=12>

The effluent is discharged via Outfall 001 directly to Lavaca Bay/Chocolate Bay in Segment No. 2453; via Outfalls 003 and 012 to unnamed ditches, thence to Cox Lake, thence to Cox Creek, thence to Huisache Cove; via Outfalls 005, 006, and 009 to Cox Lake, thence to Cox Creek, thence to Huisache Cove; via Outfall 010 to unnamed ditches, thence to Cox Lake, thence to Cox Creek; thence to Huisache Cove which is a part of Cox Bay in Segment No. 2454; via Outfall 011 to an unnamed ditch, thence to Cox Bay in Segment No. 2454; and via Outfall 013 directly to Cox Bay in Segment No. 2454 of the Bays and Estuaries. The unclassified receiving water uses are minimal aquatic life use for the unnamed ditches and high aquatic life use for Cox Lake and Cox Creek (tidal). The designated uses for Segment Nos. 2453 and 2454 are primary contact recreation, exceptional aquatic life use, and oyster waters.

In accordance with Title 30 Texas Administrative Code Section 307.5 and TCEQ's *Procedures to Implement the Texas Surface Water Quality Standards* (June 2010), an antidegradation review of the receiving waters was performed. A Tier 1 antidegradation review has preliminarily determined that existing water quality uses will not be impaired by this permit action. Numerical and narrative criteria to protect existing uses will be maintained. A Tier 2 review has preliminarily determined that no significant degradation of water quality is expected in Cox Lake, which has been identified as having a high aquatic life use, as well as Lavaca Bay / Chocolate Bay and Cox Bay, which have been identified as having exceptional aquatic life uses, respectively. Existing uses will be maintained and protected. The preliminary determination can be reexamined and may be modified if new information is received.

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

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 Point Comfort Public Library, 1 Lamar Street, Point Comfort, in Calhoun County, Texas and Jackson County Public Library, 411 North Wells Street, Room 121, Edna, in Jackson County, Texas.

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.**

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://www14.tceq.texas.gov/epic/eComment/> 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://www14.tceq.texas.gov/epic/eCID/>. 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 <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 Formosa Plastics Corporation, Texas and Formosa Utility Venture, Ltd. at the address stated above or by calling Mr. Matt Brogger at (361) 987-7468.

Issued: March 31, 2026

COMISIÓN DE CALIDAD AMBIENTAL DEL ESTADO DE TEXAS



COMBINADO

AVISO DE RECIBO DE LA SOLICITUD Y EL INTENTO DE OBTENER PERMISO PARA LA CALIDAD DEL AGUA RENOVACIÓN (NORI)

Y

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

RENOVACIÓN

PERMISO NO. WQ0002436000

SOLICITUD Y DECISIÓN PRELIMINAR. Formosa Plastics Corporation, Texas y Formosa Utility Venture, Ltd., P.O. Box 700, Point Comfort, Texas 77978, que opera la Formosa Point Comfort Plant, una instalación de fabricación de plásticos y productos químicos orgánicos e inorgánicos ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para renovar Sistema de Eliminación de Descargas de Contaminantes de Texas (TPDES) Permiso No. WQ0002436000 que autoriza la descarga de aguas subterráneas remediadas, agua contra incendios y efluentes previamente monitoreados y tratados (a través de los Emisarios 101 y 201) en un volumen que no exceda un flujo promedio diario de 9,700,000 galones por día a través de los Emisario 001; aguas residuales de procesos tratadas, lavado de equipos/instalaciones, aguas pluviales, aguas de incendio y aguas residuales de servicios (incluidas las aguas residuales sanitarias pretratadas) en un volumen que no exceda un flujo promedio diario de 4,400,000 galones por día a través de los Emisario Interno 101; corrientes de aguas residuales tratadas y combinadas de membrana de intercambio iónico (IEM), aguas residuales de servicios públicos (incluidas aguas residuales sanitarias pretratadas), lavado de equipos/instalaciones, aguas pluviales, agua contra incendios y aguas residuales de tratamiento de agua sobre una base continua y de variable flujo a través de los Emisario Interno 201; descarga de torre de enfriamiento de manera intermitente y de flujo variable a través de los Emisario Interno 901; aguas pluviales de áreas sin proceso, agua de prueba hidrostática, agua contra incendios, condensado de vapor sin contacto, agua de lavado sin contacto, agua potable y condensado de las unidades de aire acondicionado de manera intermitente y de flujo variable a través de los Emisarios 002, 003, 004, 005, 006, 007, 008, 009, 010, 011 y 012; y aguas pluviales de áreas sin proceso, agua de prueba hidrostática, agua contra incendios, condensado de vapor sin contacto, agua de lavado sin contacto, agua potable, condensado de unidades de aire acondicionado y condensado de agua de lavado de camiones de ceniza de manera intermitente y de flujo variable a través del Emisario 013.

El borrador del permiso autoriza la descarga de aguas subterráneas remediadas, agua contra incendios y efluentes previamente monitoreados y tratados (a través de los Emisarios 101 y 201) un volumen que no exceda un flujo promedio diario de 9,700,000 galones por día a través del Emisario 001; aguas residuales de procesos tratadas, lavado de equipos/instalaciones, aguas pluviales, agua contra incendios y aguas residuales de servicios (incluidas las aguas residuales sanitarias pretratadas) en un volumen que no exceda un flujo promedio diario de 6,000,000 galones por día a través del Emisario Interno 101; corrientes de aguas residuales tratadas y combinadas de membrana de intercambio iónico (IEM), aguas residuales de servicios públicos (incluidas aguas residuales sanitarias pretratadas), lavado de equipos/instalaciones, aguas pluviales, agua contra incendios y aguas residuales de tratamiento de agua sobre una base continua y de flujo variable a través de los Emisario

Interno 201; descarga de torre de enfriamiento, retrolavado de filtros de agua de enfriamiento y aguas pluviales de áreas sin proceso de manera intermitente y de flujo variable a través del Emisario Interno 901 (a los estanques de lodo de ALCOA para la supresión de polvo); aguas pluviales de áreas sin proceso, agua de prueba hidrostática, agua contra incendios, condensado de vapor sin contacto, agua de lavado sin contacto, agua potable y condensado de unidades de aire acondicionado de manera intermitente y de flujo variable a través de los Emisarios 003, 005, 006, 009, 010, 011, 012 y 013. La TCEQ recibió esta solicitud el 8 de julio de 2019.

Este NORI combinado y NAPD se emite porque el NORI original enumeraba la acción del permiso como una enmienda mayor. El solicitante ha retirado la solicitud de enmienda mayor para autorizar la descarga de aguas pluviales de manera intermitente y con flujo variable a través del nuevo Emisario 014. Basándose en la retirada de la única solicitud de enmienda importante con las solicitudes de enmienda restantes clasificadas como enmiendas menores, la solicitud se reclasifica como una solicitud de renovación.

La planta está ubicada 201 Formosa Drive, a una milla al norte de la intersección de la Carretera Estatal 35 y la Carretera de Campo a Mercado 1593, noreste de la Ciudad de Point Comfort, en el Condado de Calhoun, Texas 77978. 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://tceq.maps.arcgis.com/apps/webappviewer/index.html?id=db5bac44afbc468bbddd360f8168250f&marker=-96.55155%2C28.692753&level=12>

El efluente se descarga a través del Emisario 001 directamente en la Bahía Lavaca/Bahía Chocolate en el Segmento No. 2453; a través de los Emisarios 003 y 012 a zanjas sin nombre, de allí al Lago Cox, de allí al Arroyo Cox, de allí a la ensenada Huisache; a través de los Emisarios 005, 006 y 009 a Lago Cox, de allí al Arroyo Cox, de allí a la Ensenada Huisache; a través del Emisario 010 a zanjas sin nombre, de allí al Lago Cox, de allí al Arroyo Cox, de allí a la Ensenada Huisache que es una parte de Bahía Cox en el Segmento No. 2454; a través del Emisario 011 a zanjas sin nombre, de allí al Bahía Cox en el Segmento No. 2454; y a través del Emisario 013 directamente a Bahía Cox en el Segmento No. 2454 de las Bahías y los Estuarios. Los usos de las aguas receptoras no clasificadas son el uso mínimo para vida acuática en los canales sin nombre y el uso alto para vida acuática en el Lago Cox y el Arroyo Cox (mareal). Los usos designados para los Segmentos Nos. 2453 y 2454 son recreación de contacto primario, uso excepcional para la vida acuática y aguas para ostras.

De acuerdo con el 30 TAC §307.5 y los procedimientos de implementación de la TCEQ (Junio 2010) para las Normas de Calidad de Aguas Superficiales en Texas, fue realizada una revisión de la antidegradación de las aguas recibidas. Una revisión de antidegradación del Nivel 1 ha determinado preliminarmente que los usos de la calidad del agua existente no serán perjudicados por la acción de este permiso. Se mantendrá un criterio narrativo y numérico para proteger los usos existentes. Una revisión de Nivel 2 ha determinado preliminarmente que no se espera una degradación significativa de la calidad del agua en Lago Cox, que ha sido identificado como con un uso alto para la vida acuática, así como en Bahía Lavaca / Bahía Chocolate y Bahía Cox, que han sido identificadas como poseedoras de usos excepcionales para la vida acuática, respectivamente. Mantendrán y protegerán los usos existentes. La determinación preliminar puede ser reexaminada y puede ser modificada, si se recibe alguna información nueva.

El Director Ejecutivo de la TCEQ revisó esta acción para verificar su consistencia con los objetivos y políticas del Programa de Manejo Costero de Texas (CMP) de acuerdo con las regulaciones de la Oficina General de Tierras y ha determinado que la acción es consistente con los objetivos y políticas del CMP aplicables.

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 se aprueba, establecería las condiciones bajo las cuales debe operar la instalación. El Director Ejecutivo ha tomado una decisión preliminar de que este permiso, si se emite, cumple con todos los requisitos legales y reglamentarios. La solicitud de permiso, la decisión preliminar del Director Ejecutivo y el borrador del permiso están disponibles para su consulta y copia en Biblioteca Pública de Point Comfort, 1 Lamar Street, Point Comfort, en el Condado de Calhoun, Texas y Biblioteca Pública de Condado de Jackson, 411 North Wells Street, Habitación 121, Edna, en el Condado de Jackson, Texas.

COMENTARIO PUBLICO / REUNION PUBLICA. Usted puede presentar comentarios públicos o pedir una reunión pública sobre esta solicitud. El propósito de una reunión pública es proporcionar la oportunidad de presentar comentarios por escrito u orales o de hacer preguntas sobre la solicitud. Generalmente, la TCEQ llevará a cabo una reunión pública si el Director Ejecutivo determina que existe un grado significativo de interés público en la solicitud o si lo solicita un legislador local. Una reunión pública no es una audiencia 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.

Tras el cierre de todos los períodos aplicables de comentarios y solicitudes, el Director Ejecutivo enviará la solicitud y cualquier solicitud de reconsideración o de audiencia de caso impugnado a los Comisionados de la TCEQ para su consideración en una reunión programada de la Comisión.

La Comisión solo puede otorgar una solicitud de audiencia sobre un caso controvertido en los temas que el solicitante haya presentado en sus comentarios oportunos y que no hayan sido posteriormente retirados. **Si se concede una audiencia, el tema de la audiencia se limitará a cuestiones disputadas de hecho o cuestiones mixtas de hecho y derecho relacionadas con preocupaciones relevantes y materiales sobre la calidad del agua presentadas durante el período de comentarios.**

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 <https://www14.tceq.texas.gov/epic/eCID/>. 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 <https://www.tceq.texas.gov/agency/decisions/participation/permitting-participation>. Si desea información en Español, puede llamar al 1-800-687-4040.

También se puede obtener información adicional de Formosa Plastics Corporation, Texas y Formosa Utility Venture, Ltd. en la dirección indicada arriba o llamando Sr. Matt Brogger en (361) 987-7468.

Emitido: 30 de marzo de 2026



TEXAS COMMISSION ON ENVIRONMENTAL
QUALITY

P.O. Box 13087
Austin, Texas 78711-3087

PERMIT TO DISCHARGE WASTES

under provisions of
Section 402 of the Clean Water Act
and Chapter 26 of the Texas Water Code
and 40 CFR Part 414

Formosa Plastics Corporation, Texas and Formosa Utility Venture, Ltd.

whose mailing address is

P.O. Box 700
Point Comfort, Texas 77978

is authorized to treat and discharge wastes from Formosa Point Comfort Plant, a plastics and organic and inorganic chemicals manufacturing facility (SIC 2821, 2812, and 2869)

located at 201 Formosa Drive, one-mile north of the intersection of State Highway 35 and Farm-to-Market Road 1593, northeast of the City of Point Comfort, in Calhoun County, Texas 77978

from the plant site via Outfall 001 directly to Lavaca Bay/Chocolate Bay in Segment No. 2453; via Outfalls 003, 010, and 012 to unnamed ditches, thence to Cox Lake, thence to Cox Creek, thence to Huisache Cove which is a part of Cox Bay in Segment No. 2454; via Outfalls 005, 006, and 009 to Cox Lake, thence to Cox Creek, thence to Huisache Cove which is a part of Cox Bay in Segment No. 2454; via Outfall 011 to an unnamed ditch, thence to Cox Bay in Segment No. 2454; and via Outfall 013 directly to Cox Bay, thence to Cox Bay in Segment No. 2454 of the Bays and Estuaries

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

TPDES PERMIT NO. WQ0002436000
*[For TCEQ office use only -
EPA I.D. No. TX0085570]*

This renewal replaces TPDES Permit No. WQ0002436000, issued on June 10, 2016.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 001

- During the period beginning upon the date of permit issuance and lasting through the date of permit expiration, the permittee is authorized to discharge remediated groundwater, fire water, and treated previously monitored effluents (via Outfalls 101 and 201) subject to the following effluent limitations:

The daily average flow of effluent shall not exceed 9.7 million gallons per day (MGD). The daily maximum flow shall not exceed 15.1 MGD.

Effluent Characteristics	Discharge Limitations				Minimum Self-Monitoring Requirements		
	Daily Average lbs/day	Daily Average mg/L	Daily Maximum lbs/day	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow	9.7 MGD		15.1 MGD		N/A	Continuous	Record
Temperature, Degrees Fahrenheit	N/A		95 °F		N/A	Continuous ¹	Record
Carbonaceous Biochemical Oxygen Demand, 5-day (CBOD ₅)	1,102	14	2,727	34	51	3/week	Composite ²
Chemical Oxygen Demand (COD)	9,000	200	16,000	300	333	3/week	Composite ²
Total Suspended Solids (TSS)	3,110	40	6,476	80	120	3/week	Composite
Ammonia as Nitrogen	243	3	405	5	7.5	3/week	Composite
1,2-Dichloroethane	1.92	Report	5.97	Report	0.111	3/week	Composite ³
Chromium, hexavalent	3.7	Report	7.3	Report	0.135	3/week	Composite
Chromium, total	3.7	Report	7.3	Report	0.135	3/week	Composite
Copper, total ⁴	1.37	Report	3.11 ⁴	Report	0.058 ⁴	3/week	Composite ²
Copper, total (Final)	1.37	Report	3.09 ⁵	Report	0.057 ⁵	3/week	Composite ²
Lead, total	6.5	Report	16.0	Report	0.297	3/week	Composite
Mercury, total	0.03	Report	0.06	Report	0.0011	3/week	Composite ²
Zinc, total	2.8	Report	5.5	Report	0.102	2/week	Composite ²
Oil and Grease	222	N/A	332	15	15	2/week	Grab
Total Organic Carbon (TOC)	5,939	N/A	8,484	N/A	157	2/week	Composite ²
Benzene	1.05	Report	3.85	Report	0.0713	2/week	Composite ³
Benzo(a)anthracene ⁴	0.763	Report	2.04	Report	0.0885	2/week	Composite ²
Benzo(a)anthracene ⁵	0.0553	Report	0.117	Report	0.0022	2/week	Composite ²
Benzo(a)pyrene ⁴	0.798	Report	2.11	Report	0.0915	2/week	Composite ²
Benzo(a)pyrene ⁵	0.00553	Report	0.0117	Report	0.00022	2/week	Composite ²
Hexachlorobenzene ⁴	0.520	Report	0.971	Report	0.0420	2/week	Composite ²
Hexachlorobenzene ⁵	0.00153	Report	0.00315	Report	0.00006	2/week	Composite ²
Hexachlorobutadiene ⁴	0.694	Report	1.69	Report	0.0735	2/week	Composite ²
Hexachlorobutadiene ⁵	0.487	Report	1.02	Report	0.0191	2/week	Composite ²
Phenol	0.42	Report	0.74	Report	0.0137	2/week	Composite
Toluene	0.74	Report	2.26	Report	0.0419	2/week	Composite ³

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 001

Effluent Characteristics	Discharge Limitations				Minimum Self-Monitoring Requirements		
	Daily Average		Daily Maximum		Single Grab	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
	lbs/day	mg/L	lbs/day	mg/L	mg/L		
Trichloroethylene	0.59	Report	1.53	Report	0.0284	2/week	Composite ³
Vinyl Chloride	2.94	Report	7.58	Report	0.141	2/week	Composite ³
Dissolved Oxygen, minimum	2.0 mg/L		Report		2.0 mg/L	2/week	Grab
Fecal Coliform ⁶	Report ⁴		Report ⁴		N/A	1/week	Grab
Fecal Coliform ⁸	14 ⁷		43 ⁷		43 ⁷	1/week	Grab
Enterococci ⁶	14 ⁷		N/A		N/A	1/six months	Grab
Enterococci ⁸	35 ⁷		130 ⁷		130 ⁷	1/six months	Grab
2,3,7,8-TCDD Equivalents ^{4,9}	80.5 ⁴ µg/day	2.19 ppq	170 µg/day	4.63 ppq	10 ppq	1/quarter	Composite ²
2,3,7,8-TCDD Equivalents ^{5,9}	80.0 ⁵ µg/day	2.18 ppq	169 µg/day	4.61 ppq	10 ppq	1/quarter	Composite ²
Whole Effluent Toxicity (WET)							

¹ See Other Requirement No. 10.

² Samples shall be 24-hour composite samples collected in 12 or more individual portions, sized proportional to flow, equally spaced as reasonably practical throughout the operating day.

³ See Other Requirement No. 18.

⁴ Effective beginning upon the date of permit issuance and lasting for three years. See Other Requirement No. 23.

⁵ Beginning three years from the date of permit issuance and lasting until the date of permit expiration.

⁶ Effective beginning upon the date of permit issuance and lasting for a period of one (1) year.

⁷ Colony forming units (cfu) or most probable number (MPN) per 100 mL (cfu or MPN/100 mL).

⁸ Effective beginning one year from the permit issuance date and lasting until the date of permit expiration.

⁹ Limits are expressed as micrograms per liter (µg/L); part per quadrillion, ppq (i.e., 10⁻⁵); and, 1 ppq equals 1 picogram/liter (pg/L).

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 001

Effluent Characteristics	Discharge Limitations		Minimum Self-Monitoring Requirements	
	7-day Minimum	30-day Average	Measurement Frequency	Sample Type
Lethal Whole Effluent Toxicity (WET) limit 10% (Parameter 51713) <i>Americamysis bahia</i> (7-day chronic NOEC ¹)	10%	10%	1/quarter	Composite
Lethal Whole Effluent Toxicity (WET) limit 10% (Parameter 51712) <i>Menidia beryllina</i> (7-day chronic NOEC ¹)	10%	10%	1/quarter	Composite
24-hour Acute Whole Effluent Toxicity (WET) limit >100% (Parameter 51713) <i>Americamysis bahia</i> (24-hour acute LC50 ²)	>100%	>100%	1/six months	Composite

¹ The NOEC is here defined as the greatest effluent dilution at which no significant lethality is demonstrated. Significant lethality is here defined as a statistically significant difference between a specified effluent dilution and the control for lethal effects.

² The LC50 (Lethal Concentration 50) is defined as the effluent dilution at which 50% of the organisms survive.

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored continuously and recorded (see Other Requirement No. 8).
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, where effluent from Outfalls 101 and 201 commingle with remediated groundwater downstream of the TZT-07 mixing well, at the sample tap installed on the discharge pipe downstream of the pumps. Samples are not required to be collected at the diffuser. Bacteria (fecal coliform and Enterococci) shall be monitored at the exit of the sanitary treatment system.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 101

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 treated process wastewater, equipment/facility washdown, stormwater, fire water, and utility wastewaters (including pretreated sanitary wastewaters ¹) subject to the following effluent limitations:

The daily average flow of effluent shall not exceed 6.0 million gallons per day (MGD). The daily maximum flow shall not exceed 7.0 MGD.

Effluent Characteristics	Discharge Limitations				Minimum Self-Monitoring Requirements		
	Daily Average		Daily Maximum		Single Grab	Report Daily Average and Daily Maximum	Measurement Frequency
	lbs/day	mg/L	lbs/day	mg/L	mg/L		
Flow	6.0 MGD		7.0 MGD		N/A	Continuous	Record
Biochemical Oxygen Demand, 5-day (BOD ₅)	731	Report	1,959	Report	90	2/week	Composite ²
Chemical Oxygen Demand (COD)	6,676	Report	10,014	Report	350	2/week	Composite ²
Total Suspended Solids (TSS)	1,149	Report	3,735	Report	160	2/week	Composite
Acenaphthene	Report	N/A	Report	N/A	0.076	1/quarter	Composite
Acenaphthylene	Report	N/A	Report	N/A	0.076	1/quarter	Composite
Acrylonitrile	Report	N/A	Report	N/A	0.310	1/quarter	Composite ³
Anthracene	Report	N/A	Report	N/A	0.076	1/quarter	Composite
Benzene	Report	Report	Report	Report	0.174	2/week	Composite ³
Benzo(a)anthracene	Report	N/A	Report	N/A	0.076	1/quarter	Composite
3,4-Benzofluoranthene	Report	N/A	Report	N/A	0.078	1/quarter	Composite
Benzo(k)fluoranthene	Report	N/A	Report	N/A	0.076	1/quarter	Composite
Benzo(a)pyrene	Report	N/A	Report	N/A	0.078	1/quarter	Composite
Bis(2-ethylhexyl) phthalate	Report	N/A	Report	N/A	0.358	1/quarter	Composite
Carbon Tetrachloride	Report	N/A	Report	N/A	0.049	2/week	Composite ³
Chlorobenzene	Report	N/A	Report	N/A	0.036	2/week	Composite ³
Chloroethane	Report	N/A	Report	N/A	0.344	1/quarter	Composite ³
Chloroform	Report	N/A	Report	N/A	0.059	2/week	Composite ³
2-Chlorophenol	Report	N/A	Report	N/A	0.126	1/quarter	Composite
Chrysene	Report	N/A	Report	N/A	0.076	1/quarter	Composite
Di-n-butyl phthalate	Report	N/A	Report	N/A	0.073	1/quarter	Composite
1,2-Dichlorobenzene	Report	N/A	Report	N/A	0.209	1/quarter	Composite
1,3-Dichlorobenzene	Report	N/A	Report	N/A	0.056	1/quarter	Composite
1,4-Dichlorobenzene	Report	N/A	Report	N/A	0.036	1/quarter	Composite

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 101

Effluent Characteristics	Discharge Limitations				Minimum Self-Monitoring Requirements		
	Daily Average		Daily Maximum		Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
	lbs/day	mg/L	lbs/day	mg/L			
1,1-Dichloroethane	Report	N/A	Report	N/A	0.076	2/week	Composite ³
1,2-Dichloroethane	Report	Report	Report	Report	0.271	3/week	Composite ³
1,1-Dichloroethylene	Report	N/A	Report	N/A	0.032	1/quarter	Composite ³
1,2-trans Dichloroethylene	Report	N/A	Report	N/A	0.069	1/quarter	Composite ³
2,4-Dichlorophenol	Report	N/A	Report	N/A	0.144	1/quarter	Composite
1,2-Dichloropropane	Report	N/A	Report	N/A	0.295	1/quarter	Composite ³
1,3-Dichloropropylene	Report	N/A	Report	N/A	0.056	1/quarter	Composite ³
Diethyl phthalate	Report	N/A	Report	N/A	0.260	1/quarter	Composite
2,4-Dimethylphenol	Report	N/A	Report	N/A	0.046	1/quarter	Composite
Dimethyl phthalate	Report	N/A	Report	N/A	0.060	1/quarter	Composite
4,6-Dinitro-o-cresol	Report	N/A	Report	N/A	0.355	1/quarter	Composite
2,4-Dinitrophenol	Report	N/A	Report	N/A	0.158	1/quarter	Composite
2,4-Dinitrotoluene	Report	N/A	Report	N/A	0.366	1/quarter	Composite
2,6-Dinitrotoluene	Report	N/A	Report	N/A	0.822	1/quarter	Composite
Ethylbenzene	Report	N/A	Report	N/A	0.139	1/quarter	Composite ³
Fluoranthene	Report	N/A	Report	N/A	0.087	1/quarter	Composite
Fluorene	Report	N/A	Report	N/A	0.076	1/quarter	Composite
Hexachlorobenzene	Report	N/A	Report	N/A	0.010	1/quarter	Composite
Hexachlorobutadiene	Report	N/A	Report	N/A	0.063	1/quarter	Composite
Hexachloroethane	Report	N/A	Report	N/A	0.069	1/quarter	Composite
Methyl Chloride	Report	N/A	Report	N/A	0.244	2/week	Composite ³
Methylene Chloride	Report	N/A	Report	N/A	0.114	2/week	Composite ³
Naphthalene	Report	N/A	Report	N/A	0.076	1/quarter	Composite
Nitrobenzene	Report	N/A	Report	N/A	0.087	1/quarter	Composite
2-Nitrophenol	Report	N/A	Report	N/A	0.089	1/quarter	Composite
4-Nitrophenol	Report	N/A	Report	N/A	0.159	1/quarter	Composite
Phenanthrene	Report	N/A	Report	N/A	0.076	1/quarter	Composite
Phenol	Report	Report	Report	Report	0.033	2/week	Composite
Pyrene	Report	N/A	Report	N/A	0.086	1/quarter	Composite
Tetrachloroethylene	Report	N/A	Report	N/A	0.072	2/week	Composite ³

Effluent Characteristics	Discharge Limitations				Minimum Self-Monitoring Requirements		
	Daily Average		Daily Maximum		Single Grab	Report Daily Average and Daily Maximum	Sample Type
	lbs/day	mg/L	lbs/day	mg/L	mg/L	Measurement Frequency	
Toluene	Report	N/A	Report	N/A	0.103	1/year	Composite ³
1,2,4-Trichlorobenzene	Report	N/A	Report	N/A	0.180	1/quarter	Composite
1,1,1-Trichloroethane	Report	N/A	Report	N/A	0.069	2/week	Composite ³
1,1,2-Trichloroethane	Report	N/A	Report	N/A	0.069	1/quarter	Composite ³
Trichloroethylene	Report	N/A	Report	N/A	0.069	1/year	Composite ³
Vinyl Chloride	Report	N/A	Report	N/A	0.150	1/year	Composite ³

¹ See Other Requirement No. 26.

² Samples shall be 24-hour composite samples collected in 12 or more individual portions, sized proportional to flow, equally spaced as reasonably practical throughout the operating day.

³ See Other Requirement No. 18.

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored continuously and recorded (see Other Requirement No. 8).
3. Effluent monitoring samples shall be taken at the following location: At Outfall 101, at the exit of the final treatment unit of the Combined Waste Treatment Plant – Biological Treatment unit, at the pipe at the northwest corner of the combined final sump, prior to commingling with any other waters.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 201

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 treated and combined Ion Exchange Membrane (IEM) wastewater streams, utility wastewaters (including pretreated sanitary wastewaters ¹), equipment/facility washdown, stormwater, fire water, and water treatment wastes on a continuous and flow-variable basis subject to the following effluent limitations:

Effluent Characteristics	Discharge Limitations				Minimum Self-Monitoring Requirements		
	Daily Average		Daily Maximum		Single Grab	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
	lbs/day	mg/L	lbs/day	mg/L	mg/L		
Flow	Report MGD		Report MGD		N/A	Continuous	Record
Biochemical Oxygen Demand, 5-day (BOD ₅)	237	Report	474	Report	N/A	2/week	Composite ²
Chemical Oxygen Demand (COD)	Report	Report	Report	Report	N/A	2/week	Composite ²
Total Suspended Solids (TSS)	1,729	Report	3,006	Report	N/A	2/week	Composite
Copper, total	Report	Report	Report	Report	N/A	2/week	Composite ²
Lead, total	6.5	Report	16.0	Report	N/A	2/week	Composite
Nickel, total	6.89	Report	14.6	Report	N/A	2/week	Composite
Titanium, total	Report	Report	Report	Report	N/A	2/week	Composite
Chlorine, total residual	24.6	Report	44.33	Report	N/A	2/week	Grab
Acenaphthene	Report	N/A	Report	N/A	0.076	1/quarter	Composite
Acenaphthylene	Report	N/A	Report	N/A	0.076	1/quarter	Composite
Acrylonitrile	Report	N/A	Report	N/A	0.310	1/quarter	Composite ³
Anthracene	Report	N/A	Report	N/A	0.076	1/quarter	Composite
Benzene	Report	Report	Report	Report	0.174	2/week	Composite ³
Benzo(a)anthracene	Report	N/A	Report	N/A	0.076	1/quarter	Composite
3,4-Benzofluoranthene	Report	N/A	Report	N/A	0.078	1/quarter	Composite
Benzo(k)fluoranthene	Report	N/A	Report	N/A	0.076	1/quarter	Composite
Benzo(a)pyrene	Report	N/A	Report	N/A	0.078	1/quarter	Composite
Bis(2-ethylhexyl) phthalate	Report	N/A	Report	N/A	0.358	1/quarter	Composite
Carbon Tetrachloride	Report	N/A	Report	N/A	0.049	2/week	Composite ³
Chlorobenzene	Report	N/A	Report	N/A	0.036	2/week	Composite ³
Chloroethane	Report	N/A	Report	N/A	0.344	1/quarter	Composite ³
Chloroform	Report	N/A	Report	N/A	0.059	2/week	Composite ³
2-Chlorophenol	Report	N/A	Report	N/A	0.126	1/quarter	Composite

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 201

Effluent Characteristics	Discharge Limitations				Minimum Self-Monitoring Requirements		
	Daily Average		Daily Maximum		Single Grab mg/L	Report Daily Average and Daily Maximum	
	lbs/day	mg/L	lbs/day	mg/L		Measurement Frequency	Sample Type
Chrysene	Report	N/A	Report	N/A	0.076	1/quarter	Composite
Di-n-butyl phthalate	Report	N/A	Report	N/A	0.073	1/quarter	Composite
1,2-Dichlorobenzene	Report	N/A	Report	N/A	0.209	1/quarter	Composite
1,3-Dichlorobenzene	Report	N/A	Report	N/A	0.056	1/quarter	Composite
1,4-Dichlorobenzene	Report	N/A	Report	N/A	0.036	1/quarter	Composite
1,1-Dichloroethane	Report	N/A	Report	N/A	0.076	2/week	Composite ³
1,2-Dichloroethane	Report	Report	Report	Report	0.271	2/week	Composite ³
1,1-Dichloroethylene	Report	N/A	Report	N/A	0.032	1/quarter	Composite ³
1,2-trans Dichloroethylene	Report	N/A	Report	N/A	0.069	1/quarter	Composite ³
2,4-Dichlorophenol	Report	N/A	Report	N/A	0.144	1/quarter	Composite
1,2-Dichloropropane	Report	N/A	Report	N/A	0.295	1/quarter	Composite ³
1,3-Dichloropropylene	Report	N/A	Report	N/A	0.056	1/quarter	Composite ³
Diethyl phthalate	Report	N/A	Report	N/A	0.260	1/quarter	Composite
2,4-Dimethylphenol	Report	N/A	Report	N/A	0.046	1/quarter	Composite
Dimethyl phthalate	Report	N/A	Report	N/A	0.060	1/quarter	Composite
4,6-Dinitro-o-cresol	Report	N/A	Report	N/A	0.355	1/quarter	Composite
2,4-Dinitrophenol	Report	N/A	Report	N/A	0.158	1/quarter	Composite
2,4-Dinitrotoluene	Report	N/A	Report	N/A	0.366	1/quarter	Composite
2,6-Dinitrotoluene	Report	N/A	Report	N/A	0.822	1/quarter	Composite
Ethylbenzene	Report	N/A	Report	N/A	0.139	1/quarter	Composite ³
Fluoranthene	Report	N/A	Report	N/A	0.087	1/quarter	Composite
Fluorene	Report	N/A	Report	N/A	0.076	1/quarter	Composite
Hexachlorobenzene	Report	N/A	Report	N/A	0.010	1/quarter	Composite
Hexachlorobutadiene	Report	N/A	Report	N/A	0.063	1/quarter	Composite
Hexachloroethane	Report	N/A	Report	N/A	0.069	1/quarter	Composite
Methyl Chloride	Report	N/A	Report	N/A	0.244	2/week	Composite ³
Methylene Chloride	Report	N/A	Report	N/A	0.114	2/week	Composite ³
Naphthalene	Report	N/A	Report	N/A	0.076	1/quarter	Composite
Nitrobenzene	Report	N/A	Report	N/A	0.087	1/quarter	Composite
2-Nitrophenol	Report	N/A	Report	N/A	0.089	1/quarter	Composite

Effluent Characteristics	Discharge Limitations				Minimum Self-Monitoring Requirements		
	Daily Average		Daily Maximum		Single Grab	Report Daily Average and Daily Maximum	Sample Type
	lbs/day	mg/L	lbs/day	mg/L	mg/L	Measurement Frequency	
4-Nitrophenol	Report	N/A	Report	N/A	0.159	1/quarter	Composite
Phenanthrene	Report	N/A	Report	N/A	0.076	1/quarter	Composite
Phenol	Report	Report	Report	Report	0.033	2/week	Composite
Pyrene	Report	N/A	Report	N/A	0.086	1/quarter	Composite
Tetrachloroethylene	Report	N/A	Report	N/A	0.072	2/week	Composite ³
Toluene	Report	N/A	Report	N/A	0.103	1/year	Composite ³
1,2,4-Trichlorobenzene	Report	N/A	Report	N/A	0.180	1/quarter	Composite
1,1,1-Trichloroethane	Report	N/A	Report	N/A	0.069	2/week	Composite ³
1,1,2-Trichloroethane	Report	N/A	Report	N/A	0.069	1/quarter	Composite ³
Trichloroethylene	Report	N/A	Report	N/A	0.069	1/year	Composite ³
Vinyl Chloride	Report	N/A	Report	N/A	0.150	1/year	Composite ³

¹ See Other Requirement No. 26.

