# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

## EXAMPLE A

**NOTICE OF APPLICATION AND PRELIMINARY DECISION FOR AN AIR QUALITY PERMIT**

**PROPOSED AIR QUALITY PERMIT NUMBER 174650 AND NONATTAINMENT PERMIT NUMBER N312**

**APPLICATION AND PRELIMINARY DECISION.** Equistar Chemicals, LP, PO Box 777, Channelview, TX 77530-0777, has applied to the Texas Commission on Environmental Quality (TCEQ) for issuance of Proposed Air Quality Permit Numbers 174650 and N312, which would authorize construction of an Ethylene Derivatives Unit located at 8280 Sheldon Road, Channelview, Harris County, Texas 77530. **AVISO DE IDIOMA ALTERNATIVO.** El aviso de idioma alternativo en espanol está disponible en https://www.tceq.texas.gov/permitting/air/newsourcereview/airpermits-pendingpermit-apps. This application was submitted to the TCEQ on November 17, 2023. The proposed facility will emit the following air contaminants in amounts significant enough to require a Nonattainment Review: volatile organic compounds. In addition, the facility will emit: carbon monoxide, hazardous air pollutants, nitrogen oxides, organic compounds, particulate matter including particulate matter with diameters of 10 microns or less and 2.5 microns or less and sulfur dioxide. No other pollutant emission increase will result from this facility.

Harris County has been designated nonattainment for ozone because Continuous Ambient Air Monitoring Stations have shown that ambient concentrations of ozone exceed the National Ambient Air Quality Standards (NAAQS) for ozone. Ground-level ozone is not emitted directly into the air, but is created by chemical reactions between nitrogen oxides ($NO_X$) and volatile organic compounds (VOC). The Federal Clean Air Act (FCAA) requires that new major stationary sources and major modifications at sources in designated nonattainment areas must satisfy nonattainment new source review prior to commencement of construction.

As required by the nonattainment review, all air contaminants have been evaluated and the “lowest achievable emission rate” has been addressed for the control of these contaminants. The emission increases from this project will be offset with emission reductions by a ratio of 1.30 to 1. Furthermore, the applicant has demonstrated that the benefits of the existing facility significantly outweigh the environmental and social costs imposed as a result of its location, construction, or modification. Finally, the applicant has certified that all major stationary sources owned or operated by the applicant in the state are in compliance or on a schedule for compliance with all applicable state and federal emission limitations and standards. The executive director, therefore, has made the preliminary determination to issue this permit.

The executive director has completed the technical review of the application and prepared a draft permit which, if approved, would establish the conditions under which the facility must operate. The permit application, the executive director’s preliminary decision which includes the draft permit, the executive director’s preliminary determination summary, and the executive director’s air quality analysis will be available for viewing and copying at the TCEQ central office, the TCEQ Houston regional office, and at the North Channel Library, 15741 Wallisville Road, Houston, Harris County, Texas beginning the first day of publication of this notice. The facility’s compliance file, if any exists, is available for public review at the TCEQ Houston Regional Office, 5425 Polk Street, Suite H, Houston, Texas.

**INFORMATION AVAILABLE ONLINE.** These documents are accessible through the Commission’s Web site at www.tceq.texas.gov/goto/cid: the executive director’s preliminary decision which includes the draft permit, the executive director’s preliminary determination summary, the air quality analysis, and, once available, the executive director’s response to comments and the final decision on this application. Access the Commissioners’ Integrated Database (CID) using the above link and enter the permit number for this application. The public location mentioned above, the North Channel Library, 15741 Wallisville Road, Houston, Harris County, Texas provides public access to the internet. This link to an electronic map of the site or facility's general location is provided as a public courtesy and not part of the application

or notice. For exact location, refer to application. https://gisweb.tceq.texas.gov/LocationMapper/?marker=-95.125555,29.831111&level=13.