² Samples shall be 24-hour composite samples collected in 12 or more individual portions, sized proportional to flow, equally spaced as reasonably practical throughout the operating day.

³ See Other Requirement No. 18.

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 2/week, by grab sample.
3. Effluent monitoring samples shall be taken at the following location: At Outfall 201, at the exit of the final treatment unit of the Combined Waste Treatment Plant – Physical Treatment units, at the pipe at the northeast corner of the combined final sump, prior to commingling with any other waters.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number SUM

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 previously monitored wastewaters from Outfalls 101 and 201, subject to the following effluent limitations:

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average	Daily Maximum	Single Grab	Report Daily Average and Daily Maximum	
	lbs/day	lbs/day	mg/L	Measurement Frequency	Sample Type
Acenaphthene	0.57	1.54	N/A	1/quarter	Summation ¹
Acenaphthylene	0.57	1.54	N/A	1/quarter	Summation ¹
Acrylonitrile	2.51	6.32	N/A	1/quarter	Summation ¹
Anthracene	0.57	1.54	N/A	1/quarter	Summation ¹
Benzene	0.97	3.55	N/A	2/week	Summation ¹
Benzo(a)anthracene	0.57	1.54	N/A	1/quarter	Summation ¹
3,4-Benzofluoranthene	0.60	1.59	N/A	1/quarter	Summation ¹
Benzo(k)fluoranthene	0.57	1.54	N/A	1/quarter	Summation ¹
Benzo(a)pyrene	0.60	1.59	N/A	1/quarter	Summation ¹
Bis(2-ethylhexyl) phthalate	2.69	7.29	N/A	1/quarter	Summation ¹
Carbon Tetrachloride	0.47	0.99	N/A	2/week	Summation ¹
Chlorobenzene	0.39	0.73	N/A	2/week	Summation ¹
Chloroethane	2.72	7.00	N/A	1/quarter	Summation ¹
Chloroform	1.89	4.99	N/A	2/week	Summation ¹
2-Chlorophenol	0.81	2.56	N/A	1/quarter	Summation ¹
Chrysene	0.57	1.54	N/A	1/quarter	Summation ¹
Di-n-butyl phthalate	0.71	1.49	N/A	1/quarter	Summation ¹
1,2-Dichlorobenzene	2.01	4.26	N/A	1/quarter	Summation ¹
1,3-Dichlorobenzene	0.81	1.15	N/A	1/quarter	Summation ¹
1,4-Dichlorobenzene	0.39	0.73	N/A	1/quarter	Summation ¹
1,1-Dichloroethane	0.57	1.54	N/A	2/week	Summation ¹
1,2-Dichloroethane	1.78	5.51	N/A	2/week	Summation ¹
1,1-Dichloroethylene	0.42	0.65	N/A	1/quarter	Summation ¹
1,2-trans Dichloroethylene	0.55	1.41	N/A	1/quarter	Summation ¹
2,4-Dichlorophenol	1.02	2.93	N/A	1/quarter	Summation ¹
1,2-Dichloropropane	4.00	6.01	N/A	1/quarter	Summation ¹
1,3-Dichloropropylene	0.75	1.15	N/A	1/quarter	Summation ¹
Diethyl phthalate	2.12	5.30	N/A	1/quarter	Summation ¹
2,4-Dimethylphenol	0.47	0.94	N/A	1/quarter	Summation ¹
Dimethyl phthalate	0.50	1.23	N/A	1/quarter	Summation ¹

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number SUM

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average	Daily Maximum	Single Grab	Report Daily Average and Daily Maximum	
	lbs/day	lbs/day	mg/L	Measurement Frequency	Sample Type
4,6-Dinitro-o-cresol	2.04	7.24	N/A	1/quarter	Summation ¹
2,4-Dinitrophenol	1.85	3.21	N/A	1/quarter	Summation ¹
2,4-Dinitrotoluene	2.95	7.44	N/A	1/quarter	Summation ¹
2,6-Dinitrotoluene	6.66	16.74	N/A	1/quarter	Summation ¹
Ethylbenzene	0.84	2.82	N/A	1/quarter	Summation ¹
Fluoranthene	0.65	1.78	N/A	1/quarter	Summation ¹
Fluorene	0.57	1.54	N/A	1/quarter	Summation ¹
Hexachlorobenzene	0.010	0.021	N/A	1/quarter	Summation ¹
Hexachlorobutadiene	0.52	1.28	N/A	1/quarter	Summation ¹
Hexachloroethane	0.55	1.41	N/A	1/quarter	Summation ¹
Methyl Chloride	2.25	4.96	N/A	2/week	Summation ¹
Methylene Chloride	1.04	2.32	N/A	2/week	Summation ¹
Naphthalene	0.57	1.54	N/A	1/quarter	Summation ¹
Nitrobenzene	0.71	1.78	N/A	1/quarter	Summation ¹
2-Nitrophenol	1.07	1.80	N/A	1/quarter	Summation ¹
4-Nitrophenol	1.88	3.24	N/A	1/quarter	Summation ¹
Phenanthrene	0.53	1.12	N/A	1/quarter	Summation ¹
Phenol	0.39	0.68	N/A	2/week	Summation ¹
Pyrene	0.65	1.75	N/A	1/quarter	Summation ¹
Tetrachloroethylene	0.57	1.46	N/A	2/week	Summation ¹
Toluene	0.68	2.09	N/A	1/year	Summation ¹
1,2,4-Trichlorobenzene	1.78	3.66	N/A	1/quarter	Summation ¹
1,1,1-Trichloroethane	0.55	1.41	N/A	2/week	Summation ¹
1,1,2-Trichloroethane	0.55	1.41	N/A	1/quarter	Summation ¹
Trichloroethylene	0.55	1.41	N/A	1/year	Summation ¹
Vinyl Chloride	1.67	3.33	N/A	1/year	Summation ¹

¹ Summation of samples taken at Outfalls 101 and 201 as required on Pages 2c, 2d, 2e, 2f, 2g, and 2h of the permit.

- Effluent monitoring samples shall be taken at the following location: At Outfalls 101 and 201, as required on page nos. 2c, 2d, 2e, 2f, 2g, and 2h of this permit. The resulting loadings determined for each outfall shall be added together with the resulting summation value reported for this outfall for compliance purposes.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 901

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, cooling water filter backwash, and non-process area stormwater 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 ¹	Estimate
Total Dissolved Solids (TDS)	N/A	Report	N/A	1/month ¹	Grab

¹ When routing cooling tower blowdown, cooling water filter backwash, and non-process area stormwater to the ALCOA mud pits for dust suppression (see Other Requirement No. 18.B.).

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/day, by grab sample, when routing cooling tower blowdown, cooling water filter backwash, and non-process area stormwater to the ALCOA mud pits for dust suppression (see Other Requirement No. 18.B.).
3. Effluent monitoring samples shall be taken at the following location: At Outfall 901, prior to routing to the ALCOA mud pits for dust suppression.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Numbers 003 and 005

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 non-process area stormwater, hydrostatic test water, fire water, non-contact condensate, non-contact wash water, potable water, and air conditioner unit condensate 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 ¹	Estimate
Total Organic Carbon (TOC)	N/A	55	55	1/day ¹	Grab
Oil and grease	N/A	15	15	1/day ¹	Grab
1,2-Dichloroethane	N/A	0.4	0.4	1/day ¹	Grab
Total Purgeable Hydrocarbons	Report	Report	N/A	1/day ¹	Grab

¹ When discharging, initial sample shall be collected within 15 minutes after a discharge begins. Discharges shall be monitored 1/day for the duration of the flow.

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/day, by grab sample, when discharging. Initial sample shall be collected within 15 minutes after a discharge begins. Discharges shall be monitored 1/day for the duration of the flow.
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 locations:

At Outfall 003: at N28.68025 W96.54809 located on the south side of the plant just north of State Highway 35, approximately 0.3 miles east of the intersection of Farm-to-Market Road 1593 and State Highway 35, with the monitoring point located at the south end of Pond 205, and prior to mixing with any other waters.

At Outfall 005: at N28.68492 W96.53693 located on the south side of the plant just north of State Highway 35, approximately 1.1 miles east of the intersection of Farm-to-Market Road 1593 and State Highway 35, with the monitoring point located near the facility fence line near State Highway 35, prior to mixing with any other waters.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Numbers 006, 009, and 012

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 non-process area stormwater, hydrostatic test water, fire water, non-contact condensate, non-contact wash water, potable water, and air conditioner unit condensate 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 ¹	Estimate
Total Organic Carbon (TOC)	N/A	55	55	1/day ¹	Grab
Oil and grease	N/A	15	15	1/day ¹	Grab

¹ When discharging, initial sample shall be collected within 15 minutes after a discharge begins. Discharges shall be monitored 1/day for the duration of the flow.

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/day, by grab sample, when discharging. Initial sample shall be collected within 15 minutes after a discharge begins. Discharges shall be monitored 1/day for the duration of the flow.
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 locations:

At Outfall 006: at N28.68888 W96.52931 located approximately 120 feet north of State Highway 35, on the west side of Cox Creek, with the monitoring point located approximately 600 feet west of the physical outfall at the Outfall 006 ditch control gate, prior to entering Cox Creek.

At Outfall 009: at N28.70020 W96.53211 located approximately 4,370 feet north of State Highway 35, on the west side of Cox Creek, with the monitoring point located approximately 500 feet west of the physical outfall at the Outfall 009 ditch control gate, prior to entering Cox Creek.

At Outfall 012: at N28.70625 W96.52947 located at the northeast corner of the plant property at Huisache Creek, approximately 1.25 miles north of State Highway 35 and 1.15 miles west of Farm-to-Market Road 1593, on the west side of Cox Creek and prior to mixing with any other waters.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Numbers 010 and 011

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 non-process area stormwater, hydrostatic test water, fire water, non-contact condensate, non-contact wash water, potable water, and air conditioner unit condensate 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 ¹	Estimate
Total Organic Carbon (TOC)	N/A	55	55	1/day ¹	Grab
Oil and grease	N/A	15	15	1/day ¹	Grab

¹ When discharging, initial sample shall be collected within 15 minutes after a discharge begins. Discharges shall be monitored 1/day for the duration of the flow.

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/day, by grab sample, when discharging. Initial sample shall be collected within 15 minutes after a discharge begins. Discharges shall be monitored 1/day for the duration of the flow.
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 locations:

At Outfall 010: located approximately 100 feet north of the Guard Shack for the Shore Tank Farm, approximately 2,300 feet south of the intersection of State Highway 35 and Farm-to-Market Road 1593 and prior to mixing with any other waters.

At Outfall 011: located at the boundary of the southeast corner of the Dock Tank Farm, approximately 2.2 miles south of the intersection of State Highway 35 and Farm-to-Market Road 1593 and prior to mixing with any other waters.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 013

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 non-process area stormwater, hydrostatic test water, fire water, non-contact condensate, non-contact wash water, potable water, and air conditioner unit condensate 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 ¹	Estimate
Total Organic Carbon (TOC)	N/A	55	55	1/day ¹	Grab
Oil and Grease	N/A	15	15	1/day ¹	Grab

¹ When discharging, initial sample shall be collected within 15 minutes after a discharge begins. Discharges shall be monitored 1/day for the duration of the flow.

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/day, by grab sample, when discharging. Initial sample shall be collected within 15 minutes after a discharge begins. Discharges shall be monitored 1/day for the duration of the flow.
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 locations: At Outfall 013, on the southeast corner of the circulating fluidized bed / natural gas fired energy generating facility (CFB) site.

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 *n*th 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 Domestic Permits Team, Domestic Wastewater 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 Domestic Permits Team, Domestic Wastewater 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.

OTHER REQUIREMENTS

1. 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.
2. Violations of daily maximum limitations for the following pollutants shall be reported orally or by facsimile to TCEQ Region 14 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 14 and the Enforcement Division (MC 224):

Pollutant		
Chromium, total	2-Chlorophenol	Fluoranthene
Chromium, hexavalent	Chrysene	Fluorene
Copper, total	Di-n-Butyl Phthalate	Hexachlorobenzene
Lead, total	1,2-Dichlorobenzene	Hexachlorobutadiene
Mercury, total	1,3-Dichlorobenzene	Hexachloroethane
Nickel, total	1,4-Dichlorobenzene	Methylene Chloride
Titanium, total	1,1-Dichloroethane	Methyl Chloride
Zinc, total	1,2-Dichloroethane	Naphthalene
Acenaphthene	1,1-Dichloroethylene	Nitrobenzene
Acenaphthylene	1,2-trans-Dichloroethylene	2-Nitrophenol
Acrylonitrile	2,4-Dichlorophenol	4-Nitrophenol
Anthracene	1,2-Dichloropropane	Phenanthrene
Benzene	1,3-Dichloropropylene	Phenol
Benzo(a)anthracene	Diethyl Phthalate	Pyrene
3,4-Benzofluoranthene (Benzo(b)fluoranthene)	2,4-Dimethylphenol	Tetrachloroethylene
Benzo(k)fluoranthene	Dimethyl Phthalate	Toluene
Benzo(a)pyrene	4,6-Dinitro-o-Cresol	1,2,4-Trichlorobenzene
Bis(2-Ethylhexyl) Phthalate	2,4-Dinitrophenol	1,1,1-Trichloroethane
Carbon Tetrachloride	2,4-Dinitrotoluene	1,1,2-Trichloroethane
Chlorobenzene	2,6-Dinitrotoluene	Trichloroethylene
Chloroethane	Ethylbenzene	Vinyl Chloride
Chloroform		

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 minimum analytical level (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.

Pollutant	MAL, (mg/L)
Biochemical Oxygen Demand, 5-day (BOD ₅)	2.0
Titanium, total	2.0
Zinc, total	0.2
Chromium, total	0.003
Chromium, hexavalent	0.003
Copper, total	0.010 ¹
Lead, total	0.0005

¹ Continued from the permit issued on June 10, 2016 since they are sensitive enough to demonstrate compliance with the lowest effluent limitations in the permit.

Pollutant	MAL, (mg/L)
Mercury, total	0.0002 ²
Nickel, total	0.002
Titanium, total	0.030
Zinc, total	0.005

Dioxin/Furans	MAL, picograms per liter (pg/L)
2,3,7,8-TCDD	10

Volatile Compounds	MAL (mg/L)
Acrylonitrile	0.050
Benzene	0.010
Carbon Tetrachloride	0.010 ²
Chlorobenzene	0.010
Chloroethane	0.050
Chloroform	0.010
1,1-Dichloroethane	0.010
1,2-Dichloroethane	0.010
1,1-Dichloroethylene	0.010
1,2-Dichloropropane	0.010
1,3-Dichloropropylene	0.010
Ethylbenzene	0.010
Methyl Chloride	0.050
Methylene Chloride	0.020
Tetrachloroethylene	0.010
Toluene	0.010
1,2-trans-Dichloroethylene	0.010
1,1,1-Trichloroethane	0.010
1,1,2-Trichloroethane	0.010
Trichloroethylene	0.010
Vinyl Chloride	0.010

Acid Compounds	MAL (mg/L)
2-Chlorophenol	0.010
2,4-Dichlorophenol	0.010
2,4-Dimethylphenol	0.010
4,6-Dinitro-o-Cresol	0.050
2,4-Dinitrophenol	0.050
2-Nitrophenol	0.020
4-Nitrophenol	0.050
Phenol	0.010

² Continued from the permit issued on June 10, 2016 since they are sensitive enough to demonstrate compliance with the lowest effluent limitations in the permit.

Base/Neutral Compounds	MAL (mg/L)
Acenaphthene	0.010
Acenaphthylene	0.010
Anthracene	0.010
Benzo(a)anthracene	0.005
Benzo(a)pyrene	0.005
3,4-Benzofluoranthene (Benzo(b)fluoranthene)	0.010
Benzo(k)fluoranthene	0.010 ³
Bis(2-chloroisopropyl) ether	0.010
Bis(2-Ethylhexyl) phthalate	0.010
Chrysene	0.005
1,2-Dichlorobenzene	0.010
1,3-Dichlorobenzene	0.010
1,4-Dichlorobenzene	0.010
Diethyl Phthalate	0.010
Dimethyl Phthalate	0.010
Di-n-Butyl Phthalate	0.010
2,4-Dinitrotoluene	0.010
2,6-Dinitrotoluene	0.010
Fluoranthene	0.010
Fluorene	0.010
Hexachlorobenzene	0.005
Hexachlorobutadiene	0.010
Hexachloroethane	0.020
Naphthalene	0.010
Nitrobenzene	0.010
Phenanthrene	0.010
Pyrene	0.010
1,2,4-Trichlorobenzene	0.010

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.

³ Continued from the permit issued on June 10, 2016 since they are sensitive enough to demonstrate compliance with the lowest effluent limitations in the permit.

3. The chronic aquatic life mixing zone 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 chronic aquatic life mixing zone.

4. POND REQUIREMENTS

A wastewater pond must comply with the following requirements. A wastewater pond (or lagoon) is an earthen structure used to evaporate, hold, store, or treat water that contains a *waste* or *pollutant* or that would cause *pollution* upon *discharge* as those terms are defined in Texas Water Code § 26.001, but does not include a pond that contains only stormwater and/or hydrostatic test water from new vessels, or existing vessels that contain or previously contained or transferred raw or potable water, or existing vessels that previously contained only elemental gases (hydrogen, oxygen, nitrogen, etc.).

- A. A wastewater pond **subject to 40 CFR Part 257, Subpart D** (related to coal combustion residuals) must comply with those requirements in lieu of the requirements in B through G of POND REQUIREMENTS.
- B. An **existing** wastewater pond must be maintained to meet or exceed the original approved design and liner requirements; or, in the absence of original approved requirements, must be maintained to prevent unauthorized discharge of wastewater into or adjacent to water in the state. The permittee shall maintain copies of all liner construction and testing documents at the facility or in a reasonably accessible location and make the information available to the Executive Director upon request.
- C. A **new** wastewater pond constructed after the issuance date of this permit must be lined in compliance with one of the following requirements if it will contain process wastewater as defined in 40 CFR §122.2. The Executive Director will review ponds that will contain only non-process wastewater on a case-by-case basis to determine whether the pond must be lined. If a pond will contain only non-process wastewater, the owner shall notify the Industrial Permits Team (MC 148) to obtain a written determination at least 90 days before the pond is placed into service. The permittee must submit all information about the proposed pond contents that is reasonably necessary for the Executive Director to make a determination. If the Executive Director determines that a pond does not need to be lined, then the pond is exempt from C(1) through C(3) and D through G of POND REQUIREMENTS.

A wastewater pond that only contains domestic wastewater must comply with the design requirements in 30 TAC Chapter 217 and 30 TAC §309.13(d) in lieu of items C(1) through C(3) of this subparagraph.

- (1) Soil Liner: The soil liner must contain clay-rich soil material (at least 30% of the liner material passing through a #200 mesh sieve, liquid limit greater than or equal to 30, and plasticity index greater than or equal to 15) that completely covers the sides and bottom of the pond. The liner must be at least 3.0 feet thick. The liner material must be compacted in lifts of no more than 8 inches to 95% standard proctor density at the optimum moisture content in accordance with ASTM D698 to achieve a permeability less than or equal to 1×10^{-7} (≤ 0.0000001) cm/sec. For in-situ soil material that meets the permeability requirement, the material must be scarified at least 8 inches deep and then re-compacted to finished grade.
- (2) Synthetic membrane: The liner must be a synthetic membrane liner at least 40 mils in thickness that completely covers the sides and the bottom of the pond. The liner material used must be compatible with the wastewater and be resistant to degradation (e.g., from ultraviolet light, chemical reactions, wave action, erosion,

etc.). The liner material must be installed and maintained in accordance with the manufacturer's guidelines. A wastewater pond with a synthetic membrane liner must include an underdrain with a leak detection and collection system.

- (3) Alternate Liner: The permittee shall submit plans signed and sealed by a Texas-licensed professional engineer for any other equivalently-protective pond lining method to the TCEQ Industrial Permits Team (MC-148).

- D. For a pond that must be lined according to subparagraph C (including ponds with in-situ soil liners), the permittee shall provide certification, signed and sealed by a Texas-licensed professional engineer, stating that the completed pond lining and any required underdrain with leak detection and collection system for the pond meet the requirements in subparagraph C(1) – C(3) before using the pond. The certification shall include the following minimum details about the pond lining system: (1) pond liner type (in-situ soil, amended in-situ soil, imported soil, synthetic membrane, or alternative), (2) materials used, (3) thickness of materials, and (4) either permeability test results or a leak detection and collection system description, as applicable.

The certification must be provided to the TCEQ Water Quality Assessment Team (MC-150), Industrial Permits Team (MC-148), Compliance Monitoring Section (MC-224), and Regional Office. A copy of the liner certification and construction details (i.e., as-built drawings, construction QA/QC documentation, and post-construction testing) must be kept on site or in a reasonably accessible location (in either hardcopy or digital format) until the pond is closed.

- E. Protection and maintenance requirements for a pond subject to subparagraph B or C (including ponds with in-situ soil liners).
 - (1) The permittee shall maintain a liner to prevent the unauthorized discharge of wastewater into or adjacent to water in the state.
 - (2) A liner must be protected from damage caused by animals. Fences or other protective devices or measures may be used to satisfy this requirement.
 - (3) The permittee shall maintain the structural integrity of the liner and shall keep the liner and embankment free of woody vegetation, animal burrows, and excessive erosion.
 - (4) The permittee shall inspect each pond liner and each leak detection system at least once per month. Evidence of damage or unauthorized discharges must be evaluated by a Texas licensed professional engineer or Texas licensed professional geoscientist within 30 days. The permittee is not required to drain an operating pond or to inspect below the waterline during these routine inspections.
 - a. A Texas licensed professional engineer or Texas licensed professional geoscientist must evaluate damage to a pond liner, including evidence of an unauthorized discharge without visible damage.
 - b. Pond liner damage must be repaired at the recommendation of a Texas licensed professional engineer or Texas licensed professional geoscientist. If the damage is significant or could result in an unauthorized discharge, then the repair must be documented and certified by a Texas licensed professional engineer. Within 60 days after a repair is completed, liner certification must be provided to the Water Quality Assessment Team (MC-150), Compliance Monitoring Section (MC-224), and TCEQ Regional Office. A copy of the liner certification must be maintained at the facility or in a reasonably accessible location and made available to the Executive Director upon request.

As an alternative to the requirement above, the permittee may submit a copy of reports developed based on a more comprehensive groundwater monitoring program performed in conjunction with another TCEQ or EPA regulated activity, provided that the monitoring program is inclusive of the requirements listed above.

8. The permittee shall maintain the pH within the range specified on page nos. 2b (Outfall 001) and 2e (Outfall 101) of this permit. Excursions from the range are permitted. An excursion is an unintentional and temporary incident in which the pH value of the wastewater exceeds the range set forth on page nos. 2b (Outfall 001) and 2e (Outfall 101). A pH excursion is not a violation and a non-compliance report is not required for pH excursions provided:
 - a. the excursion does not exceed the range of 5-11 standard pH units;
 - b. the individual excursion does not exceed 60 minutes; and
 - c. the sum of all excursions does not exceed 7 hours and 26 minutes in any calendar month.
9. For continuous temperature measurements taken in accordance with page 2 of this permit, the reporting requirements in MONITORING AND REPORTING REQUIREMENTS, Item 7, on page 6 of this permit, may be omitted if the continuously recorded temperature does not exceed the Daily Maximum temperature for more than 30 minutes for any single exceedance and not more than a total of 7 hours and 26 minutes in any calendar month.
10. The wastewater treatment plants shall be:
 - a. located above the elevation of the 100-year frequency flood event per the Federal Emergency Management Agency (FEMA) Flood Map for flood hazard information in support of the National Flood Insurance Program (NFIP), Calhoun County; or
 - b. protected (by berms or other appropriately designed flood control structures) against inundation that may occur during a 100-year flood event (i.e., the 100-year frequency flood level per FEMA Flood Map for flood hazard information in support of the National Flood Insurance Program (NFIP), Calhoun County.
11. The permittee may process raw water clarifier sludge at this facility from the AMPTOPP Corporation plant located in Lolita, Texas. The sludge shall be processed via the solids treatment/belt and press system.
12. At times when the natural depth of the Upper Lavaca Bay at Channel Marker 22 is less than one foot deep, the permittee shall cease discharge until the water level at the Channel Marker 22 exceeds one foot in depth. The determination of the natural depth of the Upper Lavaca Bay at Channel Marker 22 shall be made according to the continued implementation of the Standard Operating Procedure (SOP) approved by the TCEQ by correspondence dated June 12, 2008, for the measurement of water depth in the vicinity of Channel Marker 22 of Upper Lavaca Bay under the terms of this permit.

13. The permittee shall continue to implement the Receiving Water Monitoring Program (RWMP) as described on pages 28-31 of this permit and previously approved by the TCEQ. Within 180 days of permit issuance, the permittee shall submit an updated Scope of Work document for TCEQ Executive Director Approval to the TCEQ Compliance Monitoring Team (MC 224), Standards Implementation Team (MC 150), and Industrial Permitting Team (MC 148). At a minimum, the revised Scope of Work shall contain updates to analytical methods, minimum analytical levels, and detection limits. Once approved, the permittee shall implement the RWMP according to the updated Scope of Work.
14. Monitoring results must be provided at the intervals specified in this permit. The following reporting schedule applies to the monitoring frequencies specified on page nos. 2-20. For pollutants which are monitored annually, effluent reports must be submitted in August of each year. For pollutants which are monitored twice per year, the first effluent report must be submitted six months after the date of permit issuance and subsequent reports every six months thereafter. For pollutants which are monitored four times per year the permittee shall continue existing submittal time periods, the effluent report must be submitted at three-month intervals, with the February, May, August, and November discharge monitoring reports (DMRs).

Report Period	Months Included	Submitted With	Due Date	Pollutant
1 st Quarter	December, January, & February	February DMR	March 20 th	Dioxin & Priority
2 nd Quarter	March, April, & May	May DMR	June 20 th	Dioxin & Priority
3 rd Quarter	June, July, & August	August DMR	September 20 th	Dioxin & Priority
4 th Quarter	September, October, & November	November DMR	December 20 th	Dioxin & Priority
Annual	September through August	August DMR	September 20 th	Priority

15. The sludge from the treatment process must be digested, dewatered, and disposed of in accordance with all the applicable rules of the TCEQ. The permittee shall ensure that the disposal of sludge does not cause any contamination of the ground or surface waters in the state. The permittee shall keep records of all sludges removed from the wastewater treatment plant site. Such records will include the following information:
 - a. volume (dry weight basis) of sludge disposed of;
 - b. date of disposal;
 - c. identity and registration number of the transporter (hauler);
 - d. location and registration or permit number of disposal site; and
 - e. method of final disposal.

The above records must be maintained on a monthly basis and be available at the plant site for inspection by authorized representatives of the TCEQ for at least three years.

16. The permittee shall maintain the diffuser installed at the Outfall 001 located in Lavaca Bay in order to enhance dilution at the point of discharge.

17. COMPOSITE SAMPLING FOR VOLATILE ORGANIC COMPOUNDS

For the composite sampling of volatile organics using EPA Methods 601, 602, 603, 624, or 1624 (or any other 40 CFR Part 136 method approved after the effective date of this permit), the permittee shall manually collect four aliquots (grab samples) in clean zero-head-space containers

at regular intervals during the actual hours of discharge during the 24-hour sampling period using sample collection, preservation, and handling techniques specified in the appropriate test method. These aliquots must be combined in the laboratory immediately before analysis to represent the composite sample of the discharge. One of the following alternative methods must be used to composite these aliquots.

- A. Each aliquot is poured into a syringe. The plunger is added, and the volume is adjusted to 1-1/4 mL. Each aliquot (1-1/4 mL) is injected into the purging chamber (total 5 mL) of the purge and trap system. After four injections (total of 5 mL), the chamber is purged. Alternatively, equal volumes (1 1/4 mL) of the individual grab samples are added to the purge device to a total volume of 5 mL, and the sample is then analyzed. Only one analysis or run is required since the aliquots are combined prior to analysis.
- B. Chill the four aliquots to $\leq 6^{\circ}\text{C}$. These aliquots must be of equal volume. Carefully pour the contents of each of the 4 aliquots into a 250-500 mL flask which is chilled in a wet ice bath. Stir the mixture gently with a clean glass rod while in the wet ice bath. Carefully fill two or more clean 40-mL zero-head-space vials from the flask and dispose of the remainder of the mixture. Analyze one of the aliquots to determine the concentrations of the composite sample. The remaining aliquot(s) are replicate composite samples that can be analyzed if desired or necessary.
- C. Alternative sample compositing methods may be used following written approval by the TCEQ.

The individual samples resulting from the application of these compositing methods shall be analyzed following the procedures specified for the selected test method. The resulting analysis shall be reported as the daily composite concentration.

As an alternative to the above compositing methods, the permittee may manually collect four aliquots (grab samples) in clean zero head-spaced containers at regular intervals during the actual hours of discharge during the 24-hour sampling period using sample collection, preservation, and handling techniques specified in the appropriate test method. A separate analysis must be conducted for each discrete aliquot or grab sample following approved test procedures.

The determination of daily composite concentration shall be the arithmetic average (weighted by flow) of all grab samples collected during the 24-hour sampling period.

18. RECYCLE AND REUSE OF WASTEWATERS

The recycling and reuse of wastewater is acknowledged for, but not limited to, the following:

- A. Contact stormwater (including, but not limited to, contact stormwater from the Olefins-I, Olefins-II, and Polyolefins plants) and non-contact stormwater may be reused for cooling tower make-up water.
- B. Cooling tower blowdown may be diverted via Outfall 901 to the adjacent ALCOA mud pit area for the purpose of dust suppression. This permit does not authorize nor prohibit the land application of cooling tower blowdown to the adjacent ALCOA mud pit area for the purpose of dust suppression. This permit provides the permittee authorization to provide cooling tower blowdown to a 3rd party for the purpose of dust suppression of an off-site plot of land. Should authorization under TCEQ rules to land apply cooling tower blowdown to the adjacent ALCOA mud pit area for the purpose of dust suppression be required of the permittee or other 3rd party, it is the obligation of the permittee or other 3rd party to obtain such authorization from the appropriate regulatory authority.

- C. Process wastewaters (including, but not limited to, process wastewater from the air separation plant, the polyolefins extruder plant, and the HDPE 1 plant) may be reused as cooling tower make-up water provided the final wastewater is discharged via either internal Outfall 101 or 201.
- D. Other Miscellaneous Non-Stormwaters (as included under the *Multi-Sector General Permit for Industrial Stormwater* (TXR050000, Part II, Section A, Item 6) that may be recycled, reused, and/or discharged:
- (1) discharges of fire water from firefighting (maintenance) activities (includes fire prevention actions taken to control other dangerous high heat conditions such as smoldering and emergency cooling of equipment) and uncontaminated fire hydrant flushings (excluding discharges of hyperchlorinated water, unless the water is first dechlorinated and discharges are not expected to adversely affect aquatic life and does not include wastewater from actual firefighting activities);
 - (2) potable water sources (excluding discharges of hyperchlorinated water, unless the water is first dechlorinated and discharges are not expected to adversely affect aquatic life);
 - (3) lawn watering and similar irrigation drainage, provided that all pesticides, herbicides, and fertilizer have been applied in accordance with the approved labeling;
 - (4) water from the routine external washing of buildings, conducted without the use of detergents or other chemicals;
 - (5) water from the routine washing of pavement conducted without the use of detergents or other chemicals and where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed);
 - (6) uncontaminated air conditioner condensate, compressor condensate, and steam condensate, and condensate from the outside storage of refrigerated gases or liquids;
 - (7) water from foundation or footing drains where flows are not contaminated with pollutants (e.g., process materials, solvents, and other pollutants);
 - (8) uncontaminated water used for dust suppression;
 - (9) springs and other uncontaminated groundwater; and
 - (10) incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but excluding intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdown or drains).
19. Non-process area stormwater within the dikes of the Inland (Outfalls 006) and Marine (Outfalls 010 and 011) Traffic Areas may be routed to storage ponds and/or discharged via Outfalls 006, 010 and 011, provided the water is first tested for total organic carbon, oil and grease, 1,2-Dichloroethane (for inland diked areas containing DT-403 and DT-404 and marine area FT-D10), and pH, and visually examined for floating solids, foam, and oil, and provided test results indicate total organic carbon is ≤ 55 mg/l, oil and grease is ≤ 15 mg/l, 1,2-Dichloroethane is ≤ 0.4 mg/l, pH is between 6.0-9.0 S.U., and there is no visible floating solids, foam, or oil. The permittee shall maintain records detailing monitoring performed, results, and where the sampled water was routed for discharge.

20. COOLING WATER INTAKE STRUCTURE REQUIREMENTS

When in operation, the cooling water system must be operated and maintained as represented in the application for this permit. The permittee shall provide written notification to the TCEQ Industrial Permits Team (MC 148) and Region 14 Office of any change in procedure or facility modification which alters 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.

21. DIOXIN EFFLUENT MONITORING REQUIREMENTS

The analyses must be made using the suggested method, approved method in 40 CFR Part 136, or an equivalent method approved by the TCEQ for the TPDES permitting program. The following MALs for specified congeners must be achieved.

POLLUTANT	CASRN ¹	MAL (ppq²)	Suggested Method
2,3,7,8-TCDD	1746-01-6	10	1613B
1,2,3,7,8-PeCDD	40321-76-4	50	1613B
2,3,7,8-HxCDDs			
1,2,3,4,7,8-HxCDD	39227-28-6	50	1613B
1,2,3,6,7,8-HxCDD	57653-85-7	50	1613B
1,2,3,7,8,9-HxCDD	19408-74-3	50	1613B
1,2,3,4,6,7,8-HpCDD	35822-46-9	50	1613B
2,3,7,8-TCDF	51207-31-9	10	1613B
1,2,3,7,8-PeCDF	57117-41-6	50	1613B
2,3,4,7,8-PeCDF	57117-31-4	50	1613B
2,3,7,8-HxCDFs			
1,2,3,4,7,8-HxCDF	70648-26-9	50	1613B
1,2,3,6,7,8-HxCDF	57117-44-9	50	1613B
1,2,3,7,8,9-HxCDF	72918-21-9	50	1613B
2,3,4,6,7,8-HxCDF	60851-34-5	50	1613B
2,3,4,7,8-HpCDFs			
1,2,3,4,6,7,8-HpCDF	67562-39-4	50	1613B
1,2,3,4,7,8,9-HpCDF	55673-89-7	50	1613B
OCDD	3268-87-9	100	1613B
OCDF	39001-02-0	100	1613B
PCB-77	32598-13-3	500	1668B
PCB-81	70362-50-4	500	1668B
PCB-126	57465-28-8	500	1668B
PCB-169	32774-16-6	500	1668B

The Dioxins/Furans reported concentration is used to calculate and report the Toxicity Equivalent Concentration (TEC) using the table below:

Compound	Concentration ³ (ppq)	Equivalent Factors	Equivalents ⁴ (ppq)
2,3,7,8-TCDD		1	
1,2,3,7,8-PeCDD		1	
2,3,7,8-HxCDDs			
1,2,3,4,7,8-HxCDD		0.1	
1,2,3,6,7,8-HxCDD		0.1	
1,2,3,7,8,9-HxCDD		0.1	
1,2,3,4,6,7,8-HpCDD ⁵		0.01	
2,3,7,8-TCDF		0.1	
1,2,3,7,8-PeCDF		0.03	
2,3,4,7,8-PeCDF		0.3	
2,3,7,8-HxCDFs			
1,2,3,4,7,8-HxCDF		0.1	
1,2,3,6,7,8-HxCDF		0.1	
1,2,3,7,8,9-HxCDF		0.1	
2,3,4,6,7,8-HxCDF		0.1	
2,3,4,7,8-HpCDFs ⁵			
1,2,3,4,6,7,8-HpCDF ⁵		0.01	
1,2,3,4,7,8,9-HpCDF ⁵		0.01	
OCDD ⁵		0.0003	
OCDF ⁵		0.0003	
PCB-77 ⁵		0.0001	
PCB-81 ⁵		0.0003	
PCB-126 ⁵		0.1	
PCB-169 ⁵		0.03	
TEC ⁶			

- ¹ Chemical Abstracts Service Registry Number
- ² Part per quadrillion, ppq; 1 ppq = 1 pg/l (picograms/liter)
- ³ Report the concentrations of the congeners in parts per quadrillion (ppq) for wastewater.
- ⁴ Equivalents (ppq) = [Concentration (ppq)] x [Equivalent Factor]
- ⁵ Inclusion of congener is effective beginning three (3) years after date of permit issuance. See Other Requirement No. 23.
- ⁶ The TEC is the summation of the equivalents calculated for all congeners.

22. The permittee shall use an approved sampling method for the collection of grab and/or composite samples as approved in any of the following sources:

- a. 40 CFR Part 136; or
- b. as specified in this permit.

23. SCHEDULE OF COMPLIANCE FOR WATER QUALITY-BASED EFFLUENT LIMITS

The permittee shall comply with the following schedule of activities for the attainment of the water quality-based effluent limitations for total copper, benzo(a)anthracene, benzo(a)pyrene, hexachlorobenzene, and 2,3,7,8-TCDD Equivalents (including implementation of the following newly added dioxin/furan Congeners: 1,2,3,4,6,7,8-HpCDD, 2,3,4,7,8-HpCDFs, OCDD, OCDF, PCB-77, PCB-81, PCB-126, and PCB-169) at Outfall 001:

- a. determine exceedance cause(s);
- b. develop control options;
- c. evaluate and select control mechanisms;
- d. implement corrective action; and
- e. attain final effluent limitations no later than three years from the date of permit issuance.

The permittee shall submit quarterly progress reports in accordance with the schedule below. The requirement to submit quarterly progress reports expires three years from the date of permit issuance.

PROGRESS REPORT DATE

January 1
April 1
July 1
October 1

The quarterly progress reports must include a discussion of the interim requirements that have been completed at the time of the report and must address the progress towards attaining the final water quality-based effluent limitations for total copper, benzo(a)anthracene, benzo(a)pyrene, hexachlorobenzene, and implementation of the newly added dioxin/furan Congeners (1,2,3,4,6,7,8-HpCDD, 2,3,4,7,8-HpCDFs, OCDD, OCDF, PCB-77, PCB-81, PCB-126, and PCB-169) at Outfall 001 no later than three years from the date of permit issuance.

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date. Any reports of noncompliance must include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

All reports must be submitted to the Region 14 Office and to the Compliance Monitoring Team (MC 224) of the TCEQ.

24. DISCHARGE OF THIRD-PARTY WASTES

This permit does not provide authorization for the permittee to accept wastewater from third party sources, nor does it prohibit acceptance of such wastewaters. This permit only provides the authorization to discharge these wastes. Should authorization to accept third party waste be required, it is the obligation of the permittee to obtain such authorization from the appropriate regulatory authority.

25. Self-reporting procedures specified in this permit may be superseded by updated procedures (including but not limited to NetDMR) that have been approved by the EPA and TCEQ for the TPDES permitting program.

26. SANITARY WASTEWATER

Sanitary wastewater generated at the facility shall be handled in one of the following methods:

- a. routing to an approved on-site septic tank and drainfield system;
- b. routing to an authorized third party for treatment and disposal; or
- c. pretreated by an on-site package plant prior to re-use as cooling tower make-up water.

27. Wastewater discharged via Outfall 001 must be sampled and analyzed as directed below for the parameters listed in the following Table 1. Sample collection for Outfall 001 must be completed within 60 days of permit issuance, provided the requisite discharge events have occurred. Results of the analytical testing for Outfall 001 must be submitted within 90 days of obtaining and compiling the required analytical data, to the TCEQ Industrial Permits Team (MC-148). Based on a technical review of the submitted analytical results, an amendment may be initiated by TCEQ staff to include additional effluent limitations, monitoring requirements, or both.

Table 1: Analysis is required for all pollutants in Table 1. Wastewater must be sampled and analyzed for those parameters listed in Table 1 for a minimum of four sampling events, with each occurring at least one week apart.

Table 1

Outfall No.: <input type="checkbox"/> C <input type="checkbox"/> G ¹	Effluent Concentration (µg/L)					MAL² (µg/L)
Pollutants	Sample 1	Sample 2	Sample 3	Sample 4	Average	
Flow (MGD)						N/A
Cyanide, Available						2
Silver, total						0.5
Thallium, total						0.5

¹ Indicate Composite Sample (C) or Grab Sample (G).

² Minimum Analytical Level.

28. The term *water treatment wastes* includes, but is not limited to, cold lime water treatment wastes, demineralizer backwash, filter backwash, ion exchange water treatment system wastes, membrane regeneration wastes, and reverse osmosis reject water.

ATTACHMENT A

RECEIVING WATER MONITORING PROGRAM

1. Program Objectives:

The receiving water monitoring program objectives:

- a. To establish baseline background conditions in Lavaca Bay/Chocolate Bay (Segment 2453) in the area that receives the Outfall 001 discharge.
- b. To monitor the health and structure of the biological community in the vicinity of the Outfall 001 discharge.
- c. To monitor the water and sediment quality in vicinity of the Outfall 001 discharge.
- d. To evaluate compliance with the Texas Surface Water Quality Standards (TAC Chapter 307).
- e. To monitor fish and shellfish tissue constituent concentrations for organisms in the vicinity of the Outfall 001 discharge to assess any potential human health risks.

2. Within 180 days of the effective permit date, the permittee shall submit a current Scope-of-Work document that includes specific technical details of the receiving water monitoring program to the TCEQ Executive Director for approval. At the same time, the permittee shall provide a copy of the current scope of work to the Texas Department of State Health Services, Seafood and Aquatic Life Group, Texas Parks and Wildlife Department, and the other parties to the evidentiary hearing, and make the scope of work available to the local citizens by placing on a readily available Formosa webpage at <https://www.fpctx.com/sustainability/scope-of-work>. The permittee shall initiate the monitoring program during the calendar quarter immediately following the Executive Director's approval of the Scope-of-Work. Subparagraphs a through k detail the minimum monitoring activities that shall be included in the Scope-of-Work.

a. Water Chemistry

The Scope-of-Work must specify that water chemistry laboratory analyses will include total suspended solids, total metals, dissolved metals, total dissolved solids, chlorides, turbidity, salinity, ammonia, nitrate, nitrite, total phosphate, orthophosphate, and total organic carbon. Priority pollutant chemical analysis shall also be conducted to include the metals, volatile organics, base neutral organics, pesticides, and PCBs. When any system component is sampled (i.e., water, sediment, tissue, biota), the sample collection shall be accompanied by water column field physiochemical measurements that include pH, conductivity or salinity, dissolved oxygen, and temperature. The Scope-of-Work shall identify the specific EPA-approved analytical method employed and defined minimum analytical level and method detection level for each analytical procedure utilized.

b. Data Management

The Scope-of-Work shall specify maintenance of a field logbook for sample collection. Sample identification number, data and time, location number, location description, water depth, tide stage and height, current speed and direction, field personnel, and general weather conditions must be recorded with each sampling event.

For tissue collections, species, sex, width of carapace or total length, weight, evidence of pathogens, parasites, or abnormalities shall be recorded. For all tissue collection and biological sampling, the sampling methodology, sampling equipment, compositing techniques, a description of the habitat(s) sampled, and volume, area, and duration of sampling must be recorded in the field logbook. Examples of field data forms to be used in a permanent field logbook shall be included with the Scope-of-Work.

c. Data Interpretation

The Scope-of-Work must specify statistical procedures for data analysis. These may include trend analysis, analysis of variance, cluster analysis, and regression analysis that will be employed. Data must be interpreted using a statistical approach to enable comparisons of the discharge area with background and/or reference control areas. Biological indices such as diversity, evenness, percent dominance, and percent similarity shall be calculated and used to evaluate the biological community data. The Scope-of-Work shall establish protocol to address constituent concentrations below detection levels.

d. Tissue Sampling and Analyses

The Scope-of-Work shall specify fish and shellfish tissue collection of both flesh and organ tissues such as liver and gonads. Tissue concentrations shall be monitored to assess any accumulations that pose a risk to humans that consume organisms that may have been exposed to the discharge, and to evaluate the ecological effect of any bioaccumulation. Tissue sampling must include red drum, *Sciaenops ocellata* (14-20 total inches), Atlantic croaker, *Micropogon undulatus* (8-12 total inches), and hardhead catfish, *Arius felis* (at least 10 inches), as target finfish species. The Scope-of-Work shall specify collection of blue crab and oysters for tissue analysis. Tissue sample collection and preparation shall be in accordance with the guidelines set forth in the latest TCEQ *Surface Water Quality Procedures, Volume 2: Methods for Collecting and Analyzing Biological Assemblage and Habitat Data*. The Scope-of-Work shall detail the sample collection techniques, sample locations, sampling schedules, tissue handling and preparation methodology, anatomical part, sample size, and methods for chemical analyses. Constituent analyses shall be consistent with the test parameters specified for water and sediment. The Scope-of-Work shall specify that most metal concentrations be determined using inductively coupled plasma-mass spectrometry (ICP-MS), effective following the approval by the Executive Director of the revised receiving water scope of work.

e. Toxicity Testing

The Scope-of-Work shall specify the routine collection of ambient water for performance of chronic toxicity tests using the inland silverside (*Menidia beryllina*), the mysid shrimp (*Americamysis bahia*), and red algae. Toxicity tests shall also be performed on bulk (solid phase) sediment and on the sediment pore water. Test organisms selected for the bulk sediment toxicity tests shall demonstrate a broad salinity tolerance. The same tests species utilized for ambient water toxicity testing must be utilized for the pore water tests. The Scope-of-Work shall clearly define the sample collection and processing protocol, and the toxicity testing methodology, test organisms, protocol, and accompanying statistical analyses that will be employed for all toxicity testing.

f. Sediment Sampling and Analysis

In addition to toxicity testing, pore water and sediment samples shall be routinely collected and analyzed for grain size, organic content, iron, aluminum, total organic carbon, and priority pollutants to include heavy metals, volatile organics, base neutral organics, pesticides, dioxins and PCBs. The Scope-of-Work shall define a methodology for pore water sample collection and preparation as well as bulk sediment sample collection. The sediment sampling effort shall be performed during periods of quiescence within the bay systems.

g. Sample Locations

The sample locations must be clearly defined in the Scope-of-Work. The latitude and longitude must be determined for each routine sample location. The initial Scope-of-Work must include a map defining routine and reference sampling locations, and the diffuser location. The Scope-of-Work must also identify reference stations to be established within in the Lavaca Bay system. The reference stations must be located in areas unaffected by the discharge from Outfall 001. Sample locations must be selected that will best characterize the receiving water area. Multiple sampling within a sample grid location for all water, sediment, tissue, and biota sampling must be defined. Water circulation patterns and plume mapping must be determined and considered prior to establishing of any monitoring locations.

h. Biological Assessment

The Scope-of-Work shall specify collection and characterization of benthic infaunal communities, nekton, ichthyoplankton including larval, post-larval, and early juvenile stages of finfish, shrimp, and crabs. The Scope-of-Work shall specify the collection methodology and equipment that will be utilized for all biota collections.

i. Quality Assurance/Quality Control

The Scope-of-Work must include a quality assurance and quality control plan to ensure collection of reliable data. Provisions for field sample blanks and duplicates, sample preservative blanks, internal laboratory quality control checks such as laboratory blanks, spikes, and duplicates, field calibration procedures, and a mechanism to identify and treat outliers shall be included. The Scope-of-Work must clearly define the sample collection, sample preservation, sample processing, chain-of-custody, sample storage, and sample analysis protocols and procedures. The Scope-of-Work must also detail a procedure that ensures that 10% of all water chemistry, sediment, and tissue samples are submitted in duplicate to the analytical laboratories selected by the permittee, as well as to an independent laboratory for independent analyses and verification of the constituent concentrations in the various sample media. The results of the analyses determined at the independent laboratories shall be included with the annual report described in item 3.

j. Data Submittal

Data generated during this monitoring program shall be provided in an editable electronic form, such as Microsoft Word, Excel, and Access. Station locations must be identified by latitude and longitude. Data must be made available on Formosa Webpage.

k. Frequency

The sampling frequency defined in the Scope-of-Work shall ensure that most system components (i.e., water, tissue, biota) are sampled minimally on a quarterly frequency. After submittal of the initial Scope-of-Work, the sampling frequency may be increased or decreased in accordance with items 4, 6, and 7. Reference stations must be established and monitored at some frequency during the life of the permit monitoring program.

3. The permittee shall submit a written annual report each year for the life of the permit. The annual report shall be submitted to the TCEQ Region 14 Office and the Water Quality Assessment Section (MC-150) of the TCEQ each year on or before September 30th of each year. The annual report shall summarize the monitoring program data, summarize the analytical and biological methodology, discuss the significant findings, graphically display the data collected, and provide an electronic copy of all data. The data shall also be provided in an easily retrievable personal computer database format.

As an appendix to the written annual report, the permittee shall submit copies of the completed field logbooks as described in 2.b. As an additional appendix to the written annual report, the permittee shall submit copies of the raw data sheets for all water chemistry analyses, sediment analyses, tissue analyses, and toxicity tests.

4. Upon evaluation of each annual report, the permittee may request a modification of the monitoring program in accordance with Item 6 below. The Executive Director may request a modification of the monitoring program at any time.
5. During annual report review periods, there shall be no interruption of data collection. The permittee shall continue the monitoring program throughout the life of the permit in accordance with the most current Scope-of-Work that has been approved by the TCEQ.
6. Any request for revision of the receiving water monitoring program must be submitted to the TCEQ for review and approval. At the same time, the permittee shall provide a copy of the scope of work to the Texas Department of State Health Services, Seafood and Aquatic Life Group, Texas Parks and Wildlife Department, and the other parties to the evidentiary hearing, and make the scope of work available to the public by posting on a dedicated webpage (<https://www.fpctx.com/sustainability/scope-of-work>) hosted by the permittee.

Two (2) years following the date of permit issuance, the permittee is no longer required to directly provide a copy of a revised scope of work to the Texas Department of State Health Services, Seafood and Aquatic Life Group, Texas Parks and Wildlife Department, and the other parties to the evidentiary hearing, on the condition that a revised scope of work is available to the public by posting on a dedicated webpage (<https://www.fpctx.com/sustainability/scope-of-work>) hosted by the permittee.

7. As a result of the findings of the receiving water monitoring program, the Executive Director may initiate the permit amendment process to require additional and/or modified effluent limits, to require additional effluent monitoring, and/or to require significant modifications to the receiving water monitoring program.

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 (*Americamysia 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 4%, 6%, 8%, 10%, and 13% effluent. The critical dilution, defined as 10% 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 sublethal 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.
- f. The lethal No Observed Effect Concentration (NOEC) effluent limitations for both test species of not less than 10% (see the EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS section) are effective at permit issuance.
- g. If a test species fails to meet the lethal NOEC of 10%, the testing frequency for that species will increase to monthly until such time compliance is demonstrated for a period of three consecutive months, at which time the permittee may return to quarterly testing.

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 sublethal (but not lethal) 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."
- e. The permittee shall report the lethal WET values for the 30-day average and the 7-day minimum under Parameter No. 51713 for the mysid shrimp and Parameter No. 51712 for the inland silverside for the appropriate reporting period for both test species. If more than one valid test for one or both test species was performed during the reporting

period, the NOECs will be averaged arithmetically and reported as the daily average NOEC. The data submitted should reflect the lowest lethal values during the reporting period.

4. Demonstration of a Significant Sublethal Effect

The requirements of this part apply only when a test demonstrates a significant sublethal (but not lethal) effect at the critical dilution. 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 sublethal effect 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. No more than one retest per month is required for a test species.

5. Toxicity Reduction Evaluation

- a. Within 45 days of being so instructed due to multiple sublethal 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 being so instructed due to multiple sublethal 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 sublethality 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. The permittee shall complete the TRE and submit a final report on the TRE activities no later than 28 months from the date the permittee was instructed to perform a TRE. 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 sublethality at the critical dilution. The report shall also provide a specific corrective action schedule for implementing the selected control mechanism.
- g. 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 sublethal WET limit, specify a best management practice, and to specify a chemical-specific limit.
- h. 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 No. 1 FROM: _____ Date Time _____ TO: _____ Date Time _____
Composites
Collected 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%												
4%												
6%												
8%												
10%												
13%												

* 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%	4%	6%	8%	10%	13%
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%	4%	6%	8%	10%	13%
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 (10%): _____ 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 (10%): _____ 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 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%							
4%							
6%							
8%							
10%							
13%							
PMSD							

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

- 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 (10%): _____ YES _____ NO

- 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 (10%): _____ YES _____ NO

- 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 to the inland silverside. The permittee may be required to conduct a toxicity reduction evaluation (TRE) after multiple toxic events.
- e. The WET limit of greater than 50% survival in 100% effluent (LC50 of greater than 100%) after 24-hours is effective at the permit issue date (see also EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS section) for the mysid shrimp.
- f. If a mysid shrimp test fails to meet an LC50 of greater than 100%, the permittee shall be considered in violation of this permit limit and the testing frequency will increase to monthly until such time compliance with the WET limit is demonstrated for three consecutive months, at which time the permittee may return to the semi-annual testing frequency.

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 inland silverside 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."
- e. The permittee shall report the Whole Effluent Lethality values for the 30-day Average Minimum and the 7-day Minimum under Parameter No. 51713 for the mysid shrimp for the appropriate reporting period. If more than one valid test was performed during the reporting period, the test LC50s will be averaged arithmetically and reported as the 30-day Average Minimum for that reporting period. The 7-day Minimum should reflect the lowest LC50 during the reporting period.

4. Persistent Mortality

The requirements of this part apply only to the inland silverside and only 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 test 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.

This requirement to comply with 30 TAC § 307.6(e)(2)(B) may be exempted upon proof 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. This exemption was previously granted in a letter dated September 28, 2007, and allows the permittee to use an ion-adjustment protocol with the mysid shrimp.

- 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. WQ0002436000, U.S. Environmental Protection Agency (EPA) ID No. TX0085570, to discharge to water in the state

Issuing Office: Texas Commission on Environmental Quality (TCEQ)
P.O. Box 13087
Austin, Texas 78711-3087

Applicant: Formosa Plastics Corporation, Texas and Formosa Utility Venture, Ltd.
P.O. Box 700
Point Comfort, Texas 77978

Prepared By: Michael Sunderlin
Wastewater Permitting Section
Water Quality Division
(512) 239-4523

Date: February 19, 2026

Permit Action: Renewal with Changes; TPDES Permit No. WQ0002436000

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 the Formosa Point Comfort Plant, a plastics and organic and inorganic chemicals manufacturing facility.

III. DISCHARGE LOCATION

As described in the application, the facility is located at 201 Formosa Drive, one mile north of the intersection of State Highway 35 and Farm-to-Market Road 1593, northeast of the City of Point Comfort, in Calhoun County, Texas 77978.

Discharge is via Outfall 001 directly to Lavaca Bay/Chocolate Bay in Segment No. 2453; via Outfalls 003 and 012 to unnamed ditches, thence to Cox Lake, thence to Cox Creek, thence to Huisache Cove; via Outfalls 005, 006, and 009 to Cox Lake, thence to Cox Creek, thence to Huisache Cove; via Outfall 010 to unnamed ditches, thence to Cox Lake, thence to Cox Creek; thence to Huisache Cove which is a part of Cox Bay in Segment No. 2454; via Outfall 011 to an unnamed ditch, thence to Cox Bay in Segment No. 2454; and via Outfall 013 directly to Cox Bay in Segment No. 2454 of the Bays and Estuaries.

IV. RECEIVING STREAM USES

The unclassified receiving water uses are minimal aquatic life use for the unnamed ditches and high aquatic life use for Cox Lake and Cox Creek (tidal). The designated uses for Segment Nos. 2453 and 2454 are primary contact recreation, exceptional aquatic life use, and oyster waters.

FACT SHEET AND EXECUTIVE DIRECTOR’S PRELIMINARY DECISION

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 July 2016 through August 2025. 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). Mass-based limits are expressed as pounds per day (lbs/day). All pH values are expressed in standard units (SU). Concentration-based limits are expressed as milligrams per liter (mg/L), micrograms (µg), or parts per quadrillion, ppq (i.e., 10⁻⁵); 1 ppq equals 1 picogram/liter (pg/L). Bacteria levels are expressed in colony forming units (cfu) or most probable number (MPN) per 100 mL as (#/100 mls).

No Observed Effect Concentration (NOEC) is defined as the greatest effluent dilution at which no significant lethality is demonstrated. Significant lethality is defined as a statistically significant difference between a specified effluent dilution and the control for lethal effects. Lethal Concentration 50 (LC50) is the effluent dilution at which 50% of the organisms survive.