**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 comment or to ask questions about the application. 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. **You may submit additional written public comments within 30 days of the date of newspaper publication of this notice in the manner set forth in the AGENCY CONTACTS AND INFORMATION paragraph below.**

After the deadline for public comment, the executive director will consider the comments and prepare a response to all public comment. **The response to comments, along with the executive director's decision on the application, will be mailed to everyone who submitted public comments or is on a mailing list for this application. The mailing will also provide instructions for requesting a contested case hearing or reconsideration of the executive director's decision.**

**OPPORTUNITY FOR A CONTESTED CASE HEARING.** After the deadline for public comment, the executive director will consider the comments and prepare a response to all relevant and material or significant public comment. **The response to comments, along with the executive director's decision on the application, will be mailed to everyone who submitted public comments or is on a mailing list for this application. 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. A person who may be affected by emissions of air contaminants from the facility is entitled to request a hearing. A contested case hearing request must include the following: (1) your name (or for a group or association, an official representative), mailing address, daytime phone number; (2) applicant's name and permit number; (3) the statement "I/we request a contested case hearing;" (4) a specific description of how you would be adversely affected by the application and air emissions from the facility in a way not common to the general public; (5) the location and distance of your property relative to the facility; (6) a description of how you use the property which may be impacted by the facility; and (7) a list of all disputed issues of fact that you submit during the comment period. If the request is made by a group or association, one or more members who have standing to request a hearing must be identified by name and physical address. The interests the group or association seeks to protect must also be identified. You may also submit your proposed adjustments to the application/permit which would satisfy your concerns. Requests for a contested case hearing must be submitted in writing within 30 days following this notice to the Office of the Chief Clerk, at the address provided in the information section below.**

A contested case hearing will only be granted based on disputed issues of fact or mixed questions of fact and law that are relevant and material to the Commission's decisions on the application. 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. Issues that are not submitted in public comments may not be considered during a hearing.

**EXECUTIVE DIRECTOR ACTION.** If a timely contested case hearing request is not received or if all timely contested case hearing requests are withdrawn, the executive director may issue final approval of the application. The response to comments, along with the executive director's decision on the application will be mailed to everyone who submitted public comments or is on a mailing list for this application, and will be posted electronically to the CID. If any timely hearing requests are received and not withdrawn, the executive director will not issue final approval of the permit and will forward the application and requests to the Commissioners for their consideration at a scheduled commission meeting.

**MAILING LIST.** You may ask to be placed on a mailing list to obtain additional information on this application by sending a request to the Office of the Chief Clerk at the address below.

**AGENCY CONTACTS AND INFORMATION.** Public comments and requests must be submitted either electronically at 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 Public Education Program toll free at 1-800-687-4040. Si desea información en Español, puede llamar al 1-800-687-4040.

Further information may also be obtained from Equistar Chemicals, LP at the address stated above or by calling Mrs. Teresa Peneguy, Environmental Permitting at (281) 452-8330.

Notice Issuance Date: February 28, 2025

# COMISIÓN DE CALIDAD AMBIENTAL DE TEXAS

**EJEMPLO A**

**AVISO DE SOLICITUD Y DECISIÓN PRELIMINAR**
**PARA UN PERMISO DE CALIDAD DEL AIRE**

**NÚMERO DE PERMISO DE CALIDAD DEL AIRE PROPUESTO: 174650**
**PERMISO DE INCUMPLIMIENTO NUMERO N312**

**SOLICITUD Y DECISIÓN PRELIMINAR.** Equistar Chemicals, LP, PO Box 777, Channelview, Texas 77530-0777, ha solicitado a la Comisión de Calidad de Ambiental de Texas (TCEQ por sus siglas) la emisión de Permiso Propuesto de Calidad de Aire Número 174650 y Permiso de Casi incumplimiento (Nonattainment, en inglés) Número N312, el cual autorizará la construcción de un Unidad de Derivados de Etileno en 8280 Sheldon Road, Channelview, Condado de Harris, Texas 77530. Esta solicitud se presentó a la TCEQ el 17 de noviembre, 2023. La instalación propuesta emitirá los siguientes contaminantes del aire en cantidades lo suficientemente significativas como para requerir una revisión de incumplimiento: compuestos orgánicos volátiles. Además, la instalación emitirá: monóxido de carbono, contaminantes atmosféricos peligrosos, óxidos de nitrógeno, compuestos orgánicos, partículas, incluyendo partículas con diámetros de 10 micras o menos y 2.5 micras o menos, y dióxido de azufre. No se producirá ningún aumento adicional de las emisiones contaminantes de esta instalación.