A. Flow

Outfall	Frequency	Average of Daily Average	Maximum of Daily Maximum
001	Continuous	6.77 MGD	9.6 MGD
101	Continuous	3.62 MGD	5.8 MGD
201	Continuous	3.28 MGD	5.3 MGD
901	Intermittent	No Discharge	No Discharge
002	Intermittent	19.99 MGD	102.6 MGD
003	Intermittent	13.8 MGD	57.8 MGD
004	Intermittent	11.4 MGD	68.9 MGD
005	Intermittent	9.88 MGD	59.9 MGD
006	Intermittent	90.21 MGD	397.9 MGD
007	Intermittent	2.79 MGD	16.2 MGD
008	Intermittent	60.54 MGD	317.5 MGD
009	Intermittent	101.2 MGD	696.7 MGD
010	Intermittent	6.27 MGD	18.7 MGD
011	Intermittent	0.03 MGD	0.1 MGD
012	Intermittent	38.90 MGD	696.7 MGD
013	Intermittent	37.34 MGD	172.2 MGD

B. Temperature (degrees Fahrenheit)

Outfall	Average of Daily Average	Maximum of Daily Maximum
001	N/A	95 °F

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

C. Effluent Characteristics

Outfall	Parameter	Average of Daily Average	Maximum of Daily Maximum
001	Carbonaceous Biochemical Oxygen Demand, 5-day (CBOD ₅)	181 lbs/day 3.24 mg/L	5661 lbs/day 94 mg/L
	Chemical Oxygen Demand (COD)	2510 lbs/day 44.5 mg/L	8658 lbs/day 156 mg/L
	Total Suspended Solids (TSS)	602 lbs/day 11.2 mg/L	8476 lbs/day 172 mg/L
	Ammonia as Nitrogen	12.1 lbs/day 0.0364 mg/L	209 lbs/day 5 mg/L
	Chromium, hexavalent	1.15 lbs/day 0.02 mg/L	4.4 lbs/day 0.08 mg/L
	Chromium, total	0.051 lbs/day 0.000454 mg/L	3.4 lbs/day 0.06 mg/L
	Copper, total	0.509 lbs/day 0.0094 mg/L	10.18 lbs/day 0.21 mg/L
	Lead, total	0.704 lbs/day 0.012 mg/L	5 lbs/day 0.09 mg/L
	Mercury, total	<0.01 lbs/day 0.00018 mg/L	0.02 lbs/day 0.24 mg/L
	Zinc, total	1.1 lbs/day 0.020 mg/L	8.4 lbs/day 0.14 mg/L
	Oil and Grease	11.3 lbs/day	287 lbs/day 4 mg/L
	Total Organic Carbon (TOC)	1296 lbs/day N/A	4192 lbs/day N/A
	Benzene	0 lbs/day 0 mg/L	0 lbs/day 0 mg/L
	1,2-Dichloroethane	0.0463 lbs/day 0.0305 mg/L	11.97 lbs/day 10.69 mg/L
	Phenol	0.0056 lbs/day 0.0379 mg/L	2.46 lbs/day 33.31 mg/L
	Toluene	0.00073 lbs/day 0 mg/L	0.71 lbs/day 0.02 mg/L
	Trichloroethylene	0.00091 lbs/day 0.0124 mg/L	0.39 lbs/day 5.57 mg/L
	Vinyl Chloride	0 lbs/day 0 mg/L	0 lbs/day 0 mg/L
	Dissolved Oxygen	2.0 mg/L (min)	10.5 mg/L
	Fecal Coliform (July 2016-June 2019)	1.83 #/100 mls	N/A
	Enterococci (July 2016-June 2019)	2.27 #/100 mls	N/A
	Enterococci (July 2019-August 2025)	1.22 #/100 mls	N/A
	2,3,7,8-TCDD Equivalents	41.1 (µg/day) 1.83 (ppq)	786 (µg/day) 39 (ppq)
	pH, SU	5.6 SU (min)	9.5 SU
	pH, excursions > 60 minutes	n/a	0
	pH, excursions total	n/a	0

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

Outfall	Parameter	Average of Daily Average	Maximum of Daily Maximum
001	Whole Effluent Toxicity (WET) limit <i>Mysidopsis bahia</i> (7-day NOEC)	*1	*1
	WET limit <i>Menidia beryllina</i> (7-day NOEC)	*1	*1
	WET limit <i>Mysidopsis bahia</i> (24-hour LC50)	*2	*2
*1 See Section X.D.3.a. for a narrative summary of the 7-day chronic whole effluent toxicity testing history over the past three (3) years.			
*2 See Section X.D.3.a. for a narrative summary of the 24-hour acute whole effluent toxicity testing history over the past three (3) years.			
101	Biochemical Oxygen Demand, 5-day (BOD ₅)	32.8 lbs/day 1.07 mg/L	2745 lbs/day 81 mg/L
	TSS	241 lbs/day 8.21 mg/L	5561 lbs/day 221 mg/L
	COD	1474 lbs/day 48.2 mg/L	9726 lbs/day 381 mg/L
	Benzene	0.0014 lbs/day 0 mg/L	0.52 lbs/day 0.01 mg/L
	1,2-Dichloroethane	0.0503 lbs/day 0.128 mg/L	11.95 lbs/day 32.59 mg/L
	Phenol	0.006 lbs/day 0.0184 mg/L	2.27 lbs/day 16 mg/L
	Acenaphthene	0 lbs/day	0 lbs/day
	Acenaphthylene	0 lbs/day	0 lbs/day
	Acrylonitrile	0 lbs/day	0 lbs/day
	Anthracene	0 lbs/day	0 lbs/day
	Benzo(a)anthracene	0 lbs/day	0 lbs/day
	3,4-Benzofluoranthene	0 lbs/day	0 lbs/day
	Benzo(k)fluoranthene	0 lbs/day	0 lbs/day
	Benzo(a)pyrene	0 lbs/day	0 lbs/day
	Bis(2-ethylhexyl) phthalate	0 lbs/day	0 lbs/day
	Carbon Tetrachloride	0 lbs/day	0 lbs/day
	Chlorobenzene	0.00027 lbs/day	0.25 lbs/day
	Chloroethane	0 lbs/day	0 lbs/day
	Chloroform	0.154 lbs/day	5.64 lbs/day
	2-Chlorophenol	0 lbs/day	0 lbs/day
	Chrysene	0 lbs/day	0 lbs/day
	1,2-Dichlorobenzene	0 lbs/day	0 lbs/day
	1,3-Dichlorobenzene	0 lbs/day	0 lbs/day
	1,4-Dichlorobenzene	0 lbs/day	0 lbs/day
	1,1-Dichloroethane	0 lbs/day	0 lbs/day

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

Outfall	Parameter	Average of Daily Average	Maximum of Daily Maximum
101	1,1-Dichloroethylene	0 lbs/day	0 lbs/day
	1,2-trans Dichloroethylene	0 lbs/day	0 lbs/day
	2,4-Dichlorophenol	0 lbs/day	0 lbs/day
	1,2-Dichloropropane	0 lbs/day	0 lbs/day
	1,3-Dichloropropylene	0 lbs/day	0 lbs/day
	Diethyl phthalate	0 lbs/day	0 lbs/day
	2,4-Dimethylphenol	0 lbs/day	0 lbs/day
	Dimethyl phthalate	0 lbs/day	0 lbs/day
	Di-n-butyl phthalate	0 lbs/day	0 lbs/day
	4,6-Dinitro-o-cresol	0 lbs/day	0 lbs/day
	2,4-Dinitrophenol	0 lbs/day	0 lbs/day
	2,4-Dinitrotoluene	0 lbs/day	0 lbs/day
	2,6-Dinitrotoluene	0 lbs/day	0 lbs/day
	Ethylbenzene	0 lbs/day	0 lbs/day
	Fluoranthene	0 lbs/day	0 lbs/day
	Fluorene	0 lbs/day	0 lbs/day
	Hexachlorobenzene	0 lbs/day	0 lbs/day
	Hexachlorobutadiene	0 lbs/day	0 lbs/day
	Hexachloroethane	0 lbs/day	0 lbs/day
	Methyl Chloride	0 lbs/day	0 lbs/day
	Methylene Chloride	0 lbs/day	0 lbs/day
	Naphthalene	0 lbs/day	0 lbs/day
	Nitrobenzene	0 lbs/day	0 lbs/day
	2-Nitrophenol	0 lbs/day	0 lbs/day
	4-Nitrophenol	0 lbs/day	0 lbs/day
	Phenanthrene	0 lbs/day	0 lbs/day
	Pyrene	0 lbs/day	0 lbs/day
	Tetrachloroethylene	0 lbs/day	0 lbs/day
	Toluene	0 lbs/day	0 lbs/day
	1,2,4-Trichlorobenzene	0 lbs/day	0 lbs/day
	1,1,1-Trichloroethane	0 lbs/day	0 lbs/day
	1,1,2-Trichloroethane	0 lbs/day	0 lbs/day
	Trichloroethylene	0 lbs/day	0 lbs/day
	Vinyl Chloride	0 lbs/day	0 lbs/day
pH	5.6 SU (min)	9.1 SU	
pH, excursions > 60 minutes	n/a	0	
pH, excursions total	n/a	0	
201	BOD ₅	106.3 lbs/day 4.17 mg/L	1723 lbs/day 66 mg/L
	TSS	310 lbs/day 11.7 mg/L	3006 lbs/day 88 mg/L
	COD	1637 lbs/day 60.7 mg/L	3936 lbs/day 188 mg/L
	Copper, total	0.285 lbs/day 0.120 mg/L	1.81 lbs/day 16 mg/L

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

Outfall	Parameter	Average of Daily Average	Maximum of Daily Maximum
201	Lead, total	0.331 lbs/day 0.0121 mg/L	2.34 lbs/day 0.08 mg/L
	Nickel, total	0.610 lbs/day 0.0254 mg/L	9.47 lbs/day 0.88 mg/L
	Titanium, total	0.0022 lbs/day 0.000091 mg/L	1.3 lbs/day 0.06 mg/L
	Total Residual Chlorine	0.616 lbs/day 0.0186 mg/L	53.98 lbs/day 1.52 mg/L
	Benzene	0 lbs/day 0.0 mg/L	0 lbs/day 0 mg/L
	1,2-Dichloroethane	0.00273 lbs/day 0.0079 mg/L	2.03 lbs/day 6.87 mg/L
	Phenol	0.00091 lbs/day 0.019 mg/L	0.34 lbs/day 8.37 mg/L
	Acenaphthene	0 lbs/day	0 lbs/day
	Acenaphthylene	0 lbs/day	0 lbs/day
	Acrylonitrile	0 lbs/day	0 lbs/day
	Anthracene	0 lbs/day	0 lbs/day
	Benzo(a)anthracene	0 lbs/day	0 lbs/day
	3,4-Benzofluoranthene	0 lbs/day	0 lbs/day
	Benzo(k)fluoranthene	0 lbs/day	0 lbs/day
	Benzo(a)pyrene	0 lbs/day	0 lbs/day
	Bis(2-ethylhexyl) phthalate	0 lbs/day	0 lbs/day
	Carbon Tetrachloride	0 lbs/day	0 lbs/day
	Chlorobenzene	0 lbs/day	0.01 lbs/day
	Chloroethane	0 lbs/day	0 lbs/day
	Chloroform	0.646 lbs/day	5.62 lbs/day
	2-Chlorophenol	0 lbs/day	0 lbs/day
	Chrysene	0 lbs/day	0 lbs/day
	1,2-Dichlorobenzene	0 lbs/day	0 lbs/day
	1,3-Dichlorobenzene	0 lbs/day	0 lbs/day
	1,4-Dichlorobenzene	0 lbs/day	0 lbs/day
	1,1-Dichloroethane	0 lbs/day	0 lbs/day
	1,1-Dichloroethylene	0 lbs/day	0 lbs/day
	1,2-trans Dichloroethylene	0 lbs/day	0 lbs/day
	2,4-Dichlorophenol	0 lbs/day	0 lbs/day
	1,2-Dichloropropane	0 lbs/day	0 lbs/day
	1,3-Dichloropropylene	0 lbs/day	0 lbs/day
	Diethyl phthalate	0 lbs/day	0 lbs/day
	2,4-Dimethylphenol	0 lbs/day	0 lbs/day
	Dimethyl phthalate	0 lbs/day	0 lbs/day
	Di-n-butyl phthalate	0 lbs/day	0 lbs/day
	4,6-Dinitro-o-cresol	0 lbs/day	0 lbs/day
	2,4-Dinitrophenol	0 lbs/day	0 lbs/day
	2,4-Dinitrotoluene	0 lbs/day	0 lbs/day
	2,6-Dinitrotoluene	0 lbs/day	0 lbs/day

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

Outfall	Parameter	Average of Daily Average	Maximum of Daily Maximum
201	Ethylbenzene	0 lbs/day	0 lbs/day
	Fluoranthene	0 lbs/day	0 lbs/day
	Fluorene	0 lbs/day	0 lbs/day
	Hexachlorobenzene	0 lbs/day	0 lbs/day
	Hexachlorobutadiene	0 lbs/day	0 lbs/day
	Hexachloroethane	0 lbs/day	0 lbs/day
	Methyl Chloride	0 lbs/day	0 lbs/day
	Methylene Chloride	0 lbs/day	0 lbs/day
	Naphthalene	0 lbs/day	0 lbs/day
	Nitrobenzene	0 lbs/day	0 lbs/day
	2-Nitrophenol	0 lbs/day	0 lbs/day
	4-Nitrophenol	0 lbs/day	0 lbs/day
	Phenanthrene	0 lbs/day	0 lbs/day
	Pyrene	0 lbs/day	0 lbs/day
	Tetrachloroethylene	0 lbs/day	0 lbs/day
	Toluene	0 lbs/day	0 lbs/day
	1,2,4-Trichlorobenzene	0 lbs/day	0 lbs/day
	1,1,1-Trichloroethane	0 lbs/day	0 lbs/day
	1,1,2-Trichloroethane	0 lbs/day	0 lbs/day
	Trichloroethylene	0 lbs/day	0 lbs/day
	Vinyl Chloride	0 lbs/day	0 lbs/day
	pH	6.1 SU (min)	9.4 SU
	SUM	Acenaphthene	0 lbs/day
Acenaphthylene		0 lbs/day	0 lbs/day
Acrylonitrile		0 lbs/day	0 lbs/day
Anthracene		0 lbs/day	0 lbs/day
Benzene		0.00136 lbs/day	0.52 lbs/day
Benzo(a)anthracene		0 lbs/day	0 lbs/day
3,4-Benzofluoranthene		0 lbs/day	0 lbs/day
Benzo(k)fluoranthene		0 lbs/day	0 lbs/day
Benzo(a)pyrene		0 lbs/day	0 lbs/day
Bis(2-ethylhexyl) phthalate		0 lbs/day	0 lbs/day
Carbon Tetrachloride		0 lbs/day	0 lbs/day
Chlorobenzene		0.000272 lbs/day	0.25 lbs/day
Chloroethane		0 lbs/day	0 lbs/day
Chloroform		0.799 lbs/day	6.31 lbs/day
2-Chlorophenol		0 lbs/day	0 lbs/day
Chrysene		0 lbs/day	0 lbs/day
1,2-Dichlorobenzene		0 lbs/day	0 lbs/day
1,3-Dichlorobenzene		0 lbs/day	0 lbs/day
1,4-Dichlorobenzene		0 lbs/day	0 lbs/day
1,1-Dichloroethane		0 lbs/day	0 lbs/day
1,2-Dichloroethane		0.051 lbs/day	11.95 lbs/day
1,1-Dichloroethylene	0 lbs/day	0 lbs/day	
1,2-trans Dichloroethylene	0 lbs/day	0 lbs/day	

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

Outfall	Parameter	Average of Daily Average	Maximum of Daily Maximum
SUM	2,4-Dichlorophenol	0 lbs/day	0 lbs/day
	1,2-Dichloropropane	0 lbs/day	0 lbs/day
	1,3-Dichloropropylene	0 lbs/day	0 lbs/day
	Diethyl phthalate	0 lbs/day	0 lbs/day
	2,4-Dimethylphenol	0 lbs/day	0 lbs/day
	Dimethyl phthalate	0 lbs/day	0 lbs/day
	Di-n-butyl phthalate	0 lbs/day	0 lbs/day
	4,6-Dinitro-o-cresol	0 lbs/day	0 lbs/day
	2,4-Dinitrophenol	0 lbs/day	0 lbs/day
	2,4-Dinitrotoluene	0 lbs/day	0 lbs/day
	2,6-Dinitrotoluene	0 lbs/day	0 lbs/day
	Ethylbenzene	0 lbs/day	0 lbs/day
	Fluoranthene	0 lbs/day	0 lbs/day
	Fluorene	0 lbs/day	0 lbs/day
	Hexachlorobenzene	0 lbs/day	0 lbs/day
	Hexachlorobutadiene	0 lbs/day	0 lbs/day
	Hexachloroethane	0 lbs/day	0 lbs/day
	Methyl Chloride	0 lbs/day	0 lbs/day
	Methylene Chloride	0 lbs/day	0 lbs/day
	Naphthalene	0 lbs/day	0 lbs/day
	Nitrobenzene	0 lbs/day	0 lbs/day
	2-Nitrophenol	0 lbs/day	0 lbs/day
	4-Nitrophenol	0 lbs/day	0 lbs/day
	Phenanthrene	0 lbs/day	0 lbs/day
	Phenol	0.00663 lbs/day	2.61 lbs/day
	Pyrene	0 lbs/day	0 lbs/day
	Tetrachloroethylene	0 lbs/day	0 lbs/day
	Toluene	0 lbs/day	0 lbs/day
	1,2,4-Trichlorobenzene	0 lbs/day	0 lbs/day
	1,1,1-Trichloroethane	0 lbs/day	0 lbs/day
	1,1,2-Trichloroethane	0 lbs/day	0 lbs/day
	Trichloroethylene	0 lbs/day	0 lbs/day
	Vinyl Chloride	0 lbs/day	0 lbs/day
901	Total Dissolved Solids	N/A	No Discharge
	pH	No Discharge	No Discharge
002	TOC	N/A	31 mg/L
	Oil and Grease	N/A	4 mg/L
	1,2-Dichloroethane	N/A	2.2 mg/L
	Total Purgeable Hydrocarbons	0.01	6.3 mg/L
	pH	6.7 SU (min)	8.9 SU
003	TOC	N/A	24 mg/L
	Oil and Grease	N/A	3 mg/L
	1,2-Dichloroethane	N/A	1.3 mg/L

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

Outfall	Parameter	Average of Daily Average	Maximum of Daily Maximum
003	Total Purgeable Hydrocarbons	0	0 mg/L
	pH	6.7 SU (min)	9.0 SU
004	TOC	N/A	43 mg/L
	Oil and Grease	N/A	3 mg/L
	1,2-Dichloroethane	N/A	1.2 mg/L
	Total Purgeable Hydrocarbons	0 mg/L	0 mg/L
	pH	7.0 SU (min)	9.0 SU
005	TOC	N/A	36 mg/L
	Oil and Grease	N/A	13 mg/L
	1,2-Dichloroethane	N/A	1.3 mg/L
	Total Purgeable Hydrocarbons	0 mg/L	0 mg/L
	pH	6.7 SU (min)	8.9 SU
006	TOC	N/A	29 mg/L
	Oil and Grease	N/A	3 mg/L
	pH	7.0 SU (min)	10.4 SU
007	TOC	N/A	52 mg/L
	Oil and Grease	N/A	3 mg/L
	pH	7.2 SU (min)	9.0 SU
008	TOC	N/A	31 mg/L
	Oil and Grease	N/A	5 mg/L
	pH	7.0 SU (min)	9.0 SU
009	TOC	N/A	41 mg/L
	Oil and Grease	N/A	3 mg/L
	pH	7.0 SU (min)	9.0 SU
010	TOC	N/A	32 mg/L
	Oil and Grease	N/A	4 mg/L
	pH	6.5 SU (min)	8.6 SU
011	TOC	N/A	10 mg/L
	Oil and Grease	N/A	0 mg/L
	pH	8.5 SU (min)	10.0 SU
012	TOC	N/A	17 mg/L
	Oil and Grease	N/A	4 mg/L
	pH	7.2 SU (min)	9.0 SU
013	TOC	N/A	44 mg/L
	Oil and Grease	N/A	6 mg/L
	pH	6.1 SU (min)	9.4 SU

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D. Effluent Limitation Violations

Effluent limit violations documented in the monthly effluent reports are summarized in the following table.

Outfall	Parameter	Date	Daily Average		Daily Maximum	
			Reported	Limit	Reported	Limit
001	CBOD ₅ (lbs/day)	7/2021	-	-	5661	-
	CBOD ₅ (mg/L)	7/2021	-	-	94	-
	CBOD ₅ (lbs/day)	2/2021	39	-	-	-
	CBOD ₅ (mg/L)	2/2021	15	-	-	-
	Copper, total (lbs/day)	11/2018	-	-	4.13	3.11
	Copper, total (lbs/day)	5/2019	-	-	3.57	3.11
	Copper, total (lbs/day)	6/2019	1.39	1.37	-	-
	Copper, total (lbs/day)	7/2019	1.51	1.37	10.18	3.11
	TSS (mg/L)	7/2018	-	-	135	80
	TSS (mg/L)	11/2018	-	-	172	80
	TSS (lbs/day)	11/2018	-	-	8476	6476
	TSS (mg/L)	7/2019	-	-	146	80
	TSS (lbs/day)	7/2019	-	-	7168	6476
	Zinc, total (lbs/day)	10/2014	-	-	5.6	5.5
	1,2-Dichloroethane (lbs/day)	4/2019	-	-	11.97	5.97
	Phenol (lbs/day)	7/2021	-	-	2.46	-
	Phenol (lbs/day)	8/2025	-	-	2.19	-
	2,3,7,8-TCDD Equivalents (ppq)	5/2018	26.7	2.19	26.7	4.63
	2,3,7,8-TCDD Equivalents (µg/day)	5/2018	692	80.5	692	170
	2,3,7,8-TCDD Equivalents (ppq)	8/2021	39	2.19	39	4.63
2,3,7,8-TCDD Equivalents (µg/day)	8/2021	786	80.5	786	170	
101	Flow, (MGD)		4.9	-	-	-
	BOD ₅ , (lbs/day)	7/2021	-	-	2745	-
	TSS, (lbs/day)	7/2018	1183	1149	5034	3735
	TSS, (lbs/day)	7/2019	-	-	5561	3735
201	BOD ₅ , (lbs/day)	1/2017	-	-	2745	-
	BOD ₅ , (lbs/day)	5/2021	-	-	545	-
	BOD ₅ , (lbs/day)	7/2021	412	-	2745	-
	BOD ₅ , (lbs/day)	6/2022	-	-	539	-
	Total Residual Chlorine (lbs/day)	3/2025	-	-	5398	-
	pH, SU	3/2021	-	-	9.4	9

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Outfall	Parameter	Date	Daily Average		Daily Maximum	
			Reported	Limit	Reported	Limit
SUM	1,2-Dichloroethane (lbs/day)	4/2019	-	-	11.95	5.51
	Chloroform (lbs/day)	3/2018	-	-	5.62	4.99
	Chloroform (lbs/day)	11/2020	-	-	5.48	4.99
	Chloroform (lbs/day)	12/2022	-	-	6.31	4.99
	Phenol (lbs/day)	7/2021	-	-	2.61	-
002	1,2-Dichloroethane (mg/L)	8/2021	-	-	2.2	-
003	1,2-Dichloroethane (mg/L)	8/2021	-	-	1.3	-
004	1,2-Dichloroethane (mg/L)	8/2021	-	-	1.2	-
005	1,2-Dichloroethane (mg/L)	8/2021	-	-	1.3	-
006	pH, SU	4/2017	-	-	9.4	9.0
	pH, SU	10/2019	-	-	9.2	9.0
	pH, SU	7.2021			10.4	9.0
011	pH, SU	4/2017	-	-	10	9.0
013	pH, SU	4/2020	-	-	9.4	9.0

The exceedances summarized above do not demonstrate a recurring pattern of non-compliance for any specific parameter(s), therefore no specific action to address the exceedances on record is required.

Review of the compliance history for the period between July 08, 2014 to October 08, 2025 indicates an agreed enforcement order, Docket No. 2017-0737-IWD-E, effective January 17, 2019 which, following a review by the Enforcement Division, compliance was achieved and the order was closed on February 28, 2024.

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VII. DRAFT EFFLUENT LIMITATIONS

See Appendix D of this Fact Sheet and Executive Director's Preliminary Decision (fact sheet) for a comparison of technology-based effluent limitations, water quality-based effluent limitations, existing effluent limitations, and the effluent limitations established in the draft permit.

OUTFALL LOCATIONS

Outfall	Latitude	Longitude
001	28.681667 N	96.581667 W
003	28.679445 N	96.548335 W
005	28.685002 N	96.536949 W
006	28.68888N	96.52931 W
009	28.700125 N	96.531064 W
010	28.670523 N	96.553701 W
011	28.646482 N	96.549018 W
012	28.706244 N	96.529317 W
013	28.64564 N	96.537156 W

VIII. SUMMARY OF CHANGES FROM APPLICATION

- A. The original application included the following amendment request that has subsequently been withdrawn.

The applicant has withdrawn the major amendment request to authorize the discharge of stormwater on an intermittent and flow-variable basis via new Outfall 014. Based on the withdrawal of the lone major amendment request with remaining amendment requests classified as minor amendments, the application is reclassified as a renewal application.

- B. The applicant submitted the following amendment requests that the Executive Director does not recommend granting.
1. Add the following Other Requirement No. 27 and revise Outfalls 003, 005, 006, 009, and 012 Effluent Limitations and Monitoring Requirement language from "Volume: Intermittent and Flow Variable" to "Volume: Intermittent and Flow Variable – See Other Requirement No. 27":

"There will be zero (0) discharge of stormwater or other waters, including washwater, from Outfalls 002, 003, 004, 005, 006, 007, 008, 009, 012 and 014 for rainfall events of 5-year 24-hour rainfall event or less (6.8 inches in 24 hours) as measured by Formosa's onsite rain gauge. If Formosa discharges stormwater or other waters from these Outfalls, it will notify TCEQ within twenty-four (24) hours of the discharge and include the rainfall amount and outfall number."

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2. Add Other Requirement No. 28, which reads as:

“There will be zero (0) discharge of Plastics from Formosa’s Point Comfort Plant. Formosa shall not propose that Plastics in its discharge in any way are part of permitted total suspended solids.”

These requested provisions were not included in the draft permit because a zero-discharge plastic limit is not required by applicable effluent guidelines or water quality standards. See 40 C.F.R. § 122.44; Tex. Water Code § 26.027. Permits must be based on regulatory requirements, not on separate consent decrees to which TCEQ is not a party. See 30 TAC §§ 307.4, 307.5. A zero-discharge limit for trace plastic would be inconsistent with TCEQ permitting and water quality standards.

C. The following changes have been made from the application that makes the draft permit more stringent:

1. Added the following more protective water quality-based effluent limitations at Outfall 001.

Parameter	Daily Average lbs/day	Daily Average mg/L	Daily Maximum lbs/day	Daily Maximum mg/L
Copper, total	N/A	-	3.09	-
Benzo(a)anthracene	0.0553	-	0.117	-
Benzo(a)pyrene	0.00553	-	0.0117	-
Hexachlorobenzene	0.00153	-	0.00315	-
Hexachlorobutadiene	0.487	-	1.02	-
2,3,7,8-TCDD Equivalents	80.0 µg/day ¹	2.18 ppq ²	169 µg/day ¹	4.61 ppq ²

¹ micrograms per liter (µg/L).

² part per quadrillion, ppq (i.e., 10⁻⁵); 1 ppq equals 1 picogram/liter (pg/L).

An interim three-year compliance period is included in the draft permit at Other Requirement No. 23 to meet the final water quality-based mass effluent limitations at Outfall 001 for the above listed parameters and implementation of the newly added dioxin/furan Congeners (1,2,3,4,6,7,8-HpCDD, 2,3,4,7,8-HpCDFs, OCDD, OCDF, PCB-77, PCB-81, PCB-126, and PCB-169) at Outfall 001 in accordance with 30 TAC § 307.2(f). The interim compliance period will give the applicant the time required for completing an evaluation process for effluent limitation compliance and possible construction of additional treatment facilities.

2. Fecal coliform replaces Enterococci as the applicable indicator bacteria for oyster waters, in the draft permit at a sampling frequency of once per week at Outfall 001 for the protection of oyster waters in accordance with 30 TAC § 307.7 (b)(3)(B)(ii). In addition, a semi-annual effluent limitation for Enterococci of 35 MPN/100 mL is included in the draft permit to comply with 30 TAC § 309.3(h)(1)(B) and in accordance with the primary contact recreation use for saltwater under 30 TAC § 307.7(b)(1)(B)(i).

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3. Other Requirement No. 27 has been added to the draft permit requiring the permittee to sample the effluent discharged via Outfall 001, within 60 days of permit issuance, and test for cyanide (available), total silver, and total thallium. Test results must be submitted to TCEQ Industrial Permits Team (MC 148) within 90 days of obtaining and compiling the required analytical data.
4. Former Other Requirement No. 14 has been renumbered to Other Requirement No. 13 and modified to require the permittee to submit an updated scope-of-work to the TCEQ within 180 days after permit issuance. Additionally, minor updates have been made to the associated Appendix A - Receiving Water Monitoring Program (RWMP) on pages 28-31 of the draft permit.

IX. SUMMARY OF CHANGES FROM EXISTING PERMIT

A. The permittee requested the following amendments that the Executive Director recommends granting:

1. Increase in the discharge of treated process wastewater, equipment/facility washdown, stormwater, fire water, and utility wastewaters (including pretreated sanitary wastewaters) from a daily average flow not to exceed 4,400,000 gallons per day to a daily average flow not to exceed 6,000,000 gallons per day via internal Outfall 101.

2. Removal of the following outfalls from the draft permit:

Outfall 002, which serves the non-process areas in and around the PVC and VCM units. No treatment is provided;

Outfall 004, which serves the non-process areas in and around the west end of the out-of-service wastewater treatment plant and undeveloped areas between said plant and the VCM/PVC process areas;

Outfall 007, which serves the areas outside the CWTP process area and outside the truck loading station; and

Outfall 008, which serves the non-process areas between the north side of East/West Road 28 and Road 40, north of the Olefins, Utility (DEMIN), PP-II, and EG areas.

3. Revise the authorization of "non-contact steam condensate" to "non-contact condensate" for Outfalls 003-013.
4. Modify Requirement No. 3 of the Receiving Water Monitoring Program to revise the submittal date of the annual report from "before the anniversary of the current permit issuance date..." to "September 30th of each year."
5. Remove "ash truck wash water" as an authorized waste stream.

B. The following additional changes have been made to the draft permit:

1. The requirement to monitor the discharge of floating solids, and visible foam and oils has been removed from all internal outfalls (Outfall 101, 201, and 901) since this requirement applies to external outfalls only. This was a technical mistake and

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correcting such technical mistakes in the draft permit satisfies the requirements of the Clean Water Act (CWA) section 402(o).

2. The standard provisions section of the permit (pages 3-13) has been updated to the current (May 2021) version.
3. Existing Other Requirement No. 2, which addresses effluent parameter minimum analytical levels (MALs), has been revised and includes updated MALs.
4. Existing Other Requirement Nos. 4 and 5 have been combined and updated to included current language for applicable pond requirements.
5. Updated existing Other Requirement No. 15 (now No. 14) to include draft permit pages 2-20 and expand to address reporting schedule for parameters with a monitoring frequency of once per six-months.
6. Updated existing Other Requirement No. 16 (now No. 15) to current sludge requirements.
7. Revised existing Other Requirement No. 19 (now No. 18) to include the following Other Miscellaneous Non-Stormwaters (as included under the 2021 *Multi-Sector General Permit for Industrial Stormwater* (TXR050000, Part II, Section A, Item 6):
 - (1) discharges of fire water from firefighting (maintenance) activities (includes fire prevention actions taken to control other dangerous high heat conditions such as smoldering and emergency cooling of equipment) and uncontaminated fire hydrant flushings (excluding discharges of hyperchlorinated water, unless the water is first dechlorinated and discharges are not expected to adversely affect aquatic life and does not include wastewater from actual firefighting activities);
 - (2) potable water sources (excluding discharges of hyperchlorinated water, unless the water is first dechlorinated and discharges are not expected to adversely affect aquatic life);
 - (3) lawn watering and similar irrigation drainage, provided that all pesticides, herbicides, and fertilizer have been applied in accordance with the approved labeling;
 - (4) water from the routine external washing of buildings, conducted without the use of detergents or other chemicals;
 - (5) water from the routine washing of pavement conducted without the use of detergents or other chemicals and where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed);
 - (6) uncontaminated air conditioner condensate, compressor condensate, and steam condensate, and condensate from the outside storage of refrigerated gases or liquids;
 - (7) water from foundation or footing drains where flows are not contaminated with pollutants (e.g., process materials, solvents, and other pollutants);
 - (8) uncontaminated water used for dust suppression;

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- (9) springs and other uncontaminated groundwater; and
- (10) incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but excluding intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdown or drains).
8. Revised existing Other Requirement No. 20 (now No. 19) to allow for routing to storage ponds and/or discharge.
9. Removed existing Other Requirement No. 21, which placed the permittee on notice of permit review upon completion of any new intensive water quality survey on Segment Nos. 2453 and 2454, as this requirement is no longer applicable.
10. Added new cooling water intake structure requirements according to Clean Water Act (CWA) § 316(b) in Other Requirement No. 20 of the draft permit.
11. Clarified the dioxin effluent monitoring requirements in existing Other Requirement No. 21.
12. Monitoring requirement for 2,3,7,8-PeCDD in Other Requirement No 22. of the existing permit was a result of technical mistake and has been removed from the draft permit. This was a technical mistake and correcting such technical mistakes in the draft permit satisfies the requirements of the Clean Water Act (CWA) section 402(o).
13. Added Other Requirement No. 28 to clarify *water treatment wastes*, which includes, but is not limited to, cold lime water treatment wastes, demineralizer backwash, filter backwash, ion exchange water treatment system wastes, membrane regeneration wastes, and reverse osmosis reject water.
14. The Receiving Water Monitoring Program section of the permit (Attachment A; Pages 28 – 31) has been updated. The changes include, but are not limited to, modify Requirement No. 2 of the Receiving Water Monitoring Program to revise the submittal date of the of the current Scope-of-Work document to 180 days after permit issuance; modify Requirement No. 2 of the Receiving Water Monitoring Program to replace the requirement to directly notify specific parties and maintain a copy of the of the current Scope-of-Work document in a public library with a requirement to maintain it on a dedicated and publicly accessible website; modify Requirement No. 3 of the Receiving Water Monitoring Program to revise the submittal date of the annual report of submit a current Scope-of-Work document.
15. The invertebrate species *Mysidopsis bahia* has been replaced with *Americamysis bahia* for any whole effluent toxicity related requirements in the draft permit.

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.

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A. REASON FOR PERMIT ISSUANCE

The applicant originally applied to the Texas Commission on Environmental Quality (TCEQ) for a major amendment with renewal of TPDES Permit No. WQ0002436000 to authorize the discharge of stormwater on an intermittent and flow-variable basis via new Outfall 014. The applicant has subsequently withdrawn this major amendment request.

The application is currently classified as a renewal application with the following minor amendment requests:

1. Increase the internal Outfall 101 discharge volume from a daily average flow not to exceed 4,400,000 gallons per day to a daily average flow not to exceed 6,000,000 gallons per day. Granted.
2. Remove Outfalls 002, 004, 007, and 008
3. Revise the authorization of "non-contact steam condensate" to "non-contact condensate" or "clean condensate" for Outfalls 003-013.
4. Modify Requirement No. 3 of the Receiving Water Monitoring Program to revise the submittal date of the annual report; and
5. Remove "ash truck wash water" as an authorized waste stream
6. Revise Effluent Limitation and Monitoring Requirement No. 3 of all external outfalls with the addition of "see Other Requirement No. 28".
7. Replace the term "Volume: Intermittent and Flow Variable" with "Volume: Intermittent and Flow Variable – See Other Requirement No. 27." which applies to Outfalls 003, 005, 006, 009, and 012.
8. Add Other Requirement No. 27 related to prohibition of discharge via Outfalls 003, 005, 006, 009, and 012 by January 1, 2024.
9. Add Other Requirement No. 28 related to zero discharge of plastics.

The Executive Director recommended granting requests X.A.1-5 which were granted in the draft permit; and not granting requests X.A.6-9.

The draft permit authorizes the discharge of remediated groundwater, fire water, and treated previously monitored effluents (via Outfalls 101 and 201) at a daily average flow not to exceed 9,700,000 gallons per day via Outfall 001; treated process wastewater, equipment/facility washdown, stormwater, fire water, and utility wastewaters (including pretreated sanitary wastewaters) at a daily average flow not to exceed 6,000,000 gallons per day via Outfall 101; treated and combined Ion Exchange Membrane (IEM) wastewater streams, utility wastewaters (including pretreated sanitary wastewaters), equipment/facility washdown, stormwater, fire water, and water treatment wastes on a continuous and flow-variable basis via Outfall 201; cooling tower blowdown, cooling water filter backwash, and non-process area stormwater on an intermittent and flow-variable basis via Outfall 901 (to the ALCOA mud pits for dust suppression); non-process area stormwater, hydrostatic test water, fire water, non-contact condensate, non-contact

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wash water, potable water, and air conditioner unit condensate on an intermittent and flow-variable basis via Outfalls 003, 005, 006, 009, 010, 011, 012, and 013.

The Executive Director has 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 has determined that the action is consistent with the applicable CMP goals and policies.

B. WATER QUALITY SUMMARY

Discharge Routes

The discharge route is via Outfall 001 directly to Lavaca Bay/Chocolate Bay in Segment No. 2453; via Outfalls 003 and 012 to unnamed ditches, thence to Cox Lake, thence to Cox Creek, thence to Huisache Cove; via Outfalls 005, 006, and 009 to Cox Lake, thence to Cox Creek, thence to Huisache Cove; via Outfall 010 to unnamed ditches, thence to Cox Lake, thence to Cox Creek; thence to Huisache Cove, which is a part of Cox Bay in Segment No. 2454; via Outfall 011 to an unnamed ditch, thence to Cox Bay in Segment No. 2454; and via Outfall 013 directly to Cox Bay in Segment No. 2454 of the Bays and Estuaries. The unclassified receiving water uses are minimal aquatic life use for the unnamed ditches and high aquatic life use for Cox Lake and Cox Creek (tidal). The designated uses for Segment Nos. 2453 and 2454 are primary contact recreation, exceptional aquatic life use, and oyster waters. 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.

Antidegradation Review

In accordance with Title 30 Texas Administrative Code Section 307.5 and TCEQ's *Procedures to Implement the Texas Surface Water Quality Standards* (June 2010), an antidegradation review of the receiving waters was performed. A Tier 1 antidegradation review has preliminarily determined that existing water quality uses will not be impaired by this permit action. Numerical and narrative criteria to protect existing uses will be maintained. A Tier 2 review has preliminarily determined that no significant degradation of water quality is expected in Cox Lake, which has been identified as having a high aquatic life use, as well as Lavaca Bay / Chocolate Bay and Cox Bay, which have been identified as having exceptional aquatic life uses, respectively. Existing uses will be maintained and protected. The preliminary determination can be reexamined and may be modified if new information is received.

Endangered Species Review

A priority watershed of critical concern has been identified in Calhoun County. The whooping crane, *Grus americana* (Linnaeus), an endangered aquatic-dependent species, has been determined to occur in the watershed of Calhoun County. To make this determination for Texas Pollutant Discharge Elimination System (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 United States Fish and Wildlife Service's (USFWS) biological opinion. The determination is subject to reevaluation due to subsequent updates or amendments to the biological opinion. The presence of the endangered Whooping Crane requires EPA review and, if appropriate, consultation with USFWS. The piping plover, *Charadrius melodius* Ord, can also occur in

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Calhoun County, but the county is north of Copano Bay and not a watershed of high priority per Appendix A of the 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 the piping plover, *Charadrius melodus* Ord.

Impaired Water Bodies

Segment No. 2453 is currently listed on the state's inventory of impaired and threatened waters, the 2024 Clean Water Act Section 303(d) list. The listing is specifically for elevated bacteria levels (oyster waters) in the north-northeastern portion of the bay near Point Comfort and the Chocolate Bay area (AUs 2453OW_02, 2453OW_03). The historical monitoring data for fecal coliform and Enterococci bacteria confirms only minimal levels (well below the segment standards) of fecal coliform and Enterococci bacteria in the effluent.

The existing permit includes a geometric mean (represented as daily average) effluent limitation for Enterococci of 14 MPN/100 mL at a sampling frequency of once per week at Outfall 001. In accordance with 30 TAC § 307.7 (b)(3)(B)(ii), fecal coliform replaces Enterococci as the applicable indicator bacteria for oyster waters in the draft permit at a sampling frequency of once per week at Outfall 001. Furthermore, to comply with 30 TAC § 309.3(h)(1)(B) and in accordance with the primary contact recreation use for saltwater under 30 TAC § 307.7(b)(1)(B)(i), a semi-annual effluent limitation for Enterococci of 35 MPN/100 mL is included in the draft permit.

In addition, the Lavaca Bay Ship Channel portion of the Segment is listed for depressed dissolved oxygen and elevated copper (2453D_01). Outfall 001 is routed into the dissolved oxygen-impaired portion of the Segment. No changes to the limits applicable to Outfall 001 were identified in this application that would represent an increase in the level of oxygen-demanding substances discharged to the impaired area. See Section X. D. 9., of this Fact Sheet and Executive Director's Preliminary Decision (fact sheet) for discussion of the diffuser performance evaluation, ambient monitoring results, and effluent limitations that support the determination of no significant dissolved oxygen depletion in Segment No. 2453 as a result of the discharge from this facility. The draft permit continues the existing daily average effluent limitation for total copper at Outfall 001 and includes a more stringent daily maximum effluent limitation for total copper at Outfall 001.

Segment No. 2454 is currently listed on the state's inventory of impaired and threatened waters, the 2022 Clean Water Act Section 303(d) list. The listing is specifically for elevated copper in Cox Bay. No elevated sources for total copper have been identified for the intermittent discharges via Outfalls 003, 005, 006, 009, 010, 011, 012, and 013. The draft permit does not authorize any increase in the loading of total copper via the permitted discharges.

Based on these stated reasons, the issuance of this permit is not anticipated to cause any additional adverse impact to the receiving waters with respect to the listed impairments.

Total Maximum Daily Loads (TMDLs)

Neither Segment No. 2453 nor Segment No. 2454 have a completed TMDL.

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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 guidelines applied to the process wastewaters include 40 CFR 414 – Organic Chemicals, Plastics, and Synthetic Fibers (OCPSF).

The draft permit authorizes the discharge of remediated groundwater, fire water, and treated previously monitored effluents (via Outfalls 101 and 201) at a daily average flow not to exceed 9.7 MGD via Outfall 001; treated process wastewater, equipment/facility washdown, stormwater, fire water, and utility wastewaters (including pretreated sanitary wastewaters) at a daily average flow not to exceed 6.0 MGD via Outfall 101; treated and combined Ion Exchange Membrane (IEM) wastewater streams, utility wastewaters (including pretreated sanitary wastewaters), equipment/facility washdown, stormwater, fire water, and water treatment wastes on a continuous and flow-variable basis via Outfall 201; cooling tower blowdown, cooling water filter backwash, and non-process area stormwater on an intermittent and flow-variable basis via Outfall 901 (to the ALCOA mud pits for dust suppression); non-process area stormwater, hydrostatic test water, fire water, non-contact condensate, non-contact wash water, potable water, and air conditioner unit condensate on an intermittent and flow-variable basis via Outfalls 003 and 005; non-process area stormwater, hydrostatic test water, fire water, non-contact condensate, non-contact wash water, potable water, and air conditioner unit condensate on an intermittent and flow-variable basis via Outfalls 006, 009, 010, 011, and 012; and non-process area stormwater, hydrostatic test water, fire water, non-contact condensate, non-contact wash water, potable water, and air conditioner unit condensate on an intermittent and flow-variable basis via Outfall 013.

The discharge of process wastewaters via Outfall 101 from this facility site is subject to federal effluent limitation guidelines at 40 CFR 414. A new source determination was performed and the discharge of process wastewaters subject to the 40 CFR 414 categorical guidelines is not a new source as defined at 40 CFR §122.2. Therefore, new source performance standards (NSPS) are not required for the discharge from the Formosa Point Comfort Plant site.

The discharge of remediated groundwater, potable water, and air conditioner unit condensate via Outfall 001; equipment/facility washdown, stormwater, utility wastewaters, potable water, and air conditioner unit condensate via Outfall 101; treated and combined Ion Exchange Membrane (IEM) wastewater streams, utility wastewaters, equipment/facility washdown, stormwater, water treatment wastewaters, potable water, and air conditioner unit condensate on a continuous and flow variable basis via Outfall 201; non-process area stormwater, hydrostatic test water, fire water, non-contact condensate, and non-contact wash water via Outfalls 003 and 005; and non-process area stormwater, hydrostatic test water, fire water, non-contact condensate, non-contact wash water, potable water, and air conditioner unit condensate via Outfalls 006, 009, 010, 011, and

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012; and non-process area stormwater, hydrostatic test water, fire water, non-contact condensate, non-contact wash water, potable water, and air conditioner unit condensate on an intermittent and flow variable basis via Outfall 013 is not subject to federal effluent limitation guidelines and any technology-based effluent limitations are based on best professional judgment.

Raw water drawn from Lake Texana is pumped and piped by the Lavaca-Navidad River Authority (LNRA) to three ponds, namely, expansion plant, North LNRA pond (recently constructed), and the Utilities Area Vinyl Chloride (UTPC) pond. Clarified and filtered raw water is referred to as industrial water and usually used for such purposes as washdown, cooling tower make-up, and other operations where water purity is not critical. Industrial water that is carbon filtered is referred to as Ultra-Pure Water and used where water comes in direct contact with the product and for cogeneration (steam) operations

Outfall 001

In general, boiler blowdown is either returned to a raw water pond or used as make-up to an on-site cooling tower. Potable water supplied by the City of Point Comfort is used for sanitary purposes with the resulting wastewater routed to the on-site sanitary treatment unit thence to the cooling tower (CT) M/U for reuse along with PVC water that has been biologically treated (all other areas). Except for VCM and IEM, condensate generated from the processes typically is returned to the Cooling Tower associated with the process. VCM condensate is routed to the PVC unit as a source of hot water in the Hot Water Area and IEM condensate may be routed to the Ultra-Pure water treatment system in lieu of the Chlor/Alkali Cooling Tower.

Internal Outfall 101 effluent combines with internal Outfall 201 effluent and remediated groundwater for discharge via Outfall 001. The Biological Treatment Plant (prior to Outfall 101) and the Physical Treatment Plant (prior to Outfall 201) comprise the Combined Wastewater Treatment Plant (CWTP). In addition to the various wastewater generating processes producing contact process and process area stormwater various utility and other wastewaters are produced. These wastewaters include cooling tower and boiler blowdown, remediated groundwater, treated (and reused) sanitary wastewater, equipment and facility washdown, and fire water.

Outfall 101 (Effluent from the Biological Treatment Plant)

Outfall 101 receives the following unit wastewaters:

CHLOR-ALKLI

The Chlor-Alkali unit uses high voltage direct current charged membranes to separate purified brine from salt domes into chlorine gas, hydrogen gas, and sodium hydroxide. Industrial water is used in the Brine Purification, Cell Room process, Chlorine Treatment process. Hydrogen Treatment process, Hydrochloric Acid area, and Chlorine Destruction area. The Chlor-Alkali unit uses steam for brine evaporation and for caustic concentration through evaporation. Recovered steam and chlorine condensate is either returned to the Utilities Area for ultra-pure water makeup or reused as Chlor-Alkali cooling tower make-up.

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ETHYLENE DICHLORIDE (EDC)

The EDC units react chlorine gas from the Chlor/Alkali unit, and ethylene, from the Olefins unit, in the presence of ferric chloride catalyst to produce liquid EDC. The EDC unit uses steam for purification of the EDC and the stripping of the wastewater and stormwater from this unit. Steam condensate and chlorine condensate is recovered and recycled to the Chlor/Alkali Cooling Tower as makeup.

ETHYLENE GLYCOL UNITS I AND II (EG, EG-2)

The EG units react ethylene, from the Olefins units, with oxygen and nitrogen, from the EG Air Separation Plant (ASP), to form ethylene oxide and carbon dioxide. Following purification to remove carbon dioxide, the ethylene oxide is reacted in water to form glycols, which are separated from the remaining water through evaporation and distillation to recover the monoethylene glycol (MEG), diethylene glycol, and triethylene glycol. Additionally, the ASP supplies the plant with compressed air and nitrogen. Ultra-pure water is used in the hydrolysis portion of the reaction, as well as in the cooling jackets of the reactors where it is converted to steam used within the EG units.

GASOLINE HYDROGENATION UNIT (GHU)

The Gasoline Hydrogenation Unit (GHU) top treats the raw pyrolysis gasoline produced in the Olefins Unit. This unit produces a C₅ cut, a C₆-C₈ aromatic cut (BTX), wash oil, and flux oil. The GHU unit uses steam for process heating for distillation of the hydrocarbon compounds. Steam condensate is recovered and used as makeup for the GHU/Propylene Purification Unit (PPU) cooling tower. No process wastewater is generated from this unit.

HIGH DENSITY POLYETHYLENE (HDPE-I, HDPE-II, and HDPE-III)

The HDPE units convert ethylene from the Olefins unit into HDPE pellets through a polymerization reaction in a low-pressure slurry process in the presence of a catalyst. Ultra-pure water is used in the pelletizer section to suspend the pellets from the underwater pelletizers for collection and separation in centrifuges. In addition (HDPE-I only), ultra-pure water is used in the incinerator boiler for the production of low-pressure steam from the waste heat of incineration. Steam, either from the HDPE-I incinerator or Utilities Area, is used in direct contact steam strippers to remove excess solvent from the product and in fluidized bed dryers to remove excess water from the product. Condensate from the direct contact strippers is removed from the process by centrifuges and recycled in the unit as stripper wash water.

LOW DENSITY POLYETHYLENE (LDPE)

The LDPE unit converts ethylene from the Olefins unit into LDPE in reactors in the presence of a catalyst. LDPE uses cooling water to remove heat from the process. Process water is generated from the catalyst production, polymerization unit (for nitrogen stripping), the palletization area, and the solvent recovery area.

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LINEAR LOW DENSITY POLYETHYLENE (LLDPE)

The LLDPE unit converts ethylene from the Olefins units into LLDPE pellets through polymerization reaction in the presence of a catalyst. Ultra-pure water is used in the Catalyst Preparation area where it is combined with the catalyst and is consumed by the process and becomes part of the product. Also, ultra-pure water is used in the Solvent Recovery section as part of the "batch" process of purification of the solvents. The LLDPE unit uses steam from heating purposes throughout the unit, with condensate being recovered and used as cooling tower makeup.

OLEFINS-I (OL-I), OLEFINS-II (OL-II), and OLEFINS-III (OL-III)

The Olefins units crack the feedstock, natural gas condensate, naphtha, and other hydrocarbon sources, into various molecular compounds, which are purified through scrubbing, compression, and distillation to provide high grade ethylene, propylene, and a remaining tail gas mixture of hydrocarbons and excess hydrogen. Ultra-pure water is used in the process for direct contact water scrubbing, and in the steam generation system of each of the furnaces for the recovery of waste heat. Condensate is recovered and reused within the Olefins units, with purification in the condensate polishers. Waste condensate and polisher blowdown is used in the Olefins Cooling Towers. Contact stormwater may be routed to the cooling towers for makeup water. The Olefins units use high-pressure steam from the Utilities Area and from internal sources to drive the gas compressors. Medium and Low-pressure steam is used for heating purposes. A propane dehydrogenation unit (PDH) associated with OL-III unit is currently in the planning phase and the construction time frame has not been determined.

POLYPROPYLENE (PP-I) and (PP-II)

The Polypropylene units convert propylene from the Olefins units into Polypropylene pellets through a polymerization reaction. Ultra-pure water is used throughout the unit for seal flushing and is sent to the storm collection system. In addition, ultra-pure water is used in the process systems to provide cooling and chilled water makeup. The PP-I and PP-II units use steam for process heating with the condensate being recovered and either recycled back to the polymerization process in order to reduce ultra-pure water use, or recycled to the Cooling Water Return Header to the HDPE Cooling Towers, for PP-I, or to the PP-II Cooling Tower.

POLYVINYL CHLORIDE (PVC)

The Polyvinyl Chloride unit uses a "batch" process to convert vinyl chloride monomer (VCM), a liquid, into PVC "powder." This process uses ultra-pure water as the carrier for the slurry of VCM, chemical additives, and catalysts, which are injected into a reactor for control of the process. The resulting PVC powder is removed from the reactor by the water and dried. Unreacted VCM and catalysts are recovered for reuse. In addition to ultra-pure water, the PVC area uses steam and recovered condensate, from the VCM Area, for heating purposes.

SPECIALTY POLYVINYL CHLORIDE (SPVC)

The Specialty Polyvinyl Chloride is produced from "batch" processes from two different trains: Train 1 – Dispersion Resin, and Train 2 – Blending

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Resin / CoPolymer Resin. The process is somewhat similar to the PVC process in that vinyl acetate monomer, vinyl chloride monomer, ultra-pure water, and catalysts are charged to a reactor for control of the process. After polymerization, the aqueous slurry is transferred to a pressurized stripping vessel where steam is added to remove unreacted monomer. The slurry is then sent to a slurry storage system and a dryer system to remove moisture from the wet PVC. Effluent from the slurry storage system is sent to wastewater treatment or recycled.

VINYL CHLORIDE MONOMER (VCM)

The VCM unit uses Direct Chlorination, High Temperature Chlorination, and Oxychlorination to convert Chlorine gas from the Chlor/Alkali unit and Ethylene from the Olefins units into Ethylene Dichloride (EDC). The EDC is purified and then "cracked" to manufacture VCM, which is used in the PVC area, or exported. Water is not used directly in the process, but water is created during Oxychlorination. The VCM unit uses ultra-pure water to remove reaction heat from the Oxychlorination Reactors and to remove heat from the waste and vent gas incinerators in the waste heat boilers. Steam is used within the VCM unit for heating purposes and to initiate reaction and separation in distillation columns. Condensate is recovered, and excess amounts are used by the PVC area as hot water for heating purposes. Industrial water is used in the VCM unit as makeup for the incinerator scrubbers where the water is used to dilute acids formed in the scrubbing process, for reuse in the process.

Process area stormwater and all other process wastewaters are routed to Biological Treatment Trains A, B, or D.

Outfall 201 (Effluent from the Physical Treatment Plant)

Outfall 201 receives the following wastewaters:

In general, cooling tower blowdown (CTBD), ion exchange membrane (IEM) wastewaters, demineralized (DEMIN) water treatment wastewaters, pretreated sanitary wastewaters (recycled as cooling tower makeup), equipment/facility washdown, (non-contact/contaminated) stormwater, fire water, and other utility and water treatment wastewaters are routed for treatment prior to Outfall 201.

These wastewaters are routed to the Physical Treatment Facility, which is designed for waters generated within the plant that do not require treatment for reduction of organic contaminants and only require pH adjustment and removal suspended particles.

Recycled Water (Biological Treatment Recycle Water Train)

Within the Biological Treatment facility, a third treatment train (Train C) is maintained and designed to treat water for recycle purposes.

Wastewaters such as contact and non-contact stormwater, circulating fluidized bed / natural gas fired energy generating facility (CFB) unit wastewaters, pellet extruder water, PVC and SPVC wastewaters, and air separation plant condensate may be recycled and reused for cooling water

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make-up purposes. Cooling tower blowdown may also be supplied to ALCOA to be used for dust suppression of the mud pit areas provided all required authorizations are obtained.

Treated wastewaters from Biological Treatment Train C are routed to the cooling towers for makeup water. Train C consists of a bioreactor (TTT-08C), clarifier (TTT-09C), and clear well tank (TTT-34B). The bioreactor provides aeration and contact with biological activity to reduce contaminants in water. The clarifier is used for solids separation prior to routing to the clear well tank. Treated sanitary wastewater is also routed to the clear well tank. Water from the clear well tank is pumped to the demineralization area to be treated and reused as cooling tower makeup water.

Biological Treatment (Trains A, B, and D)

The Biological Treatment Facility removes suspended and dissolved contaminants and is designed for a maximum flow of 6.0 MGD. Biological treatment includes the following:

The Biological Receiving area consists of incoming piping containing process waste, contaminated stormwater, and cooling tower blowdown. The incoming streams are commingled in one of three manifolds: Process Waste, Stormwater, and Cooling Tower Blowdown. The process waste is monitored by grab sample, prior to volatile organic compound (VOC) removal in the degasification towers (TCT-01A/B) by stripping with nitrogen. Following stripping, the process wastewater is routed to two 3.2 MG equalization tanks (TTT-01A and TTT-02). Contaminated stormwater is also routed to the 3.2 MG equalization tanks. The VCM wastestream is segregated and routed to the 1.2 MG VCM equalization tank (TTT-01B) to be treated to reduce copper content prior to commingling with other wastewaters. Cooling tower blowdown is typically sent to the Physical Treatment Facility and is only diverted to the Biological Treatment Facility only as necessary.

The Biological Pretreatment area consists of treatment for solids and oil and grease removal. The solids, oil, and grease removal system consist of rapid mix tanks (TTT-03A/B) and a flocculation tank (TTT-04) for particulate removal through the dissolved air flotation units (TTT-05A/B).

The Biological Treatment Trains A and B consist of two stages, bioreaction and clarification. Train D is currently under construction and will be similar to Trains A and B. The bioreactor section consists of two, 2-MG tanks with fine bubble diffusers on the bottom and segregated into three sections. The bioreactors provide aeration and contact with biological activity to reduce contaminants in the water. The clarification section consists of two, 0.9 MG tanks providing separation of the solids from the "clean" liquid. The effluent from the clarifiers is mixed with a highly oxygenated recycle stream to provide further reduction of any remaining contaminants, which is then routed to tertiary treatment.

The Biological Tertiary Treatment area is used to "polish" the water prior to entering the effluent sump (TZT-07). Biological Tertiary Treatment area

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consists of a rapid mix tank (TTT-11), a flocculation tank (TTT-12), a clarifier (TTT-13), and three parallel 1.9-MGD traveling bridge bi-media filters. A bypass exists to allow treated water meeting effluent parameters to be diverted around a portion, or all of the tertiary equipment.

The Biological Treatment Facility Solids generated are collected and routed to sludge thickeners and forwarded to the sludge thickeners/press feed tanks (TTT-29 and TTT-67) in the dewatering area. Solids from the biological area are commingled with the sanitized sanitary solids and routed to the sludge thickener/press feed tanks and then dewatered using the Solids Belt Filter Presses (TFT-O2B) and disposed of offsite as a Class II non-hazardous waste.

Physical Treatment Facility

The Physical Treatment Facility consists of two treatment trains, one for cooling tower blowdown and one for stormwater from the Chlor-Alkali process and the demineralizer regeneration. Clarification and pH adjustment are conducted in each treatment train.

The Cooling Tower Blowdown Treatment Train consists of the manifold area, which allows the plant operator to divert any stream determined to be contaminated, based on grab samples, to biological treatment. The Physical Treatment Facility consists of a 0.8 MG equalization/surge tank (TTT-26), a rapid mix tank (TTT-27), and a clarifier (TTT-28). Discharge from the clarifier commingles with water from the Chlor-Alkali/Demineralizer waste treatment before entering the effluent sump (TZT-07) where mixing with the biologically treated wastewaters occurs prior to discharge.

The Chlor-Alkali/Demineralization Waste Treatment Train consists of a single-cell wooden cooling tower for cooling of the Chlor-Alkali waste stream prior to mixing with the demineralization waste stream, a 1.6-MG equalization/surge tank (TTT-44), a rapid mix tank (TTT-35), a flocculation tank (TTT-43), and a clarifier (TTT-42). Discharge from the clarifier commingles with the water from the cooling tower blowdown treatment before entering the effluent sump (TZT-07) for mixing with biologically treated waters prior to discharge.

Solids from the clarifiers in the Physical Treatment Facility are collected in the clarifier underflow thickener (TTT-30), for water removal and storage before being forwarded to the press feed tank. Solids from raw water clarification blowdown are routed to the non-oily sludge thickener (TTT-24) for water removal and storage before being forwarded to the press feed tank. The thickened solids are then mixed in tank TTT-22 and then pressed in the belt filter presses (TFT-O2A and TFT-O2B) and shipped to an offsite landfill for disposal as a Class II non-hazardous waste.

Primarily Stormwater Driven Outfalls (Outfalls 003-013)

Contact stormwater is routed to the biological treatment unit of the CWTP. Noncontact stormwater is routed separately, tested, and where test results indicate, may be discharged via the respective stormwater outfall.

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Outfall 003

Serves the non-process areas in and around the Utilities Block, including the west end of the Vinyl Plant. No treatment is provided.

Outfall 005

Serves the non-process areas in and around the undeveloped areas east of the out-of-service wastewater treatment area. No treatment is provided.

Outfall 006

Serves the non-process areas on the south end of the CWTP and the south side of FPC-TX Expansion Complex. No treatment is provided.

Outfall 009

Serves the non-process areas north of the area drained by Outfall 008, i.e., Olefins Offsite, Utility Raw Water Treating, Warehouse, Maintenance Shops, Olefins Flare, PE-II, and the Raw Water Pond. No treatment is provided.

Outfall 010

Serves primarily the Marine Tank Farm. No treatment is provided.

Outfall 011

Serves primarily the Dock Tank Farm. No treatment is provided.

Outfall 012

Serves the non-process areas along either side of "contractor's row" and extending north to the northern side of the FPC-TX rail car storage area. No treatment is provided.

Outfall 013

Serves the natural gas fired CFB plant and includes the recently constructed Ethylene Glycol 2 unit.

2. CALCULATIONS

See Appendix A of this fact sheet for calculations and further discussion of technology-based effluent limitations proposed in the draft permit. A comparison of technology-based effluent limits, existing effluent limitations, and calculated water quality-based effluent limits can be found in Appendix D of this fact sheet.

3. 316(B) COOLING WATER INTAKE STRUCTURES

a. SCREENING

The facility obtains water from the City of Point Comfort via Lavaca-Navidad River Authority (LNRA), a public water system (PWS No. TX00290001), which owns and operates a cooling water intake structure (CWIS) located on Lake Texana, in Jackson County, for cooling purposes. The use of water obtained from a public water system for cooling purposes does not constitute the use of a cooling water intake

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structure; therefore, the facility is not subject to Section 316(b) of the CWA or 40 CFR Part 125, Subpart J.

b. PERMIT ACTION

Other Requirement No. 20 has been added to the draft permit. When in operation, the cooling water system must be operated and maintained as represented in the application for this permit. The permittee shall provide written notification to the TCEQ Industrial Permits Team (MC 148) and Region 14 Office of any change in procedure or facility modification which alters 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.

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).

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Outfall 001

Discharge via Outfall 001 is directly to Lavaca Bay / Chocolate Bay (which is a discharge directly to a bay, estuary, or wide tidal river). 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 (MZ). The ZID for this discharge is defined as a volume within a radius of 50 feet from the point where the discharge enters Lavaca Bay / Chocolate Bay. 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 Lavaca Bay / Chocolate Bay.