El Condado de Harris ha sido designado como Casi incumplimiento para ozono porque las Estaciones de Monitores Continuos de Calidad de Aire han indicado que los niveles de ozono exceden las Normas Nacionales de Calidad de Aire Ambientales (NAAQS) para ozono. El ozono a nivel del suelo no se emite directamente en el aire, sino que se crea por reacciones químicas entre los óxidos de nitrógeno (NOx) y los compuestos orgánicos volátiles (COV). La Ley Federal del Aire Limpio (FCAA) requiere que fuentes mayores fijas nuevas, o modificaciones a fuentes existentes en áreas designadas como Casi incumplimiento deberán satisfacer un reviso de Casi incumplimiento para fuentes nuevas antes de empezar construcción.

Como es requerido por un reviso de Casi incumplimiento, todos los contaminantes atmosféricos han sido evaluados y el “nivel de emisiones mínimo” ha sido establecido para el control de estos contaminantes. El incremento de las emisiones de este proyecto será contrarrestado por reducciones en una proporción de 1.30 a 1. Además, el solicitante a demostrado que los beneficios ofrecidos por esta facilidad exceden en valor los costos ambientales y sociales impuestos por su localidad, construcción o modificación. Finalmente, el solicitante a certificado que todas las fuentes mayores de su propiedad o bajo su manejo en el estado están en cumplimiento con todos los límites y normas de emisiones federales y estatales aplicables, o están en un programa para alcanzar cumplimiento con dichos límites y normas. El director ejecutivo de la TCEQ, por consiguiente, ha tomado la decisión inicial de otorgar este permiso.

El director ejecutivo de la TCEQ ha concluido la revisión técnica de la solicitud y ha preparado un permiso preliminar, el cual, si es aprobado, establecerá las condiciones debajo de las cuales la planta deberá operar. El director ejecutivo ha tomado la decisión preliminar de otorgar este permiso porque cumple con todas las reglas y regulaciones. La solicitud del permiso, la decisión preliminar del director ejecutivo que incluye el borrador del permiso, el resumen de la determinación preliminar del director ejecutivo, y el análisis de la calidad del aire del director ejecutivo estarán disponibles para ser revisados y copiados en la oficina central de la TCEQ, y la oficina regional de la TCEQ en Houston, y en la Biblioteca pública de North Channel, 15741 Wallisville Road, Houston, Condado de Harris, Texas.

**INFORMACIÓN DISPONIBLE EN LINEA.** Estos documentos están disponibles en el sitio web de la Comisión en www.tceq.texas.gov/goto/cid: la decisión preliminar del director ejecutivo que incluye el borrador del permiso, el resumen

de la decisión preliminar del director ejecutivo, el análisis de la calidad del aire y, una vez disponible, la respuesta del director ejecutivo a los comentarios y la decisión final sobre esta solicitud. Una vez que tenga acceso al CID utilizando el enlace anterior, ingrese el número de permiso para esta solicitud que se proporciona en la parte superior de este aviso. La ubicación pública mencionada anteriormente, la Biblioteca pública de North Channel, 15741 Wallisville Road, Houston, Condado de Harris, Texas, brinda acceso público a Internet. Este enlace a un mapa electrónico de la ubicación general del sitio o instalación se proporciona como cortesía pública y no como parte de la solicitud o aviso. Para conocer la ubicación exacta, consulte la solicitud. https://gisweb.tceq.texas.gov/LocationMapper/?marker=-95.125555,29.831111&level=13.

**COMENTARIOS PÚBLICOS/REUNIÓN PÚBLICA.** Usted puede presentar comentarios públicos o solicitar una reunión pública sobre esta solicitud. El propósito de la reunión pública es el proveer la oportunidad de someter comentarios o hacer preguntas sobre esta solicitud. La TCEQ tendrá una reunión pública si el director ejecutivo determina que hay suficiente interés de parte del público en esta solicitud o si es solicitada por un legislador local. Una reunión pública no es una audiencia de caso impugnado. **Usted puede presentar comentarios públicos adicionales por escrito durante los 30 días después de la fecha de publicación en el periódico de este aviso en la forma establecida en el párrafo de CONTACTOS DE LA AGENCIA E INFORMACIÓN a continuación.**