TCEQ uses the EPA horizontal jet plume model to estimate dilution at the edges of the ZID and aquatic life mixing zone for discharges greater than 10 MGD into bays, estuaries, or wide tidal rivers and/or discharges into sections of bays, estuaries, and wide tidal rivers that are less than 400 feet wide. General assumptions used in the horizontal jet plume model are a non-buoyant discharge, a submersed pipe, and no cross flow. Based on the 1993 contested case hearing and on diffuser validation studies completed in 1995, the following critical effluent percentages are applied at Outfall 001:

Acute Effluent (ZID)%	40%	Chronic Effluent (MZ)%	10%
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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 11 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

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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

Outfall 001

Analytical data reported in the application was screened against calculated water quality-based effluent limitations for the protection of aquatic life. Reported analytical data for total copper exceeds 85 percent of the calculated daily average water quality-based effluent limitation for aquatic life protection. In addition, the calculated daily maximum water quality-based mass equivalent limitations for total copper at Outfall 001 is slightly more stringent than the existing effluent limitation and the required technology-based effluent limitations. Therefore, the following final permit limitations are proposed in the draft permit for the protection of aquatic life:

Outfall	Parameter	Daily Average	Daily Maximum
001	Total Copper ¹	1.77 lbs/day Report (mg/L)	3.11 lbs/day Report (mg/L)
	Total Copper ²	1.77 lbs/day Report (mg/L)	3.09 lbs/day Report (mg/L)

¹ Effective beginning upon date of permit issuance and lasting for a period of three (3) years.

² Effective beginning three (3) years after date of permit issuance and lasting through date of permit expiration.

The effluent testing submitted with the application for cyanide (available) was tested to the minimum analytical level (MAL) of 10 micrograms (µg) per liter (L). This MAL is not sufficient for comparison with the calculated water quality-based daily average effluent limitation of 6.59 µg/L cyanide (available) for the protection of aquatic life. Therefore, retesting for cyanide (available) to the appropriate TCEQ MAL of 2 µg/L is included in the draft permit at new Other Requirement No. 29.

The effluent testing submitted with the application for total silver show non-detect at the MAL of 0.5 µg/L, except for the initial sampling event. This results in an average value greater than 70 percent of the calculated daily average water quality-based effluent limitation, which is 5.53 µg/L for total silver. Therefore, retesting for total silver is included in the draft permit at new Other Requirement No. 29.

All other reported analytical data for the protection of aquatic life at Outfall 001 does not exceed 70 percent of the calculated daily average water quality-based effluent limitation. No additional limits or monitoring and reporting requirements have been added to the draft permit.

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An interim three-year compliance period is included in the draft permit to meet the final daily maximum water quality-based mass equivalent limitation for total copper at Outfall 001 for the protection of aquatic life in accordance with 30 TAC § 307.2(f). The interim compliance period will give the applicant the time required for completing an evaluation process for effluent limit compliance and possible construction of additional treatment facilities.

Outfalls 003, 005, 006, 009, 010, 011, 012, and 013

As stated in 30 TAC §307.8(e), controls on the quality of permitted intermittent stormwater discharges are largely based on implementing best management practices and technology-based limits. Typically, critical conditions are not developed for stormwater outfalls and water quality-based effluent limitations for the protection of aquatic life do not apply to primarily stormwater driven discharges. Therefore, stormwater quality via Outfalls 003, 005, 006, 009, 010, 011, 012, and 013 is compared to the allowable concentrations of metals found in 30 TAC § 319.22 Quality Levels – Inland Waters and 30 TAC § 319.23, Quality Levels – Tidal Waters (the effluent limitation table is included in Appendix B) to ensure that those concentrations are not exceeded.

All reported analytical data for Outfalls 003, 005, 006, 009, 010, 011, 012, and 013 do not exceed 70 percent of the daily average effluent limitations for allowable concentrations of metals found in 30 TAC § 319.22 and § 319.23.

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. The lethal WET limits for both test species are retained. In the past three years, the permittee has performed twenty-four chronic tests, with zero demonstrations of significant toxicity (i.e., zero failures).

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 whole effluent toxicity (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.

With zero failures, a determination of no RP was made. Additional WET limits are not required and both test species may be eligible for the testing frequency reduction after one year of quarterly testing.

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b. PERMIT ACTION

The provisions of this section apply to Outfalls 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 quarter.

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). 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.

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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 4%, 6%, 8%, 10%, and 13%. The low-flow effluent concentration (critical dilution) is defined as 10% 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 (the "Aquatic Life Criteria" section of the "Water Quality Based Effluent Limitations/Conditions" section).

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

a. SCREENING

The existing permit includes 24-hour acute saltwater biomonitoring requirements for Outfall 001. In the past three years, the permittee has performed thirteen 24-hour acute tests, with one demonstration of significant lethality (i.e., one failure). The 24-hour acute WET limit for the mysid shrimp is retained. The ion-adjustment protocol is retained.

Minimum 24-hour acute marine saltwater biomonitoring requirements are proposed in the draft permit as outlined below.

b. PERMIT ACTION

Twenty-four-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.

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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).

Discharge via Outfall 001 is directly to Lavaca Bay / Chocolate Bay (which is a discharge directly to a bay, estuary, or wide tidal river). 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 Lavaca Bay/Chocolate Bay. TCEQ uses the EPA horizontal jet plume model to estimate dilution at the edge of the human health mixing zone for discharges greater than 10 MGD into a bay, estuary, or wide tidal river or discharges into sections of bays, estuaries, or wide tidal rivers that are less than 400 feet wide. General assumptions used in the horizontal jet plume model are a non-buoyant discharge, a submersed pipe, and no cross flow. Based on the 1993 contested case hearing and on diffuser validation studies completed in 1995, the following critical effluent percentage is applied at Outfall 001:

Human Health Effluent %: 5%

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.

The effluent testing submitted with the application for total thallium show non-detect at the MAL of 0.5 µg/L, except for the initial sampling event. This results in an average value greater than 70 percent of the calculated daily average water quality-based effluent limitation, which is 6.29 µg/L for total thallium. Therefore, retesting for total thallium is included in the draft permit at new Other Requirement No. 29.

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All other reported analytical data for Outfall 001 for the protection of human health does not exceed 70 percent of the calculated daily average water quality-based effluent limitation for the protection of human health.

The calculated daily average and daily maximum water quality-based mass equivalent limitations for benzo(a)anthracene, benzo(a)pyrene, hexachlorobenzene, hexachlorobutadiene, and 2,3,7,8-TCDD Equivalents at Outfall 001 are more stringent than the existing effluent limitations and the required technology-based effluent limitations. Therefore, the following final permit limitations are proposed in the draft permit for the protection of human health:

Parameter	Daily Average	Daily Maximum
Benzo(a)anthracene ¹	0.763 lbs/day Report (mg/L)	2.04 lbs/day Report (mg/L)
Benzo(a)anthracene ²	0.0553 lbs/day Report (mg/L)	0.117 lbs/day Report (mg/L)
Benzo(a)pyrene ¹	0.798 lbs/day Report (mg/L)	2.11 lbs/day Report (mg/L)
Benzo(a)pyrene ²	0.00553 lbs/day Report (mg/L)	0.0117 lbs/day Report (mg/L)
Hexachlorobenzene ¹	0.520 lbs/day Report (mg/L)	0.971 lbs/day Report (mg/L)
Hexachlorobenzene ²	0.00153 lbs/day Report (mg/L)	0.00315 lbs/day Report (mg/L)
Hexachlorobutadiene ¹	0.694 lbs/day Report (mg/L)	1.69 lbs/day Report (mg/L)
Hexachlorobutadiene ²	0.487 lbs/day Report (mg/L)	1.02 lbs/day Report (mg/L)
2,3,7,8-TCDD Equivalents ¹	80.5 4 µg/day 2.19 ppq	170 µg/day 4.63 ppq
2,3,7,8-TCDD Equivalents	80.0 µg/day ³ 2.18 ppq ⁴	169 µg/day ³ 4.61 ppq ⁴

¹ Effective beginning upon date of permit issuance and lasting for a period of three (3) years.

² Effective beginning three (3) years after date of permit issuance and lasting through date of permit expiration.

³ micrograms per liter day (µg /Lday).

⁴ part per quadrillion, ppq (i.e., 10⁻⁵); 1 ppq equals 1 picogram/liter (pg/L).

An interim three-year compliance period is included in the draft permit to meet the final daily average and daily maximum water quality-based mass equivalent limitations for benzo(a)anthracene, benzo(a)pyrene, hexachlorobenzene, and hexachlorobutadiene, and the final 2,3,7,8-TCDD Equivalents effluent limitations for the protection of human health at Outfall 001 in accordance with 30 TAC § 307.2(f). The interim compliance period will give the applicant the time required for

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completing an evaluation process for effluent limitation compliance and possible construction of additional treatment facilities.

Outfalls 003, 005, 006, 009, 010, 011, 012, and 013

As stated in 30 TAC §307.8(e), controls on the quality of permitted intermittent stormwater discharges are largely based on implementing best management practices and technology-based limits. Typically, critical conditions are not developed for stormwater outfalls and water quality-based effluent limitations for the protection of human health do not apply to primarily stormwater driven discharges. Therefore, stormwater quality via Outfalls 003, 005, 006, 009, 010, 011, 012, and 013 is compared to the allowable concentrations of metals found in 30 TAC § 319.22 Quality Levels – Inland Waters and 30 TAC § 319.23, Quality Levels – Tidal Waters (the effluent limitation table is included in Appendix B) to ensure that those concentrations are not exceeded.

All reported analytical data for Outfalls 003, 005, 006, 009, 010, 011, 012, and 013 do not exceed 70 percent of the daily average effluent limitations for allowable concentrations of metals found in 30 TAC § 319.22 and § 319.23.

6. DRINKING WATER SUPPLY PROTECTION

a. SCREENING

Segment Nos. 2453 and 2454, which receive the discharges from this facility, are 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 Nos. 2453 and 2454, which receive the discharges from this facility, do 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.

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8. PROTECTION OF pH STANDARDS

a. SCREENING

The existing permit includes pH limits of 6.0 – 9.0 standard units at Outfall 001, which discharges directly into Lavaca Bay / Chocolate Bay, Segment No. 2453. 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 Lavaca Bay / Chocolate Bay (see Appendix C).

The existing permit includes pH limits of 6.0 – 9.0 standard units at Outfalls 003, 005, 006, 009, 010, 011, and 012, which discharge into unclassified water bodies. Consistent with the procedures for pH screening that were submitted to EPA with a letter dated May 28, 2014, and approved by EPA in a letter dated June 2, 2014, requiring a discharge to an unclassified water body to meet pH limits of 6.0 – 9.0 standard units reasonably ensures instream compliance with *Texas Surface Water Quality Standards* pH criteria.

The existing permit includes limits on pH of 6.0 – 9.0 standard units at Outfall 013, which discharges on an intermittent and flow-variable basis into Cox Bay, Segment No. 2454. Consistent with the procedures for pH screening that were submitted to EPA with a letter dated May 28, 2014, and approved by EPA in a letter dated June 2, 2014, requiring intermittent discharges to meet pH limits of 6.0 – 9.0 standard units (SU) reasonably assures instream compliance with *Texas Surface Water Quality Standards* pH criteria.

b. PERMIT ACTION

The existing effluent limits of 6.0 – 9.0 SU at Outfall 001 are adequate to ensure that the discharge will not violate the pH criteria in Lavaca Bay / Chocolate Bay, Segment No. 2453.

The existing pH limits of 6.0 – 9.0 standard units are carried forward in the draft permit at Outfalls 003, 005, 006, 009, 010, 011, and 012.

The existing effluent limits of 6.0 – 9.0 SU at Outfall 013 are adequate to ensure that the discharge will not violate the pH criteria in Cox Bay, Segment No. 2454.

9. DISSOLVED OXYGEN PROTECTION

a. SCREENING

As documented in the TCEQ Interoffice Memorandum dated November 15, 2019, none of the amendment requests are anticipated to cause a modification to the effluent limitations for Outfall 001 for flow or oxygen-demanding substances.

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Outfall 001 is routed directly to Lavaca Bay / Chocolate Bay in Segment No. 2453, via pipeline and diffuser. Previous estimates of diffuser performance indicate that the water at the edge of the mixing zone (MZ) consists of approximately 10% effluent. A mass balance of oxygen demanding constituents at the edge of the MZ using this mixing estimate, permitted effluent values for oxygen-related constituents, and estimated ambient values predicts relatively low concentrations of these constituents. In addition, ambient monitoring in the vicinity of the diffuser indicates general compliance with the dissolved oxygen criterion of Segment No. 2453. As a result, no significant dissolved oxygen depletion is anticipated in Segment No. 2453 as a result of the discharge from Outfall 001.

b. PERMIT ACTION

Based on the diffuser performance evaluation and ambient monitoring results for the daily average flow of 9.7 MGD via Outfall 001, the existing daily average effluent concentration of 2 mg/L minimum dissolved oxygen (DO), 14 mg/L CBOD₅, and 3 mg/L ammonia as nitrogen (NH₃-N) and the associated loadings (1,102 lbs/day CBOD₅ and 243 lbs/day NH₃-N) are continued in the draft permit.

Due to the intermittent nature and limited oxygen-demanding constituents from Outfalls 003, 005, 006, 009, 010, 011, 012, and 013, these discharges are not expected to substantially affect the dissolved oxygen criterion of the receiving waters (Outfalls 003, 005, 006, 009, 010, 011, and 012; 2.0 mg/L, and Outfall 013; 5.0 mg/L).

10. BACTERIA STANDARDS PROTECTION

a. SCREENING

Treated domestic wastewater is recycled as cooling tower makeup water and authorized for discharge via Outfall 001. There is reasonable potential for bacteria to be present in the discharge above typical background levels. Protection from exposure to human pathogens in oyster waters is required. Current agency policy is to impose appropriate effluent limitations for Enterococci for discharges of treated domestic wastewater directly to marine receiving waters or to freshwater bodies within three miles of marine receiving waters. This policy is based on the requirements of 30 TAC § 309.3(h)(1)(B), which states "*To demonstrate disinfection, Enterococci must be the indicator bacteria measured for discharges to saltwater.*" The existing permit includes a geometric mean (represented as daily average) effluent limitation for Enterococci of 14 MPN/100 mL at a sampling frequency of once per week at Outfall 001.

In accordance with 30 TAC § 307.7 (b)(3)(B)(ii) [effective March 1, 2018] that states "*The criteria for median fecal coliform concentration in bay and gulf waters, exclusive of buffer zones, are 14 colonies per 100 mL with no more than 10% of all samples exceeding 43 colonies per 100 mL.*" As stated under 30 TAC § 307.7(b)(1), "... Criteria are expressed as the

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number of bacteria per 100 milliliters (mL) of water (in terms of colony forming units, most probable number, or other applicable reporting measures).” The discharge point for Outfall 001 is through a pipe at a distance greater than the 1000-foot buffer zone, measured from the shoreline at ordinary high tide. Also, the criteria established in 30 TAC § 307, Appendix A – Site-Specific Uses and Criteria for Classified Segments requires the indicator bacteria for oyster waters to be Fecal Coliform. Therefore, fecal coliform replaces Enterococci as the applicable indicator bacteria for oyster waters, in the draft permit at a sampling frequency of once per week at Outfall 001.

Furthermore, to comply with 30 TAC § 309.3(h)(1)(B) and in accordance with the primary contact recreation use for saltwater under 30 TAC § 307.7(b)(1)(B)(i), a semi-annual effluent limitation for Enterococci of 35 MPN/100 mL is included in the draft permit.

b. PERMIT ACTION

The following limitations are included in the draft permit at Outfall 001 for protection of oyster waters from human pathogens and contact recreation uses.

Parameter	Daily Average ¹	Daily Maximum
Fecal Coliform ²	Report ³	Report ³
Fecal Coliform ⁴	14 ³	43 ³
Enterococci ²	14 ³	N/A
Enterococci ⁴	35 ³	130 ³

¹ Defined as a geometric mean.

² Beginning upon the permit issuance date and lasting for one year.

³ Colony forming units (cfu) or most probable number (MPN) per 100 mL (cfu or MPN/100 mL).

⁴ Beginning one year from the permit issuance date and lasting through the date of permit expiration.

In accordance with 40 CFR §122.47(a), which “requires compliance as soon as possible...a schedule of compliance shall be available only when necessary... (and) if the permit establishes a schedule which exceeds one-year from the date of permit issuance, the schedule shall set forth interim requirements and dates for their achievement. Since the compliance period does not exceed one-year, a compliance schedule addressing fecal coliform has not been included in the draft permit.

The one-year compliance period allows for a minimum time period for the applicant to incorporate appropriate sampling and analytical procedures for compliance with the newly proposed effluent limitations and a compliance schedule is not required.

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11. THERMAL STANDARDS PROTECTION

a. SCREENING

The existing permit includes a daily maximum temperature limitation of 95°F at Outfall 001, which discharges directly to Lavaca Bay / Chocolate Bay (Segment No. 2453). The daily maximum temperature limitation of 95°F complies with the segment criteria in 30 TAC § 307.10 (Appendix A: Segment No. 2453 temperature criteria). No thermal plume characterization is required for the discharge via Outfall 001.

b. PERMIT ACTION

The existing daily maximum temperature limitation of 95°F at Outfall 001 is compliant with the water quality criteria for temperature for Segment No. 2453 and is continued in the draft permit based on anti-backsliding regulations in 40 CFR §122.44(l).

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.

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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 Michael Sunderlin at (512) 239-4523.

XIV. ADMINISTRATIVE RECORD

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

A. PERMIT

TPDES Permit No. WQ0002436000 issued on June 10, 2016.

B. APPLICATION

TPDES wastewater permit application received on July 8, 2019. Additional information received on August 22, 2019; September 17, 2019; September 26, 2019; January 16, 2020; January 21, 2020; January 22, 2020; November 19, 2020; November 24, 2020; April 4, 2022; December 16, 2022; January 31, 2023; and March 29, 2023.

C. 40 CFR CITATION(S)

40 CFR Part 414 (Subparts D, F, and I).

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).

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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 October 25, 2019, from Brittany M. Lee (through Brad Caston), of the Standards Implementation Team, Water Quality Assessment Section, to the Industrial Permits Team, Wastewater Permitting Section (Standards Memo).

TCEQ Interoffice Memorandum dated November 8, 2019, from Katie Cunningham 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 November 15, 2019, from Mark A. Rudolph, P.E., of the Water Quality Assessment Team, Water Quality Assessment Section, to the Industrial Permits Team, Wastewater Permitting Section (Modeling Memo).

TCEQ Interoffice Memoranda dated November 15, 2019, June 12, 2023, and October 14, 2025, from Michael B. Pfeil 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.

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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.

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Appendix A
Calculated Technology-Based Effluent Limits

Industrial Process and Non-Process Wastewater Flows (gallons per day, gpd):

Unit	40 CFR Part	Process Wastewater, gpd	Stormwater, gpd	Recycle to Cooling Towers/Discharge, gpd	Utility Wastewater, gpd
Process Areas					
Chlor-Alkali (CHLOR/ALKLI)	N/A	1,143,279	81,425	---	161,010
Vinyl Chloride Monomer (VCM)	414	---	45,880	---	476,167
VCM (VT680)	414	390,500	---	---	---
Polyvinyl Chloride (PVC)	414	159,499	49,270	---	---
Specialty Polyvinyl Chloride (SPVC)	414	407,000	11,610	---	24,213
Ethylene Dichloride (EDC)	414	188,270	0	---	---
Ethylene Glycol Unit I (EG)	414	271,931	1,724	---	42,847
Ethylene Glycol Unit 2 (EG 2)	414	280,878	42,834	---	432,000
High Density Polyethylene Unit I (HDPE-I)	414	370,820	7,241	---	144,000
HDP Unit II (HDPE-II)	414	41,375	61,241	---	71,833
HDP Unit III (HDPE-III)	414	470,880	43,200	59,427	46,080
Low Density Polyethylene (LDPE)	414	86,400	28,800	---	86,400
Linear Low Density Polyethylene (LLDPE)	414	92,705	6,134	---	108,000
Olefins Unit I (OLEFINS-I)	414	114,910	57,709	250,000	205,549
Olefins Unit II (OLEFINS-II)	414	128,410	8,012	144,000	230,830
Olefins Unit III (OLEFINS-III)	414	151,391	---	62,813	216,000
Polypropylene Unit I (PP-I)	414	---	---	---	0
Polypropylene Unit II (PP-II)	414	---	---	---	---
Gasoline Hydrogeneration Unit (GHU)	414	---	8,979	---	47,520
Propylene Purification Unit (PPU)	414	---	0	---	24,480
Treated Domestic Wastewater - 5,760 gpd recycled to CFB (30 TAC 309)	133	---	---	---	---
Total Process Area		4,298,248	454,059	516,240	---
Non-Process Areas					
Circulating Fluidized Bed / natural gas fired energy generating facility (CFB)	423	---	---	---	564,480
Utility Demineralizer (UT Demin)	---	---	---	---	899,963
Utility Area III (UT-III)	---	---	24,352	---	72,000
Utility Area	---	---	41,808	---	---
Traffic Area	---	---	88,725	---	---
Combined Wastewater Treatment Plant Wash Down (CWTP)	---	---	23,381	---	---
Treated Groundwater	---	---	30,240	---	---
Total Non-Process Stormwater & Utility		---	208,506	---	3,853,372

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Appendix A

Outfall 001

Discharge of previously monitored effluents (PME \approx 9.647 MGD; consisting of Outfall 101 effluent and Outfall 201 effluent), remediated groundwater (\approx 0.0518 MGD), and fire water (\approx 0.0012 MGD).

Outfall 101

Discharge of treated process wastewater (40 CFR 414 Subparts D, F, and I \approx 2.8 MGD), equipment/facility washdown (\approx 0.036 MGD), stormwater (\approx 0.24 MGD), fire water (\approx 0.004 MGD), and utility wastewater (includes process wastewaters, treated sanitary wastewater, and boiler blowdown recycled as cooling tower make-up; \approx 1.32 MGD).

Outfall 201

Discharge of treated and combined Ion Exchange Membrane (IEM) wastewater streams (40 CFR Part 415 Subparts F-N/A \approx 1.143 MGD), equipment/facility washdown (\approx 0.8 MGD), stormwater (\approx 0.2 MGD), fire water (\approx 0.004 MGD), water treatment wastes (demineralizer reject; \approx 0.9 MGD), and utility wastewater (includes process wastewaters, treated sanitary wastewater, and boiler blowdown recycled as cooling tower make-up; \approx 1.98 MGD).

Technology-based effluent limitations applicable to Outfalls 101 and 201 are summed and applied at summation Outfall SUM. See Appendix D for further details.

Outfall 101: (40 CFR 414 OCPSF Calculations)

BOD₅ and TSS are based on the ELGs provided in Subparts D and F. The application indicates Subpart D accounts for 73% of total production, and 40 CFR Subpart F accounts for 27% of total production. The ELGs are prorated based on these production values by the following formula:

$$(\text{Subpart D ELG} \times \text{fraction of total production}) + (\text{Subpart F ELG} \times \text{fraction of total production}) = \text{ELG}$$

Prorated BOD₅ Concentrations

BOD₅	Daily Average ELG	Daily Maximum ELG	Fraction of Production	Daily Average	Daily Maximum
Subpart D	24 mg/L	64 mg/L	0.73	17.52 mg/L	46.72 mg/L
Subpart F	30 mg/L	80 mg/L	0.27	8.10 mg/L	21.60 mg/L
Summation				25.62 mg/L	68.32 mg/L

Prorated TSS Concentrations

TSS	Daily Average ELG	Daily Maximum ELG	Fraction of Production	Daily Average	Daily Maximum
Subpart D	40 mg/L	130 mg/L	0.73	29.20	94.90
Subpart H	46 mg/L	149 mg/L	0.27	12.42	40.23
Summation				41.62 mg/L	135.13 mg/L

40 CFR Part 414 requires effluent limitations be expressed in terms of mass; therefore, the above calculated concentrations (in mg/L) are converted to mass based on the combined average flow of 4.156 MGD. Both Subparts D and F require compliance with 40 CFR §414.91. All organic loadings are based on the total OCPSF flow, while metal loadings are based solely on flow for a process designated with a metal bearing wastestream or one which the facility demonstrates is metal bearing. The facility historically produces high levels of copper from the VCM manufacturing process. Therefore, 0.3905 MGD is used to derive the allowable copper loading (see table of Industrial Process & Non-Process Wastewater Flows).

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Appendix A

The following formula is used to convert concentration to mass:

Outfall 101: Allowable Mass (lbs/day) = Flow (MGD) × [Allowable Concentration (mg/L)] × 8.345

OCPSF Process Wastewater Allocations (40 CFR Part 414, Subparts D & F) (BPT/NSPS)

BOD₅							
Daily Average	25.62 mg/L	×	4.156 MGD	×	8.345	=	889 lbs/day
Daily Maximum	68.32 mg/L	×	4.156 MGD	×	8.345	=	2,369 lbs/day
TSS							
Daily Average	41.62 mg/L	×	4.156 MGD	×	8.345	=	1,443 lbs/day
Daily Max	135.13 mg/L	×	4.156 MGD	×	8.345	=	4,687 lbs/day

Outfall 101: BAT Effluent Limitations for the OCPSF Point Source Category, 40 CFR §414.91 (Subpart I)

The following formula is used to convert concentration to mass:

Allowable Mass (lbs/day) = Flow (4.156 MGD) × [Allowable Concentration (µg/L)/1000] × 8.345

Parameter	Daily Average µg /L	Daily Maximum µg /L	Daily Average lbs/day	Daily Maximum lbs/day
Chromium, total	1110	2770	0.00	0.00
Copper, total	1450	3380	4.72	11.01
Cyanide, total	420	1200	0.00	0.00
Lead, total	320	690	0.00	0.00
Nickel, total	1690	3980	0.00	0.00
Zinc, total	1050	2610	0.00	0.00
Acenaphthene	22	59	0.763	2.04
Acenaphthylene	22	59	0.763	2.04
Acrylonitrile	96	242	3.33	8.39
Anthracene	22	59	0.763	2.04
Benzene	37	136	1.28	4.71
Benzo(a)anthracene	22	59	0.763	2.04
3,4-Benzofluoranthene	23	61	0.798	2.11
Benzo(k)fluoranthene	22	59	0.763	2.04
Benzo(a)pyrene	23	61	0.798	2.11
Bis(2-ethylhexyl) phthalate	103	279	3.57	9.67
Carbon Tetrachloride	18	38	0.624	1.31
Chlorobenzene	15	28	0.520	0.971
Chloroethane	104	268	3.60	9.29
Chloroform	21	46	0.728	1.59
2-Chlorophenol	31	98	1.07	3.39
Chrysene	22	59	0.763	2.04
Di-n-butyl phthalate	27	57	0.936	1.97

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Parameter	Daily Average mg/L	Daily Maximum mg/L	Daily Average lbs/day	Daily Maximum lbs/day
1,2-Dichlorobenzene	77	163	2.67	5.65
1,3-Dichlorobenzene	31	44	1.07	1.52
1,4-Dichlorobenzene	15	28	0.520	0.971
1,1-Dichloroethane	22	59	0.763	2.04
1,2-Dichloroethane	68	211	2.35	7.31
1,1-Dichloroethylene	16	25	0.555	0.867
1,2-trans Dichloroethylene	21	54	0.728	1.87
2,4-Dichlorophenol	39	112	1.35	3.88
1,2-Dichloropropane	153	230	5.30	7.97
1,3-Dichloropropylene	29	44	1.00	1.52
Diethyl phthalate	81	203	2.80	7.04
2,4-Dimethylphenol	18	36	0.624	1.24
Dimethyl phthalate	19	47	0.659	1.63
4,6-Dinitro-o-cresol	78	277	2.70	9.60
2,4-Dinitrophenol	71	123	2.46	4.26
2,4-Dinitrotoluene	113	285	3.91	9.88
2,6-Dinitrotoluene	255	641	8.84	22.2
Ethylbenzene	32	108	1.11	3.74
Fluoranthene	25	68	0.867	2.35
Fluorene	22	59	0.763	2.04
Hexachlorobenzene	15	28	0.520	0.971
Hexachlorobutadiene	20	49	0.694	1.69
Hexachloroethane	21	54	0.728	1.87
Methyl Chloride	86	190	2.98	6.59
Methylene Chloride	40	89	1.38	3.08
Naphthalene	22	59	0.763	2.04
Nitrobenzene	27	68	0.936	2.35
2-Nitrophenol	41	69	1.42	2.39
4-Nitrophenol	72	124	2.49	4.30
Phenanthrene	22	59	0.763	2.04
Phenol	15	26	0.520	0.902
Pyrene	25	67	0.867	2.32
Tetrachloroethylene	22	56	0.763	1.94
Toluene	26	80	0.902	2.77
1,2,4-Trichlorobenzene	68	140	2.35	4.85
1,1,1-Trichloroethane	21	54	0.728	1.87
1,1,2-Trichloroethane	21	54	0.728	1.87
Trichloroethylene	21	54	0.728	1.87
Vinyl Chloride	104	268	3.60	9.29

There are no process wastewater flows associated with total cyanide, total lead, total nickel, or total zinc at Outfall 101. Existing loadings for chemical oxygen demand appear to be based on the previous permitted daily average flow of 4.0 MGD, a conversion factor of 8.345, and a daily average concentration of 200 mg/L and a daily maximum concentration of 300 mg/L. The updated COD loadings are calculated using the following formula:

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$$\text{Allowable Mass (lbs/day)} = \text{Flow (6.0 MGD)} \times [\text{Allowable Concentration } (\mu\text{g/L})/1000] \times 8.345$$

COD (based on BPJ)

Daily Average	200 mg/L	×	6.0 MGD	×	8.345	=	10,014 lbs/day
Daily Max	300 mg/L	×	6.0 MGD	×	8.345	=	15,021 lbs/day

The existing pH effluent limitations of within the range of 6.0-9.0 SU meets the ELGs.

All calculated daily average and daily maximum limitations for the listed pollutants are as stringent as the limits in the existing permit. Therefore, the existing limitations are continued in the draft permit based on antibacksliding regulations in 40 CFR § 122.44(l).

Outfall 201: (BPJ Calculations)

Outfall 201 regulates the discharge of process wastewater from the chlor-alkali process units and other utility wastewaters. The membrane process is used to convert sodium brine into chlorine, caustic, and hydrogen. EPA categorical guidelines for the Chlor-Alkali subcategory (40 CFR Part 415 Subpart F) are applicable for the diaphragm cell process and the mercury cell process but are not applicable for the membrane process. In the absence of applicable EPA categorical guidelines, technology-based allocations for BOD₅, TSS, total lead, total nickel, and total residual chlorine were developed for the existing permit as presented in the following table. The resulting technology-based concentrations for BOD₅, TSS, total lead, total nickel, and total residual chlorine are continued from the existing permit evaluation based on BPJ. The associated loadings are calculated using the average of the reported daily average flows during the reporting period of 2.95 MGD.

The following formula is used to convert concentration to mass:

$$\text{Allowable Mass (lbs/day)} = \text{Flow (MGD)} \times [\text{Allowable Concentration } (\mu\text{g/L})/1000] \times 8.345$$

Outfall 201 calculated loadings:

BOD₅ (based on 30 TAC § 309.1(b))							
Daily Average	20 mg/L	×	2.95 MGD	×	8.345	=	492 lbs/day
Daily Maximum	45 mg/L	×	2.95 MGD	×	8.345	=	1,108 lbs/day
TSS (based on BPJ)							
Daily Average	75 mg/L	×	2.95 MGD	×	8.345	=	1,846 lbs/day
Daily Max	150 mg/L	×	2.95 MGD	×	8.345	=	3,693 lbs/day
Lead, total (based on 30 TAC §§ 319.22 – 319.23)							
Daily Average	0.5 mg/L	×	2.95 MGD	×	8.345	=	12.3 lbs/day
Daily Max	1.0 mg/L	×	2.95 MGD	×	8.345	=	24.6 lbs/day
Nickel, total (based on 30 TAC §§ 319.22 – 319.23)							
Daily Average	1.0 mg/L	×	2.95 MGD	×	8.345	=	24.6 lbs/day
Daily Max	2.0 mg/L	×	2.95 MGD	×	8.345	=	49.2 lbs/day
Total Residual Chlorine (based on BPJ)							
Daily Average	1.0 mg/L	×	2.95 MGD	×	8.345	=	24.6 lbs/day
Daily Max	2.0 mg/L	×	2.95 MGD	×	8.345	=	49.2 lbs/day

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In addition to the chlorine concentration attributable to the chlor-alkali process, chlorine is also used in cooling towers for the control of bacteria and chloroform is a typical by-product. Therefore, allocations for chloroform are developed using the concentration criteria for chloroform associated with 40 CFR 40 CFR § 414.101 for toxic pollutant effluent limitations and standards for direct discharge point sources that do not use end-of-pipe biological treatment, based on BPJ. The associated loadings are calculated using the average of the reported daily average flows during the reporting period of 2.95 MGD. The following formula is used to convert concentration to mass:

$$\text{Allowable Mass (lbs/day)} = \text{Flow (MGD)} \times [\text{Allowable Concentration } (\mu\text{g/L})/1000] \times 8.345$$

Chloroform (based on 40 CFR 40 CFR § 414.101)

Daily Average	0.111 mg/L	×	2.95 MGD	×	8.345	=	2.73 lbs/day
Daily Max	0.325 mg/L	×	2.95 MGD	×	8.345	=	8.00 lbs/day

The existing reporting requirements for COD, total titanium, and total copper are continued in the draft permit. The existing pH effluent limitations of within the range of 6.0-9.0 SU are continued in the draft permit based on antibacksliding regulations in 40 CFR §122.44(l). Due to regulatory compliance being required at the summation outfall for the technology-based effluent limitations, the reporting requirements for the 40 CFR §414.91 (Subpart I) parameters are continued at Outfall 201.

Outfall SUM: (Calculations)

Summation of Outfalls 101 and 201 calculated technology-based loadings:

Outfall SUM Parameter	Outfall 101 Daily Average lbs/day	Outfall 101 Daily Maximum lbs/day	Outfall 201 Daily Average lbs/day	Outfall 201 Daily Maximum lbs/day	Outfall SUM Daily Average lbs/day	Outfall SUM Daily Maximum lbs/day
BOD ₅	889	2,369	492	1,108	¹	¹
COD	10,014	15,021	Report	Report	¹	¹
TSS	1,443	4,687	1,846	3,693	¹	¹
Copper, total	4.72	11.01	Report	Report	¹	¹
Lead, total	0.00	0.00	12.3	24.6	0.00	0.00
Nickel, total	0.00	0.00	24.6	49.2	0.00	0.00
Titanium, total	0.00	0.00	Report	Report	-	-
Chlorine, total residual	0.00	0.00	24.6	49.2	-	-
Acenaphthene	0.763	2.04	Report	Report	0.763	2.04
Acenaphthylene	0.763	2.04	Report	Report	0.763	2.04
Acrylonitrile	3.33	8.39	Report	Report	3.33	8.39
Anthracene	0.763	2.04	Report	Report	0.763	2.04
Benzene	1.28	4.71	Report	Report	1.28	4.71
Benzo(a)anthracene	0.763	2.04	Report	Report	0.763	2.04
3,4-Benzofluoranthene	0.798	2.11	Report	Report	0.798	2.11
Benzo(k)fluoranthene	0.763	2.04	Report	Report	0.763	2.04
Benzo(a)pyrene	0.798	2.11	Report	Report	0.798	2.11
Bis(2-ethylhexyl) phthalate	3.57	9.67	Report	Report	3.57	9.67
Carbon Tetrachloride	0.624	1.31	Report	Report	0.624	1.31
Chlorobenzene	0.520	0.971	Report	Report	0.520	0.971
Chloroethane	3.60	9.29	Report	Report	3.60	9.29

¹ Limited at Outfall 001.

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Outfall SUM Parameter	Outfall 101 Daily Average lbs/day	Outfall 101 Daily Maximum lbs/day	Outfall 201 Daily Average lbs/day	Outfall 201 Daily Maximum lbs/day	Outfall SUM Daily Average lbs/day	Outfall SUM Daily Maximum lbs/day
Chloroform	0.728	1.59	2.73	8.00	3.458	9.59
2-Chlorophenol	1.07	3.39	Report	Report	1.07	3.39
Chrysene	0.763	2.04	Report	Report	0.763	2.04
Di-n-butyl phthalate	0.936	1.97	Report	Report	0.936	1.97
1,2-Dichlorobenzene	2.67	5.65	Report	Report	2.67	5.65
1,3-Dichlorobenzene	1.07	1.52	Report	Report	1.07	1.52
1,4-Dichlorobenzene	0.520	0.971	Report	Report	0.520	0.971
1,1-Dichloroethane	0.763	2.04	Report	Report	0.763	2.04
1,2-Dichloroethane	2.35	7.31	Report	Report	2.35	7.31
1,1-Dichloroethylene	0.555	0.867	Report	Report	0.555	0.867
1,2-trans Dichloroethylene	0.728	1.87	Report	Report	0.728	1.87
2,4-Dichlorophenol	1.35	3.88	Report	Report	1.35	3.88
1,2-Dichloropropane	5.30	7.97	Report	Report	5.30	7.97
1,3-Dichloropropylene	1.00	1.52	Report	Report	1.00	1.52
Diethyl phthalate	2.80	7.04	Report	Report	2.80	7.04
2,4-Dimethylphenol	0.624	1.24	Report	Report	0.624	1.24
Dimethyl phthalate	0.659	1.63	Report	Report	0.659	1.63
4,6-Dinitro-o-cresol	2.70	9.60	Report	Report	2.70	9.60
2,4-Dinitrophenol	2.46	4.26	Report	Report	2.46	4.26
2,4-Dinitrotoluene	3.91	9.88	Report	Report	3.91	9.88
2,6-Dinitrotoluene	8.84	22.2	Report	Report	8.84	22.2
Ethylbenzene	1.11	3.74	Report	Report	1.11	3.74
Fluoranthene	0.867	2.35	Report	Report	0.867	2.35
Fluorene	0.763	2.04	Report	Report	0.763	2.04
Hexachlorobenzene	0.520	0.971	Report	Report	0.520	0.971
Hexachlorobutadiene	0.694	1.69	Report	Report	0.694	1.69
Hexachloroethane	0.728	1.87	Report	Report	0.728	1.87
Methyl Chloride	2.98	6.59	Report	Report	2.98	6.59
Methylene Chloride	1.38	3.08	Report	Report	1.38	3.08
Naphthalene	0.763	2.04	Report	Report	0.763	2.04
Nitrobenzene	0.936	2.35	Report	Report	0.936	2.35
2-Nitrophenol	1.42	2.39	Report	Report	1.42	2.39
4-Nitrophenol	2.49	4.30	Report	Report	2.49	4.30
Phenanthrene	0.763	2.04	Report	Report	0.763	2.04
Phenol	0.520	0.902	Report	Report	0.520	0.902
Pyrene	0.867	2.32	Report	Report	0.867	2.32
Tetrachloroethylene	0.763	1.94	Report	Report	0.763	1.94
Toluene	0.902	2.77	Report	Report	0.902	2.77
1,2,4-Trichlorobenzene	2.35	4.85	Report	Report	2.35	4.85
1,1,1-Trichloroethane	0.728	1.87	Report	Report	0.728	1.87
1,1,2-Trichloroethane	0.728	1.87	Report	Report	0.728	1.87
Trichloroethylene	0.728	1.87	Report	Report	0.728	1.87
Vinyl Chloride	3.60	9.29	Report	Report	3.60	9.29

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Outfall 001: (Calculations)

Combined BOD₅ Concentrations

BOD₅	Daily Average, lbs/day	Daily Maximum, lbs/day
Outfall 101	889	2,369
Outfall 201	492	1,108
Summation	1,381	3,477

Outfall 001 regulates the water-quality based effluent limitations that are more stringent than the technology-based effluent limitations applied at the summation outfall (see Appendix D for comparison of existing effluent limitations with calculated technology-based and water quality-based effluent limitations). Select existing technology-based effluent limitations for TSS, COD, TOC, total chromium, and oil and grease are developed for the existing permit using the allocations as presented in the following table. The resulting technology-based concentrations for TSS, COD, TOC, total chromium, and oil and grease are continued from the existing permit evaluation based on BPJ. The associated loadings are calculated using the permitted daily average flow of 9.7 MGD.

The following formula is used to convert concentration to mass:

$$\text{Allowable Mass (lbs/day)} = \text{Flow (MGD)} \times [\text{Allowable Concentration } (\mu\text{g/L})/1000] \times 8.345$$

Outfall 001 calculated loadings:

TSS							
Daily Average	40 mg/L	×	9.7 MGD	×	8.345	=	3,238 lbs/day
Daily Maximum	80 mg/L	×	9.7 MGD	×	8.345	=	6,476 lbs/day
COD							
Daily Average	200 mg/L	×	9.7 MGD	×	8.345	=	16,189 lbs/day
Daily Max	300 mg/L	×	9.7 MGD	×	8.345	=	24,284 lbs/day
TOC							
Daily Average	75 mg/L	×	9.7 MGD	×	8.345	=	6,071 lbs/day
Daily Max	150 mg/L	×	9.7 MGD	×	8.345	=	12,142 lbs/day
Total Chromium							
Daily Average	0.5 mg/L	×	9.7 MGD	×	8.345	=	40.5 lbs/day
Daily Max	1.0 mg/L	×	9.7 MGD	×	8.345	=	80.9 lbs/day
Oil and Grease							
Daily Average	7.5 mg/L	×	9.7 MGD	×	8.345	=	607 lbs/day
Daily Max	15 mg/L	×	9.7 MGD	×	8.345	=	1,214 lbs/day

Stormwater Driven Outfalls 003 – 013: (Determinations)

Outfalls 003-005

The existing permit includes daily maximum reporting of total purgeable hydrocarbons and technology-based daily maximum effluent limitations of 55 mg/L TOC, 15 mg/L oil and grease, and 0.4 mg/L 1,2-dichloroethane, and pH effluent limitations within the range of 6.0-9.0 SU, which are continued in the draft permit based on antibacksliding regulations in 40 CFR §122.44(l).

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The technology-based concentration criteria for 1,2-dichloroethane are based on 40 CFR 40 CFR § 414.101 for toxic pollutant effluent limitations and standards for direct discharge point sources that do not use end-of-pipe biological treatment. Total Purgeable Hydrocarbons (TPH) covers the lighter petroleum products such as gasoline. The chemicals of most interest in TPH include benzene, toluene, ethylbenzene, and xylenes (abbreviated as BTEX).

Outfalls 006-013

The existing permit technology-based daily maximum effluent limitations of 55 mg/L TOC, 15 mg/L oil and grease, and pH effluent limitations within the range of 6.0-9.0 SU, which are continued in the draft permit based on antibacksliding regulations in 40 CFR §122.44(l).

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Appendix B

Calculated Technology-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 Freshwater 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: Formosa Plastics Corporation, Texas and Formosa Utility Venture, Ltd.
 TPDES Permit No.: WQ0002436000
 Outfall No.: 001
 Prepared by: Melinda Luxemburg, P.E.
 Date: February 24, 2020

DISCHARGE INFORMATION

Receiving Waterbody: Lavaca Bay / Chocolate Bay
 Segment No.: 2453
 TSS (mg/L): 11
 Effluent Flow for Aquatic Life (MGD): N/A
 % Effluent for Chronic Aquatic Life (Mixing Zone, MZ): 10¹
 % Effluent for Acute Aquatic Life (ZID): 40¹
 Oyster Waters? Yes
 Effluent Flow for Human Health (MGD): N/A
 % Effluent for Human Health: 5¹

¹ Effluent percentages are based on the 1993 contested case hearing and on diffuser validation studies completed in 1995.

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

<i>Stream/River Metal</i>	<i>Intercept (b)</i>	<i>Slope (m)</i>	<i>Partition Coefficient (Kp)</i>	<i>Dissolved Fraction (Cd/Ct)</i>		<i>Water Effect Ratio (WER)</i>	
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 (+3)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (+6)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	4.85	-0.72	12594.97	0.878		1.00	Assumed
Lead	6.06	-0.85	149560.26	0.378		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	122848.37	0.425		1.00	Assumed
Zinc	5.36	-0.52	65837.87	0.580		1.00	Assumed

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Appendix B

AQUATIC LIFE - CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>SW Acute Criterion (µg/L)</i>	<i>SW Chronic Criterion (µg/L)</i>	<i>WLAa (µg/L)</i>	<i>WLAc (µg/L)</i>	<i>LTAa (µg/L)</i>	<i>LTAc (µg/L)</i>	<i>Daily Avg. (µg/L)</i>	<i>Daily Max. (µg/L)</i>
Acrolein	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aldrin	1.3	N/A	3.25	N/A	1.04	N/A	1.53	3.23
Aluminum	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arsenic	149	78	373	780	119	476	175	371
Cadmium	40.0	8.75	100	88	32.0	53.4	47.0	100
Carbaryl	613	N/A	1532.50	N/A	490.40	N/A	720.89	1525.14
Chlordane	0.09	0.004	0.225	0.040	0.072	0.024	0.036	0.076
Chlorpyrifos	0.011	0.006	0.028	0.060	0.009	0.037	0.013	0.027
Chromium (trivalent)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium (hexavalent)	1090	49.6	2725	496	872	303	445	941
Copper	13.5	3.6	38.4	41.0	12.3	25.0	18.1	38.2
Copper (oyster waters)	3.6	N/A	40.99	N/A	13.12	N/A	19.28	40.79
Cyanide (free)	5.6	5.6	14.0	56.0	4.48	34.2	6.59	13.9
4,4'-DDT	0.13	0.001	0.325	0.010	0.104	0.006	0.009	0.019
Demeton	N/A	0.1	N/A	1.00	N/A	0.610	0.90	1.90
Diazinon	0.819	0.819	2.05	8.2	0.655	5.00	0.96	2.04
Dicofol [Kelthane]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dieldrin	0.71	0.002	1.78	0.020	0.568	0.012	0.018	0.038
Diuron	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endosulfan I (alpha)	0.034	0.009	0.085	0.090	0.027	0.055	0.040	0.085
Endosulfan II (beta)	0.034	0.009	0.085	0.090	0.027	0.055	0.040	0.085
Endosulfan sulfate	0.034	0.009	0.085	0.090	0.027	0.055	0.040	0.085
Endrin	0.037	0.002	0.093	0.020	0.030	0.012	0.018	0.038
Guthion [Azinphos Methyl]	N/A	0.01	N/A	0.100	N/A	0.061	0.090	0.190
Heptachlor	0.053	0.004	0.133	0.040	0.042	0.024	0.036	0.076
Hexachlorocyclohexane [Lindane]	0.16	N/A	0.400	N/A	0.128	N/A	0.188	0.398
Lead	133	5.3	880	140	281	86	126	266
Malathion	N/A	0.01	N/A	0.100	N/A	0.061	0.090	0.190
Mercury	2.1	1.1	5.25	11.0	1.68	6.71	2.47	5.22
Methoxychlor	N/A	0.03	N/A	0.300	N/A	0.183	0.269	0.569
Mirex	N/A	0.001	N/A	0.010	N/A	0.0061	0.009	0.019
Nickel	118	13.1	295	131	94	79.9	117	249
Nonylphenol	7	1.7	17.5	17.0	5.60	10.4	8.2	17.4
Parathion (ethyl)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pentachlorophenol	15.1	9.6	37.8	96	12.1	58.6	17.8	37.6
Phenanthrene	7.7	4.6	19.3	46.0	6.16	28.1	9.1	19.2
Polychlorinated Biphenyls [PCBs]	10	0.03	25.0	0.300	8.0	0.183	0.269	0.569
Selenium	564	136	1410	1360	451	830	663	1403
Silver	2	N/A	11.8	N/A	3.76	N/A	5.53	11.7
Toxaphene	0.21	0.0002	0.525	0.0020	0.168	0.0012	0.0018	0.0038
Tributyltin [TBT]	0.24	0.0074	0.600	0.074	0.192	0.045	0.066	0.140
2,4,5 Trichlorophenol	259	12	648	120	207	73.2	108	228
Zinc	92.7	84.2	400	1452	128	886	188	398

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

Appendix B

HUMAN HEALTH - CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>Fish Only Criterion (µg/L)</i>	<i>WLAh (µg/L)</i>	<i>LTAh (µg/L)</i>	<i>Daily Avg. (µg/L)</i>	<i>Daily Max. (µg/L)</i>
Acrylonitrile	115	2300	2139	3144	6652
Aldrin	1.147E-05	2.29E-04	2.13E-04	3.14E-04	6.63E-04
Anthracene	1317	26340	24496	36009	76183
Antimony	1071	21420	19921	29283	61953
Arsenic	N/A	N/A	N/A	N/A	N/A
Barium	N/A	N/A	N/A	N/A	N/A
Benzene	581	11620	10807	15886	33609
Benzidine	0.107	2.14	1.99	2.93	6.19
Benzo(a)anthracene	0.025	0.500	0.465	0.684	1.45
Benzo(a)pyrene	0.0025	0.050	0.047	0.068	0.145
Bis(chloromethyl)ether	0.2745	5.49	5.11	7.51	15.9
Bis(2-chloroethyl)ether	42.83	857	797	1171	2478
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate	7.55	151	140	206	437
Bromodichloromethane [Dichlorobromomethane]	275	5500	5115	7519	15908
Bromoform [Tribromomethane]	1060	21200	19716	28983	61317
Cadmium	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	46	920	856	1258	2661
Chlordane	0.0025	0.050	0.047	0.068	0.145
Chlorobenzene	2737	54740	50908	74835	158325
Chlorodibromomethane [Dibromochloromethane]	183	3660	3404	5004	10586
Chloroform [Trichloromethane]	7697	153940	143164	210451	445241
Chromium (hexavalent)	502	10040	9337	13726	29039
Chrysene	2.52	50.4	46.9	68.9	146
Cresols [Methylphenols]	9301	186020	172999	254308	538026
Cyanide (free)	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.002	0.040	0.037	0.055	0.116
4,4'-DDE	0.00013	0.0026	0.0024	0.0036	0.0075
4,4'-DDT	0.0004	0.008	0.007	0.011	0.023
2,4'-D	N/A	N/A	N/A	N/A	N/A
Danitol [Fenpropathrin]	473	9460	8798	12933	27361
1,2-Dibromoethane [Ethylene Dibromide]	4.24	85	78.9	116	245
<i>m</i> -Dichlorobenzene [1,3-Dichlorobenzene]	595	11900	11067	16268	34418
<i>o</i> -Dichlorobenzene [1,2-Dichlorobenzene]	3299	65980	61361	90201	190834
<i>p</i> -Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	2.24	44.8	41.7	61.2	130
1,2-Dichloroethane	364	7280	6770	9952	21056
1,1-Dichloroethylene [1,1-Dichloroethene]	55114	1102280	1025120	1506927	3188124
Dichloromethane [Methylene Chloride]	13333	266660	247994	364551	771261
1,2-Dichloropropane	259	5180	4817	7082	14982
1,3-Dichloropropane [1,3-Dichloropropylene]	119	2380	2213	3254	6884
Dicofol [Kelthane]	0.30	6.00	5.58	8.2	17.4
Dieldrin	2.0E-05	4.00E-04	3.72E-04	5.47E-04	1.16E-03
2,4-Dimethylphenol	8436	168720	156910	230657	487989
Di- <i>n</i> -Butyl Phthalate	92.4	1848	1719	2526	5345

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

Appendix B

HUMAN HEALTH - CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>Fish Only Criterion (µg/L)</i>	<i>WLAh (µg/L)</i>	<i>LTAh (µg/L)</i>	<i>Daily Avg. (µg/L)</i>	<i>Daily Max. (µg/L)</i>
Dioxins/Furans (TCDD Equivalents)	7.9700E-08	1.5940E-06	1.4824E-06	2.1792E-06	4.6103E-06
Endrin	0.02	0.400	0.372	0.547	1.16
Epichlorohydrin	2013	40260	37442	55039	116444
Ethylbenzene	1867	37340	34726	51048	107998
Ethylene Glycol	1.68E+07	3.36E+08	3.12E+08	4.59E+08	9.72E+08
Fluoride	N/A	N/A	N/A	N/A	N/A
Heptachlor	0.0001	0.0020	0.0019	0.0027	0.0058
Heptachlor Epoxide	0.00029	0.0058	0.0054	0.0079	0.0168
Hexachlorobenzene	0.00068	0.014	0.013	0.019	0.039
Hexachlorobutadiene	0.22	4.40	4.09	6.02	12.7
Hexachlorocyclohexane (<i>alpha</i>)	0.0084	0.168	0.156	0.230	0.486
Hexachlorocyclohexane (<i>beta</i>)	0.26	5.20	4.84	7.11	15.0
Hexachlorocyclohexane (<i>gamma</i>) [Lindane]	0.341	6.82	6.34	9.3	19.7
Hexachlorocyclopentadiene	11.6	232	216	317	671
Hexachloroethane	2.33	46.6	43.3	63.7	135
Hexachlorophene	2.90	58.0	53.9	79.3	168
4,4'-Isopropylidenediphenol [Bisphenol A]	15982	319640	297265	436980	924495
Lead	3.83	203	188	277	586
Mercury	0.0250	0.500	0.465	0.684	1.45
Methoxychlor	3.0	60.0	55.8	82	174
Methyl Ethyl Ketone	9.92E+05	1.98E+07	1.85E+07	2.71E+07	5.74E+07
Methyl tert-butyl ether [MTBE]	10482	209640	194965	286599	606342
Nickel	1140	22800	21204	31170	65944
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	1873	37460	34838	51212	108346
N-Nitrosodiethylamine	2.1	42.0	39.1	57.4	121
N-Nitroso-di-n-Butylamine	4.2	84	78.1	115	243
Pentachlorobenzene	0.355	7.10	6.60	9.7	20.5
Pentachlorophenol	0.29	5.80	5.39	7.93	16.8
Polychlorinated Biphenyls [PCBs]	6.4E-04	0.013	0.012	0.017	0.037
Pyridine	947	18940	17614	25893	54780
Selenium	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.24	4.80	4.46	6.56	13.9
1,1,2,2-Tetrachloroethane	26.35	527	490	720	1524
Tetrachloroethylene [Tetrachloroethylene]	280	5600	5208	7656	16197
Thallium	0.23	4.60	4.28	6.29	13.3
Toluene	N/A	N/A	N/A	N/A	N/A
Toxaphene	0.011	0.220	0.205	0.301	0.636
2,4,5-TP [Silvex]	369	7380	6863	10089	21345
1,1,1-Trichloroethane	784354	15687080	14588984	21445807	45371741
1,1,2-Trichloroethane	166	3320	3088	4539	9602
Trichloroethylene [Trichloroethene]	71.9	1438	1337	1966	4159
2,4,5-Trichlorophenol	1867	37340	34726	51048	107998
TTHM (Sum of Total Trihalomethanes)	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	16.5	330	307	451	954

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

Appendix B

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS:

Aquatic Life		
Parameter	70%	85%
Acrolein	N/A	N/A
Aldrin	1.07	1.30
Aluminum	N/A	N/A
Arsenic	123	149
Cadmium	32.9	40.0
Carbaryl	504.62	612.75
Chlordane	0.025	0.030
Chlorpyrifos	0.009	0.011
Chromium (trivalent)	N/A	N/A
Chromium (hexavalent)	311	378
Copper	12.7	15.4
Copper (oyster waters)	13.496	16.388
Cyanide (free)	4.61	5.60
4,4'-DDT	0.0063	0.0076
Demeton	0.628	0.762
Diazinon	0.674	0.82
Dicofol [Kelthane]	N/A	N/A
Dieldrin	0.013	0.015
Diuron	N/A	N/A
Endosulfan I (<i>alpha</i>)	0.028	0.034
Endosulfan II (<i>beta</i>)	0.028	0.034
Endosulfan sulfate	0.028	0.034
Endrin	0.013	0.015
Guthion [Azinphos Methyl]	0.063	0.076
Heptachlor	0.025	0.030
Hexachlorocyclohexane (<i>gamma</i>) [Lindane]	0.132	0.160
Lead	88	107
Malathion	0.063	0.076
Mercury	1.73	2.10
Methoxychlor	0.188	0.229
Mirex	0.0063	0.0076
Nickel	82	100
Nonylphenol	5.76	7.00
Parathion (ethyl)	N/A	N/A
Pentachlorophenol	12.4	15.1
Phenanthrene	6.34	7.7
Polychlorinated Biphenyls [PCBs]	0.188	0.229
Selenium	464	564
Silver	3.87	4.70
Toxaphene	0.0013	0.0015
Tributyltin [TBT]	0.046	0.056
2,4,5 Trichlorophenol	75.3	91
Zinc	132	160

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Appendix B

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS:

Human Health		
Parameter	70%	85%
Acrylonitrile	2201	2673
Aldrin	2.20E-04	2.67E-04
Anthracene	25207	30608
Antimony	20498	24891
Arsenic	N/A	N/A
Barium	N/A	N/A
Benzene	11120	13503
Benzydine	2.05	2.49
Benzo(a)anthracene	0.478	0.581
Benzo(a)pyrene	0.048	0.058
Bis(chloromethyl)ether	5.25	6.38
Bis(2-chloroethyl)ether	820	995
Bis(2-ethylhexyl)phthalate [Di(2-ethylhexyl) phthalate]	145	175
Bromodichloromethane [Dichlorobromomethane]	5263	6391
Bromoform [Tribromomrthane]	20288	24635
Cadmium	N/A	N/A
Carbon Tetrachloride	880	1069
Chlordane	0.048	0.058
Chlorobenzene	52385	63610
Chlorodibromomethane [Dibromochloromethane]	3503	4253
Chloroform [Trichloromethane]	147316	178884
Chromium (hexavalent)	9608	11667
Chrysene	48.2	58.6
Cresols [Methylphenols]	178016	216162
Cyanide (free)	N/A	N/A
4,4'-DDD	0.038	0.046
4,4'-DDE	0.0025	0.0030
4,4'-DDT	0.0077	0.0093
2,4'-D	N/A	N/A
Danitol [Fenpropathrin]	9053	10993
1,2-Dibromoethane [Ethylene Dibromide]	81	99
m-Dichlorobenzene [1,3-Dichlorobenzene]	11388	13828
o-Dichlorobenzene [1,2-Dichlorobenzene]	63141	76671
p-Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A
3,3'-Dichlorobenzidine	42.9	52.1
1,2-Dichloroethane	6967	8460
1,1-Dichloroethylene [1,1-dichloroethene]	1054849	1280888
Dichloromethane [Methylene Chloride]	255186	309868
1,2-Dichloropropane	4957	6019
1,3-Dichloropropane [1,3- Dichloropropylene]	2278	2766
Dicofol [Kelthane]	5.74	6.97
Dieldrin	3.83E-04	4.65E-04
2,4-Dimethylphenol	161460	196059
Di-n-Butyl Phthalate	1768	2147

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

Appendix B

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS:

Human Health		
Parameter	70%	85%
Dioxins/Furans [TCDD Equivalents]	1.53E-06	1.85E-06
Endrin	0.383	0.465
Epichlorohydrin	38528	46784
Ethylbenzene	35733	43390
Ethylene Glycol	3.22E+08	3.90E+08
Fluoride	N/A	N/A
Heptachlor	0.0019	0.0023
Heptachlor Epoxide	0.0056	0.0067
Hexachlorobenzene	0.013	0.016
Hexachlorobutadiene	4.21	5.11
Hexachlorocyclohexane (<i>alpha</i>)	0.161	0.195
Hexachlorocyclohexane (<i>beta</i>)	4.98	6.04
Hexachlorocyclohexane (<i>gamma</i>) [Lindane]	6.53	7.93
Hexachlorocyclopentadiene	222	270
Hexachloroethane	44.6	54.2
Hexachlorophene	55.5	67.4
4,4'-Isopropylidenediphenol [Bisphenol A]	305886	371433
Lead	194	235
Mercury	0.478	0.581
Methoxychlor	57.4	69.7
Methyl Ethyl Ketone	1.90E+07	2.31E+07
Methyl <i>tert</i> -butyl ether [MTBE]	200619	243609
Nickel	21819	26494
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	35848	43530
N-Nitrosodiethylamine	40.2	48.8
N-Nitroso-di- <i>n</i> -Butylamine	80	98
Pentachlorobenzene	6.79	8.3
Pentachlorophenol	5.55	6.74
Polychlorinated Biphenyls [PCBs]	0.012	0.015
Pyridine	18125	22009
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	4.59	5.58
1,1,1,2-Tetrachloroethane	504	612
Tetrachloroethylene [Tetrachloroethylene]	5359	6507
Thallium	4.40	5.35
Toluene	N/A	N/A
Toxaphene	0.211	0.256
2,4,5-TP [Silvex]	7062	8576
1,1,1-Trichloroethane	1.50E+07	1.82E+07
1,1,2-Trichloroethane	3177	3858
Trichloroethylene [Trichloroethene]	1376	1671
2,4,5-Trichlorophenol	35733	43390
TTHM [Sum of Total Trihalomethanes]	N/A	N/A
Vinyl Chloride	316	383

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

Appendix B

Water quality-based mass equivalent limitations at Outfall 001 are calculated by using the following formula:

$$\text{Mass limits} = [(\text{concentration limits } \mu\text{g/L})/1000] \times [\text{Flow MGD}] \times [8.345] = \text{limits lbs/day}$$

Aquatic Life TEXTOX Flow is N/A use 9.7 MGD

POLLUTANT	Dly Avg μg/L	Dly Max μg/L	Dly Avg lbs/day	Dly Max lbs/day
Phenanthrene	9.10	19.2	0.736	1.55
Chromium, hexavalent	445	941	36.0	76.1
Copper, total	18.1	38.2	1.46	3.09
Lead, total	126	266	10.1	21.5
Zinc, total	188	398	15.2	32.2