Después del plazo final para someter comentarios públicos el director ejecutivo considerará los comentarios. **La respuesta a los comentarios, junto con la decisión del director ejecutivo sobre la solicitud, serán entonces enviadas por correo a todos aquellos que hayan sometido comentarios públicos o que hayan solicitado para estar en la lista de correo sobre esta solicitud. La lista de correo también proporcionará instrucciones para solicitar una audiencia de caso impugnado o la reconsideración de la decisión del director ejecutivo.**

**OPORTUNIDAD PARA UNA AUDIENCIA EN CONTROVERSIA.** Después del plazo final para someter comentarios públicos, el director ejecutivo considerará los comentarios y preparará una respuesta a todos los comentarios públicos relevantes y materiales, o de otro modo significativos. **La respuesta a los comentarios, junto con la decisión del director ejecutivo sobre la solicitud, serán entonces enviadas por correo a todos aquellos que hayan sometido comentarios públicos o que hayan solicitado para estar en la lista de correo sobre esta solicitud. El correo también le dara instrucciones para solicitar una audiencia de caso impugnada o reconsideración de la decisión del director ejecutivo.**

**Una audiencia en controversia es un proceso legal semejante a un juicio civil en una corte de distrito estatal. Una persona que pueda ser afectada por las emisiones de contaminantes atmosféricas de la instalación tiene el derecho de peticionar una audiencia en controversia. Para solicitar una audiencia en controversia, usted deberá proporcionar lo siguiente: (1) su nombre (o para un grupo o asociación, un representante oficial), dirección y número de teléfono; (2) el nombre del solicitante y número del permiso; (3) la declaración "[yo/nosotros] solicito/solicitamos una audiencia de un caso impugnado"; (4) una descripción específica de cómo se vería adversamente afectado por la solicitud y emisiones atmosféricas de la planta de manera que no es común para el público en general; (5) la ubicación y la distancia de su propiedad con relación a la planta; (6) una descripción de cómo usa la propiedad, que pueda ser afectada por la planta; y (7) una lista de todas las cuestiones de hecho en disputa que usted presente durante el período de comentarios. Si la petición la hace un grupo o asociación, uno o más miembros que tienen derecho a solicitar una audiencia deben ser identificados por su nombre y dirección física. Los intereses que el grupo o la asociación busca proteger también se deben identificar. También puede presentar sus modificaciones propuestas a la solicitud / al permiso que satisfarían sus inquietudes. Las peticiones para una audiencia de caso impugnado se deben presentar por escrito dentro de 30 días después de este aviso a la Oficina del Secretario Oficial, a la dirección a continuación.**

Una audiencia de caso impugnado sólo será concedida basada en cuestiones disputadas del hecho que son relevantes y materiales a las decisiones de la Comisión sobre la aplicación. La Comisión sólo podrá conceder una solicitud de audiencia de caso impugnado sobre cuestiones que el solicitante haya presentado en sus observaciones oportunas que no hayan sido retiradas posteriormente. Los asuntos que no se presenten en comentarios públicos no pueden ser considerados durante una audiencia.

**ACCIÓN DEL DIRECTOR EJECUTIVO.** Si la solicitud de audiencia no se ha recibido, o si se retiran todas las solicitudes oportunas de audiencia de caso impugnado, el director ejecutivo podrá emitir su aprobación final de la solicitud. La respuesta a los comentarios, junto con la decisión del director ejecutivo sobre la solicitud, ser entonces enviada por

correo a todos aquellos que hayan sometido comentarios públicos o que están en la lista de correo de esta solicitud, y ser puesta electrónicamente en la Base Integrada de Datos de los Comisionados. Si se reciben peticiones para una audiencia en controversia o para que se reconsidere su decisión, el director ejecutivo no aprobará la solicitud para este permiso y remitirá la solicitud y las peticiones a los Comisionados de la TCEQ para su consideración en una junta Comisionados.

**LISTA DE CORREO**. Usted puede solicitar ser incluido en una lista de correo para recibir información adicional con respecto a esta solicitud mediante el envío de una solicitud a la Oficina del Secretario Principal usando la dirección en el siguiente párrafo.