Human Health TEXTOX Flow is N/A use 9.7 MGD

POLLUTANT	Dly Avg μg/L	Dly Max μg/L	Dly Avg lbs/day	Dly Max lbs/day
Acrylonitrile	3144	6652	254	538
Anthracene	36009	76183	2914	6166
Benzene	15886	33609	1285	2720
Benzo(a)anthracene	0.684	1.45	0.0553	0.117
Benzo(a)pyrene	0.068	0.145	0.00553	0.0117
Bis(2-ethylhexyl)phthalate	206	437	16.6	35.3
Carbon Tetrachloride	1258	2661	101	215
Chlorobenzene	74835	158325	6057	12815
Chloroform	210451	445241	17035	36040
Chrysene	68.9	146	5.57	11.8
Di-n-butyl Phthalate	2526	5345	204	432
1,2-Dichlorobenzene (Ortho)	90201	190834	7301	15447
1,3-Dichlorobenzene (Meta)	16268	34418	1316	2786
1,4-Dichlorobenzene (Para)	N/A	N/A	N/A	N/A
1,2-Dichloroethane	9952	21056	805	1704
1,1-Dichloroethylene	1506927	3188124	121980	258067
1,2-Dichloropropane	7082	14982	573	1212
1,3-Dichloropropylene	3254	6884	263	557
2,4-Dimethylphenol	230657	487989	18670	39501
Ethylbenzene	51048	107998	4132	8742
Hexachlorobenzene	0.019	0.039	0.00153	0.00315
Hexachlorobutadiene	6.02	12.7	0.487	1.02
Hexachloroethane	63.7	135	5.15	10.9
Mercury, total	0.684	1.45	0.0553	0.117
Nitrobenzene	51212	108346	4145	8770
Tetrachloroethylene	7656	16197	619	1311

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

Appendix B

POLLUTANT	Dly Avg µg/L	Dly Max µg/L	Dly Avg lbs/day	Dly Max lbs/day
Toluene	N/A	N/A	N/A	N/A
1,1,1-Trichloroethane	21445807	45371741	1735963	3672683
1,1,2-Trichloroethane	4539	9602	367	777
Trichloroethylene	1966	4159	159	336
Vinyl Chloride	451	954	36.5	77.2

Water quality-based mass effluent limitations for Dioxins/Furans (TCDD Equivalents) are calculated as follows:

$$\text{Daily Average} = 0.0000021792 \text{ } \mu\text{g/L} \times 3.785 \text{ L/gal} \times (\text{Permitted DA flow: } 9,700,000 \text{ gal/day})$$

$$= 80.0 \text{ } \mu\text{g/day}$$

$$\text{Daily Maximum} = 0.0000046103 \text{ } \mu\text{g/L} \times 3.785 \text{ L/gal} \times 9,700,000 \text{ gal/day} = 169 \text{ } \mu\text{g/day}$$

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

Appendix B

Outfalls 003, 005, 006, 009, 010, 011, 012, and 013 Aquatic life and human health screening is not generally applicable to predominately stormwater discharges. TPDES stormwater permits normally do not contain water quality-based effluent limitations. As stated in 30 TAC § 307.8(e), controls on the quality of permitted stormwater discharges are largely based on implementing best management practices and technology-based limits. Stormwater quality is compared to the allowable concentrations of metals found in 30 TAC § 319.22 (Quality Levels – Inland Waters) and 30 TAC § 319.23 (Quality Levels – Tidal Waters) to ensure that those concentrations are not exceeded, as detailed in the following tables:

30 TAC § 319.22 Outfalls 001 Stormwater Metal Limitations

Parameter	Daily Average mg/L	Daily Maximum mg/L	MAL mg/L
Arsenic, total	0.1	0.2	0.0005
Barium, total	1.0	2.0	0.003
Cadmium, total	0.05	0.1	0.001
Chromium, total	0.5	1.0	0.003
Copper, total	0.5	1.0	0.002
Lead, total	0.5	1.0	0.0005
Manganese, total	1.0	2.0	0.0005
Mercury, total	0.005	0.005	0.000005
Nickel, total	1.0	2.0	0.002
Selenium, total	0.05	0.1	0.005
Silver, total	0.05	0.1	0.0005
Zinc, total	1.0	2.0	0.005

30 TAC § 319.23 Outfalls 001 Stormwater Metal Limitations

Parameter	Daily Average mg/L	Daily Maximum mg/L	MAL mg/L
Arsenic, total	0.1	0.2	0.0005
Barium, total	1.0	2.0	0.003
Cadmium, total	0.1	0.2	0.001
Chromium, total	0.5	1.0	0.003
Copper, total	0.5	1.0	0.002
Lead, total	0.5	1.0	0.0005
Manganese, total	1.0	2.0	0.0005
Mercury, total	0.005	0.005	0.000005
Nickel, total	1.0	2.0	0.002
Selenium, total	0.1	0.2	0.005
Silver, total	0.05	0.1	0.0005
Zinc, total	1.0	2.0	0.005

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

Appendix C - pH Screening.
Outfall 001 – Saltwater Low/High pH – Summary

Calculation of pH of a mixture in seawater.
Based on the CO2SYS program (Lewis and Wallace, 1998)
<http://cdiac.esd.ornl.gov/oceans/co2rpert.html>

Formosa Plastics Corporation, Texas
& Formosa Utility Venture, Ltd.
WQ0002436000, Outfall 001

INPUT			Notes on Data Sources
1. MIXING ZONE BOUNDARY CHARACTERISTICS	Low pH	High pH	
Dilution factor at mixing zone boundary	10.00	10.00	Calculated from values from critical conditions memo: Inverse of effluent Fraction at edge of MZ (1/0.10=10.0)
Depth at plume trapping level (m)	2.000	2.000	Default value. Various depths tested.
2. BACKGROUND RECEIVING WATER CHARACTERISTICS			
Temperature (deg C):	33.00	33.00	Assumed. Various temperatures tested.
pH:	7.90	7.90	Ambient pH for Segment 2421 from 2010 IPs.
Salinity (psu):	10.10	10.10	Various salinities tested.
Total alkalinity (meq/L)	350.01	350.01	Taken from 2010 IPs-converted to meqs.
3. EFFLUENT CHARACTERISTICS			
Temperature (deg C):	12.53	12.53	Assumed. Various temperatures tested.
pH:	6.00	9.00	Proposed permit limit. Sequentially modified until predicted pH met Segment criteria of 6.5-9.0 SU.
Salinity (psu)	1.00	1.00	Minimum salinity assumed because discharge is freshwater. However, values up to 5 ppt tested.
Total alkalinity (meq/L):	0.40	313.58	For high pH scenario, calculated using the pollutant analysis. For low pH scenarios, used default of 20 mg/L CaCO3 = 0.40 meq/L.

OUTPUT

CONDITIONS AT THE MIXING ZONE BOUNDARY

Temperature (deg C):	30.95	30.95	
Salinity (psu)	9.19	9.19	
Density (kg/m ³)	1002.20	1002.20	
Alkalinity (mmol/kg-SW):	314.36	345.61	
Total Inorganic Carbon (mmol/kg-SW):	301.27	327.52	
pH at Mixing Zone Boundary:	7.94	8.02	Segment No. 2453 criteria: 6.5 to 9.0

Results:

The effluent pH (limits of 6.0 - 9.0 SU) screening reveals the existing limits will meet the Segment pH criteria of 6.5 – 9.0 SU.

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)

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

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	-	-	-	-	-	-	-	-	9.7 MGD	-	15.1 MGD	-
	Temperature	-	-	-	-	N/A	-	95°F	-	N/A	-	95°F	-
	CBOD ₅ / BOD ₅	1,384	-	3,477	-	1,102	14	-	-	1,102	14	2,727	34
	COD	16,189	200	24,284	300	-	-	-	-	9,000	200	16,000	300
	TSS	3,238	40	6,476	80	-	-	-	-	3,110	40	6,476	80
	Ammonia as Nitrogen	-	-	-	-	243	3	-	-	243	3	405	5
	1,2-Dichloroethane	2.35	-	7.31	-	805	-	1,704	-	1.92	Report	5.97	Report
	Chromium, hexavalent	-	-	-	-	36.0	-	76.1	-	3.7	Report	7.3	Report
	Chromium, total	40.5	-	80.9	-	-	-	-	-	3.7	Report	7.3	Report
	Copper, total	4.72	-	11.01	-	1.46	-	3.09 ²	-	1.37	Report	3.11 ¹	Report
	Lead, total	12.3	-	24.6	-	10.1	-	21.5	-	6.5	Report	16.0	Report
	Mercury, total	-	-	-	-	0.0553	-	0.117	-	0.03	Report	0.06	Report
	Zinc, total	-	-	-	-	15.2	-	32.2	-	2.8	Report	5.5	Report
	Oil and Grease	607	-	1,214	-	-	-	-	-	222	N/A	332	15
	Total Organic Carbon (TOC)	6,071	-	12,142	-	-	-	-	-	5,939	N/A	8,484	N/A
	Benzene	1.28	-	4.71	-	1,285	-	2,720	-	1.05	Report	3.85	Report
	Benzo(a)anthracene	0.763 ¹	-	2.04 ¹	-	0.0553 ²	-	0.117 ²	-	-	-	-	-
	Benzo(a)pyrene	0.798 ¹	-	2.11 ¹	-	0.00553 ²	-	0.0117 ²	-	-	-	-	-
	Hexachlorobenzene	0.520 ¹	-	0.971 ¹	-	0.00153 ²	-	0.00315 ²	-	-	-	-	-
	Hexachlorobutadiene	0.694 ¹	-	1.69 ¹	-	0.487 ²	-	1.02 ²	-	-	-	-	-
Phenol	0.520	-	0.902	-	-	-	-	-	0.42	Report	0.74	Report	
Toluene	0.902	-	2.77	-	N/A	-	N/A	-	0.74	Report	2.26	Report	
Trichloroethylene	0.728	-	1.87	-	159	-	336	-	0.59	Report	1.53	Report	
Vinyl Chloride	3.60	-	9.29	-	36.5	-	77.2	-	2.94	Report	7.58	Report	

FACT SHEET AND EXECUTIVE DIRECTOR’S PRELIMINARY DECISION

Appendix D

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	Dissolved Oxygen, minimum	-	-	-	-	-	2.0	-	-	N/A	2.0	N/A	Report
	Fecal Coliform ⁴	-	-	-	-	Report ¹ / 14 ^{3,5}	-	Report ¹ / 43 ³	-	-	-	-	-
	Enterococci ⁴	-	-	-	-	35 ^{3,5}	-	N/A	-	14 ^{1,5}	-	N/A	-
	2,3,7,8-TCDD Equivalents					80.0 ³ µg/day	2.18 ³ ppq	169 ³ µg/day	4.61 ³ ppq	80.5 ¹ µg/day	2.19 ¹ ppq	170 ¹ µg/day	4.63 ¹ ppq
	Whole Effluent Toxicity												
	(WET) limit <i>Americamysis bahia</i> (7-day Chronic NOEC ⁶)	-	-	-	-	10%	-	10%	-	10%	-	10%	10%
	WET limit <i>Menidia beryllina</i> (7-day Chronic NOEC ⁶)	-	-	-	-	10%	-	10%	-	10%	-	10%	10%
	WET limit <i>Americamysis bahia</i> (24-hour LC ₅₀ ⁷)	-	-	-	-	>100%	-	>100%	-	>100%	-	>100%	>100%
	pH, SU	6.0, minimum		9.0 SU		6.5, minimum ⁸		9.0 SU		6.0, minimum ⁹		9.0 SU	

- ¹ Beginning upon the date of permit issuance.
- ² Beginning three years from the permit issuance date and lasting until the date of permit expiration.
- ³ Beginning one year from the permit issuance date and lasting until the date of permit expiration.
- ⁴ Colony forming units (cfu) or most probable number (MPN) per 100 mL (cfu or MPN/100 mL).
- ⁵ Defined as a geometric mean.
- ⁶ The NOEC (No Observed Effect Concentration) is the greatest effluent dilution at which no significant lethality is demonstrated. Significant lethality is a statistically significant difference between a specified effluent dilution and the control for lethal effects.
- ⁷ The LC₅₀ (Lethal Concentration 50) is the effluent dilution at which 50% of the organisms survive.
- ⁸ Segment No. 2453 criteria.
- ⁹ Calculation of pH of a mixture in seawater -Based on the CO2SYS program (Lewis and Wallace, 1998) shows the technology-based pH range of between 6.0 SU – 9.0 SU is predicted to meet the Segment No. 2453 criteria (6.5 SU -9.0 SU) at the mixing zone boundary. Therefore, the technology-based pH range of between 6.0 SU – 9.0 SU is continued in the draft permit.

FACT SHEET AND EXECUTIVE DIRECTOR’S PRELIMINARY DECISION

Appendix D

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
101	Flow	6.0 MGD		7.0 MGD		-		-		4.4 MGD		6.0 MGD	
	BOD ₅	1,384	-	3,477	-	-	-	-	-	731	Report	1,959	Report
	COD	10,014	-	15,021	-	-	-	-	-	6,676	Report	10,014	Report
	TSS	3,238	-	6,476	-	-	-	-	-	1,149	Report	3,735	Report
	Acenaphthene	0.763	-	2.04	-	-	-	-	-	Report	N/A	Report	N/A
	Acenaphthylene	0.763	-	2.04	-	-	-	-	-	Report	N/A	Report	N/A
	Acrylonitrile	3.33	-	8.39	-	-	-	-	-	Report	N/A	Report	N/A
	Anthracene	0.763	-	2.04	-	-	-	-	-	Report	N/A	Report	N/A
	Benzene	1.28	-	4.71	-	-	-	-	-	Report	Report	Report	Report
	Benzo(a)anthracene	0.763	-	2.04	-	-	-	-	-	Report	N/A	Report	N/A
	3,4-Benzofluoranthene	0.798	-	2.11	-	-	-	-	-	Report	N/A	Report	N/A
	Benzo(k)fluoranthene	0.763	-	2.04	-	-	-	-	-	Report	N/A	Report	N/A
	Benzo(a)pyrene	0.798	-	2.11	-	-	-	-	-	Report	N/A	Report	N/A
	Bis(2-ethylhexyl) phthalate	3.57	-	9.67	-	-	-	-	-	Report	N/A	Report	N/A
	Carbon Tetrachloride	0.624	-	1.31	-	-	-	-	-	Report	N/A	Report	N/A
	Chlorobenzene	0.520	-	0.971	-	-	-	-	-	Report	N/A	Report	N/A
	Chloroethane	3.60	-	9.29	-	-	-	-	-	Report	N/A	Report	N/A
	Chloroform	0.728	-	1.59	-	-	-	-	-	Report	N/A	Report	N/A
	2-Chlorophenol	1.07	-	3.39	-	-	-	-	-	Report	N/A	Report	N/A
	Chrysene	0.763	-	2.04	-	-	-	-	-	Report	N/A	Report	N/A
	Di-n-butyl phthalate	0.936	-	1.97	-	-	-	-	-	Report	N/A	Report	N/A
	1,2-Dichlorobenzene	2.67	-	5.65	-	-	-	-	-	Report	N/A	Report	N/A
	1,3-Dichlorobenzene	1.07	-	1.52	-	-	-	-	-	Report	N/A	Report	N/A
	1,4-Dichlorobenzene	0.520	-	0.971	-	-	-	-	-	Report	N/A	Report	N/A
	1,1-Dichloroethane	0.763	-	2.04	-	-	-	-	-	Report	N/A	Report	N/A
	1,2-Dichloroethane	2.35	-	7.31	-	-	-	-	-	Report	Report	Report	Report
	1,1-Dichloroethylene	0.555	-	0.867	-	-	-	-	-	Report	N/A	Report	N/A
	1,2-trans Dichloroethylene	0.728	-	1.87	-	-	-	-	-	Report	N/A	Report	N/A
	2,4-Dichlorophenol	1.35	-	3.88	-	-	-	-	-	Report	N/A	Report	N/A
	1,2-Dichloropropane	5.30	-	7.97	-	-	-	-	-	Report	N/A	Report	N/A

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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
101	1,3-Dichloropropylene	1.00	-	1.52	-	-	-	-	-	Report	N/A	Report	N/A
	Diethyl phthalate	2.80	-	7.04	-	-	-	-	-	Report	N/A	Report	N/A
	2,4-Dimethylphenol	0.624	-	1.24	-	-	-	-	-	Report	N/A	Report	N/A
	Dimethyl phthalate	0.659	-	1.63	-	-	-	-	-	Report	N/A	Report	N/A
	4,6-Dinitro-o-cresol	2.70	-	9.60	-	-	-	-	-	Report	N/A	Report	N/A
	2,4-Dinitrophenol	2.46	-	4.26	-	-	-	-	-	Report	N/A	Report	N/A
	2,4-Dinitrotoluene	3.91	-	9.88	-	-	-	-	-	Report	N/A	Report	N/A
	2,6-Dinitrotoluene	8.84	-	22.2	-	-	-	-	-	Report	N/A	Report	N/A
	Ethylbenzene	1.11	-	3.74	-	-	-	-	-	Report	N/A	Report	N/A
	Fluoranthene	0.867	-	2.35	-	-	-	-	-	Report	N/A	Report	N/A
	Fluorene	0.763	-	2.04	-	-	-	-	-	Report	N/A	Report	N/A
	Hexachlorobenzene	0.520	-	0.971	-	-	-	-	-	Report	N/A	Report	N/A
	Hexachlorobutadiene	0.694	-	1.69	-	-	-	-	-	Report	N/A	Report	N/A
	Hexachloroethane	0.728	-	1.87	-	-	-	-	-	Report	N/A	Report	N/A
	Methyl Chloride	2.98	-	6.59	-	-	-	-	-	Report	N/A	Report	N/A
	Methylene Chloride	1.38	-	3.08	-	-	-	-	-	Report	N/A	Report	N/A
	Naphthalene	0.763	-	2.04	-	-	-	-	-	Report	N/A	Report	N/A
	Nitrobenzene	0.936	-	2.35	-	-	-	-	-	Report	N/A	Report	N/A
	2-Nitrophenol	1.42	-	2.39	-	-	-	-	-	Report	N/A	Report	N/A
	4-Nitrophenol	2.49	-	4.30	-	-	-	-	-	Report	N/A	Report	N/A
	Phenanthrene	0.763	-	2.04	-	-	-	-	-	Report	N/A	Report	N/A
	Phenol	0.520	-	0.902	-	-	-	-	-	Report	Report	Report	Report
	Pyrene	0.867	-	2.32	-	-	-	-	-	Report	N/A	Report	N/A
	Tetrachloroethylene	0.763	-	1.94	-	-	-	-	-	Report	N/A	Report	N/A
Toluene	0.902	-	2.77	-	-	-	-	-	Report	N/A	Report	N/A	
1,2,4-Trichlorobenzene	2.35	-	4.85	-	-	-	-	-	Report	N/A	Report	N/A	
1,1,1-Trichloroethane	0.728	-	1.87	-	-	-	-	-	Report	N/A	Report	N/A	
1,1,2-Trichloroethane	0.728	-	1.87	-	-	-	-	-	Report	N/A	Report	N/A	
Trichloroethylene	0.728	-	1.87	-	-	-	-	-	Report	N/A	Report	N/A	

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

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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
101	Vinyl Chloride	3.60	-	9.29	-	-	-	-	-	Report	N/A	Report	N/A
	pH, SU	6.0, minimum		9.0 SU		-		-		6.0, minimum		9.0 SU	

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
201	Flow	-		-		-		-		Report MGD		Report MGD	
	BOD ₅	492	-	1,108	-	-	-	-	-	237	Report	474	Report
	COD	Report	-	Report	-	-	-	-	-	Report	Report	Report	Report
	TSS	1,846	-	3,693	-	-	-	-	-	1,729	Report	3,006	Report
	Copper, total	Report	-	Report	-	-	-	-	-	Report	Report	Report	Report
	Lead, total	12.3	-	24.6	-	-	-	-	-	6.5	Report	16.0	Report
	Nickel, total	24.6	-	49.2	-	-	-	-	-	6.89	Report	14.60	Report
	Titanium, total	Report	-	Report	-	-	-	-	-	Report	Report	Report	Report
	Chlorine, total residual	24.6¹	-	49.2	-	-	-	-	-	26.3	Report	44.33	Report
	Acenaphthene	Report	-	Report	-	-	-	-	-	Report	N/A	Report	N/A
	Acenaphthylene	Report	-	Report	-	-	-	-	-	Report	N/A	Report	N/A
	Acrylonitrile	Report	-	Report	-	-	-	-	-	Report	N/A	Report	N/A
	Anthracene	Report	-	Report	-	-	-	-	-	Report	N/A	Report	N/A
	Benzene	Report	-	Report	-	-	-	-	-	Report	Report	Report	Report
	Benzo(a)anthracene	Report	-	Report	-	-	-	-	-	Report	N/A	Report	N/A
	3,4-Benzofluoranthene	Report	-	Report	-	-	-	-	-	Report	N/A	Report	N/A
	Benzo(k)fluoranthene	Report	-	Report	-	-	-	-	-	Report	N/A	Report	N/A
	Benzo(a)pyrene	Report	-	Report	-	-	-	-	-	Report	N/A	Report	N/A
	Bis(2-ethylhexyl) phthalate	Report	-	Report	-	-	-	-	-	Report	N/A	Report	N/A
	Carbon Tetrachloride	Report	-	Report	-	-	-	-	-	Report	N/A	Report	N/A
	Chlorobenzene	Report	-	Report	-	-	-	-	-	Report	N/A	Report	N/A
Chloroethane	Report	-	Report	-	-	-	-	-	Report	N/A	Report	N/A	

¹ Beginning upon the date of permit issuance.

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

Appendix D

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	
201	Chloroform	2.73	-	8.00	-	-	-	-	-	-	Report	N/A	Report	N/A
	2-Chlorophenol	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	Chrysene	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	Di-n-butyl phthalate	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	1,2-Dichlorobenzene	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	1,3-Dichlorobenzene	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	1,4-Dichlorobenzene	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	1,1-Dichloroethane	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	1,2-Dichloroethane	Report	-	Report	-	-	-	-	-	-	Report	Report	Report	Report
	1,1-Dichloroethylene	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	1,2-trans Dichloroethylene	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	2,4-Dichlorophenol	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	1,2-Dichloropropane	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	1,3-Dichloropropylene	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	Diethyl phthalate	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	2,4-Dimethylphenol	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	Dimethyl phthalate	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	4,6-Dinitro-o-cresol	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	2,4-Dinitrophenol	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	2,4-Dinitrotoluene	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	2,6-Dinitrotoluene	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	Ethylbenzene	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	Fluoranthene	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	Fluorene	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	Hexachlorobenzene	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	Hexachlorobutadiene	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	Hexachloroethane	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
Methyl Chloride	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A	
Methylene Chloride	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A	
Naphthalene	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A	

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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	
201	Nitrobenzene	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	2-Nitrophenol	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	4-Nitrophenol	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	Phenanthrene	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	Phenol	Report	-	Report	-	-	-	-	-	-	Report	Report	Report	Report
	Pyrene	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	Tetrachloroethylene	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	Toluene	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	1,2,4-Trichlorobenzene	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	1,1,1-Trichloroethane	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	1,1,2-Trichloroethane	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	Trichloroethylene	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
	Vinyl Chloride	Report	-	Report	-	-	-	-	-	-	Report	N/A	Report	N/A
pH, SU	6.0, minimum		9.0 SU		-		-		6.0, minimum		9.0 SU			

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
SUM	Acenaphthene	0.763	-	2.04	-	-	-	-	-	0.57	-	1.54	-
	Acenaphthylene	0.763	-	2.04	-	-	-	-	-	0.57	-	1.54	-
	Acrylonitrile	3.33	-	8.39	-	254	-	538	-	2.51	-	6.32	-
	Anthracene	0.763	-	2.04	-	2,914	-	6,166	-	0.57	-	1.54	-
	Benzene	1.28	-	4.71	-	1,285	-	2,720	-	0.97	-	3.55	-
	Benzo(a)anthracene	0.763	-	2.04	-	0.0553 ¹	-	0.117 ¹	-	0.57	-	1.54	-
	3,4-Benzofluoranthene	0.798	-	2.11	-	-	-	-	-	0.60	-	1.59	-
	Benzo(k)fluoranthene	0.763	-	2.04	-	-	-	-	-	0.57	-	1.54	-
	Benzo(a)pyrene	0.798	-	2.11	-	0.00553 ¹	-	0.0117 ¹	-	0.60	-	1.59	-
	Bis(2-ethylhexyl) phthalate	3.57	-	9.67	-	16.6	-	35.3	-	2.69	-	7.29	-

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

Appendix D

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
SUM	Carbon Tetrachloride	0.624	-	1.31	-	101	-	215	-	0.47		0.99	
	Chlorobenzene	0.520	-	0.971	-	6,057	-	12,815	-	0.39		0.73	
	Chloroethane	3.60	-	9.29	-	-	-	-	-	2.72		7.00	
	Chloroform	3.458	-	9.59	-	17,035	-	36,040	-	1.89		4.99	
	2-Chlorophenol	1.07	-	3.39	-	-	-	-	-	0.81		2.56	
	Chrysene	0.763	-	2.04	-	5.57	-	11.8	-	0.57		1.54	
	Di-n-butyl phthalate	0.936	-	1.97	-	204	-	432	-	0.71		1.49	
	1,2-Dichlorobenzene	2.67	-	5.65	-	7,301	-	15,447	-	2.01		4.26	
	1,3-Dichlorobenzene	1.07	-	1.52	-	1,316	-	2,786	-	0.81		1.15	
	1,4-Dichlorobenzene	0.520	-	0.971	-	N/A	-	N/A	-	0.39		0.73	
	1,1-Dichloroethane	0.763	-	2.04	-	-	-	-	-	0.57		1.54	
	1,2-Dichloroethane	2.35	-	7.31	-	805	-	1,704	-	1.78		5.51	
	1,1-Dichloroethylene	0.555	-	0.867	-	121,980	-	258,067	-	0.42		0.65	
	1,2-trans Dichloroethylene	0.728	-	1.87	-	-	-	-	-	0.55		1.41	
	2,4-Dichlorophenol	1.35	-	3.88	-	-	-	-	-	1.02		2.93	
	1,2-Dichloropropane	5.30	-	7.97	-	573	-	1,212	-	4.00		6.01	
	1,3-Dichloropropylene	1.00	-	1.52	-	263	-	557	-	0.75		1.15	
	Diethyl phthalate	2.80	-	7.04	-	-	-	-	-	2.12		5.30	
	2,4-Dimethylphenol	0.624	-	1.24	-	18,670	-	39,501	-	0.47		0.94	
	Dimethyl phthalate	0.659	-	1.63	-	-	-	-	-	0.50		1.23	
	4,6-Dinitro-o-cresol	2.70	-	9.60	-	-	-	-	-	2.04		7.24	
	2,4-Dinitrophenol	2.46	-	4.26	-	-	-	-	-	1.85		3.21	
	2,4-Dinitrotoluene	3.91	-	9.88	-	-	-	-	-	2.95		7.44	
	2,6-Dinitrotoluene	8.84	-	22.2	-	-	-	-	-	6.66		16.74	
	Ethylbenzene	1.11	-	3.74	-	4,132	-	8,742	-	0.84		2.82	
	Fluoranthene	0.867	-	2.35	-	-	-	-	-	0.65		1.78	
	Fluorene	0.763	-	2.04	-	-	-	-	-	0.57		1.54	
	Hexachlorobenzene	0.520	-	0.971	-	0.00153 ¹	-	0.00315 ¹	-	0.010		0.021	
Hexachlorobutadiene	0.694	-	1.69	-	0.487 ¹	-	1.02 ¹	-	0.52		1.28		
Hexachloroethane	0.728	-	1.87	-	5.15	-	10.9	-	0.55		1.41		

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

Appendix D

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
SUM	Methyl Chloride	2.98	-	6.59	-	-	-	-	-	2.25	-	4.96	-
	Methylene Chloride	1.38	-	3.08	-	-	-	-	-	1.04	-	2.32	-
	Naphthalene	0.763	-	2.04	-	-	-	-	-	0.57	-	1.54	-
	Nitrobenzene	0.936	-	2.35	-	4,145	-	8,770	-	0.71	-	1.78	-
	2-Nitrophenol	1.42	-	2.39	-	-	-	-	-	1.07	-	1.80	-
	4-Nitrophenol	2.49	-	4.30	-	-	-	-	-	1.88	-	3.24	-
	Phenanthrene	0.763	-	2.04	-	0.736	-	1.55	-	0.53	-	1.12	-
	Phenol	0.520	-	0.902	-	-	-	-	-	0.39	-	0.68	-
	Pyrene	0.867	-	2.32	-	-	-	-	-	0.65	-	1.75	-
	Tetrachloroethylene	0.763	-	1.94	-	619	-	1,311	-	0.57	-	1.46	-
	Toluene	0.902	-	2.77	-	N/A	-	N/A	-	0.68	-	2.09	-
	1,2,4-Trichlorobenzene	2.35	-	4.85	-	-	-	-	-	1.78	-	3.66	-
	1,1,1-Trichloroethane	0.728	-	1.87	-	1735963	-	3672683	-	0.55	-	1.41	-
	1,1,2-Trichloroethane	0.728	-	1.87	-	367	-	777	-	0.55	-	1.41	-
	Trichloroethylene	0.728	-	1.87	-	159	-	336	-	0.55	-	1.41	-
Vinyl Chloride	3.60	-	9.29	-	36.5	-	77.2	-	1.67	-	3.33	-	

¹ Water quality-based effluent limitations are applied at Outfall 001.

Outfall	Parameter	Technology-Based		Water Quality-Based		Existing Permit	
		Daily Avg	Daily Max	Daily Avg	Daily Max	Daily Avg	Daily Max
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
901 ¹	Flow, MGD	-	-	-	-	Report	Report
	Total Dissolved Solids (TDS)	-	-	-	-	N/A	Report
	pH, SU	6.0, minimum	9.0 SU	-	-	6.0, minimum	9.0 SU

¹ When routing cooling tower blowdown to the ALCOA mud pits for dust suppression.

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

Appendix D

Outfall	Parameter	Technology-Based		Water Quality-Based		Existing Permit	
		Daily Avg	Daily Max	Daily Avg	Daily Max	Daily Avg	Daily Max
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
003, and 005	Flow, MGD	-	-	-	-	Report	Report
	Total Organic Carbon (TOC)	-	55	-	-	N/A	55
	Oil and Grease	-	15	-	-	N/A	15
	1,2-Dichloroethane	180	574	-	-	N/A	0.4
	Total Purgeable Hydrocarbons	-	Report	-	-	Report	Report
	pH, SU	6.0, minimum	9.0 SU	6.5, minimum ¹	9.0 SU	6.0, minimum ²	9.0 SU

¹ Segment No. 2454 criteria.

² Consistent with the procedures for pH screening that were submitted to EPA with a letter dated May 28, 2014, and approved by EPA in a letter dated June 2, 2014, requiring a discharge to an unclassified water body to meet pH limits of 6.0 – 9.0 standard units reasonably ensures instream compliance with *Texas Surface Water Quality Standards* pH criteria.

Outfall	Parameter	Technology-Based		Water Quality-Based		Existing Permit	
		Daily Avg	Daily Max	Daily Avg	Daily Max	Daily Avg	Daily Max
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
006 thru 013	Flow, MGD	-	-	-	-	Report	Report
	Total Organic Carbon (TOC)	-	55	-	-	N/A	55
	Oil and Grease	-	15	-	-	N/A	15
	pH, SU	6.0, minimum	9.0 SU	6.5, minimum ¹	9.0 SU	6.0, minimum ²	9.0 SU

¹ Segment No. 2454 criteria.

² Consistent with the procedures for pH screening that were submitted to EPA with a letter dated May 28, 2014, and approved by EPA in a letter dated June 2, 2014, requiring a discharge to an unclassified water body to meet pH limits of 6.0 – 9.0 standard units reasonably ensures instream compliance with *Texas Surface Water Quality Standards* pH criteria.