**CONTACTOS E INFORMACIÓN DE LA AGENCIA.** Los comentarios públicos o peticiones para una reunión pública o audiencia de caso impugnado se debe presentar a la Oficina del Funcionario Jefe, MC-105, TCEQ, P.O. Box 13087, Austin, Texas 78711-3087, o por el Internet al www14.tceq.texas.gov/epic/eComment/. Por favor tenga en cuenta que toda información personal que usted provea, incluyendo su nombre, su número de teléfono, su dirección electrónica y su dirección física será parte de los récords públicos de la agencia. Para mayor información acerca de esta solicitud o el proceso para permisos, por favor llame a El Programa de Educación Pública de la TCEQ gratis, al 1-800-687-4040.

Mas información puede ser obtenida de Equistar Chemicals, LP en la dirección proveída en el primer párrafo o llamando a Sra. Teresa Peneguy, Permisos Ambientales al (281) 452-8330.

Fecha de Emisión del Aviso: 28 de febrero de 2025

**Special Conditions**

Permit Number 174650 and N312

1. This permit covers only those sources of emissions listed in the attached table entitled “Emission Sources - Maximum Allowable Emission Rates” (MAERT), and those sources are limited to the emission limits and other conditions specified in that table.

2. Non-fugitive emissions from relief valves, safety valves, or rupture discs of gases containing volatile organic compounds (VOC) at a concentration of greater than 1 percent are not authorized by this permit unless authorized on the MAERT. Any releases directly to atmosphere from relief valves, safety valves, or rupture discs of gases containing VOC at a concentration greater than 1 weight percent are not consistent with good practice for minimizing emissions.

**Federal Applicability**

3. These facilities shall comply with all applicable requirements of the U.S. Environmental Protection Agency (EPA) regulations on Standards of Performance for New Stationary Sources promulgated in Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60):

   A. Subpart A, General Provisions.

   B. Subpart VVa, Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006.

   C. Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

4. These facilities shall comply with all applicable requirements of the U.S. Environmental Protection Agency (EPA) regulations on National Emission Standards for Hazardous Air Pollutants for Source Categories in 40 CFR Part 63:

   A. Subpart A, General Provisions.

   B. Subpart F, National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry.

   C. Subpart G, National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater.

   D. Subpart H, National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks.

   E. Subpart YY, National Emission Standards for Hazardous Air Pollutants for Source Categories: Generic Maximum Achievable Control Technology Standards.

   F. Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

**Production Limits**

5. The production rates shall not exceed 2.2 billion pounds per rolling 12-months of all products at the Ethylene Derivatives Unit. In order to assure compliance with this condition, records shall be kept of daily production rates (pounds per rolling 12-months) and the cumulative annual production

(pounds per year). These records shall be maintained at the plant site for a period of at least five years and be made available to representatives of the Texas Commission on Environmental Quality (TCEQ) upon request.

**Fuel Specifications**

6. The Heaters (F-7360) shall be fired with either hydrogen-rich plant fuel gas or pipeline natural gas.

   A. Hydrogen-rich plant fuel gas shall contain no sulfur.

   B. Pipeline natural gas shall contain no more than 5.0 grains of total sulfur per 100 dry standard cubic feet (dscf).

7. The fuel for the emergency engine (EPN EF2GEN1) is limited to ultra-low sulfur diesel (ULSD) fuel with a sulfur content of 15 ppmw or less as specified in 40 CFR §80.6.

8. ULSD shall be sampled every 6 months to determine total sulfur and net heating value. Test results from the fuel supplier or current valid purchasing contract with total sulfur and heating value may be used to satisfy this requirement.

   Upon request by the Executive Director of the Texas Commission on Environmental Quality (TCEQ) or any local air pollution control program having jurisdiction, the holder of this permit shall provide a sample and/or an analysis of the fuel fired in the heater and emergency engine or shall allow air pollution control agency representatives to obtain a sample for analysis.

**Emission Standards and Operational Specifications**

9. The following requirements shall apply to the heaters:

   A. Fuel gas for the Reactor Feed Heater (EPN EF7360) shall be limited to hydrogen-rich plant fuel gas or pipeline natural gas. Records of fuel type and duration shall be maintained.

   B. Heater F-7361 (FIN EF7361) shall be electric and have no emissions.

   C. The permit holder shall install and operate a totalizing fuel flow meter to measure the fuel usage for the heaters and fuel usage for each shall be recorded monthly. Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications or at least annually, whichever is more frequent, and shall be accurate to within 5 percent. Quality assured (or valid) data must be generated when the unit is operating. Loss of valid data due to periods of monitor break down, out-of-control operation (producing inaccurate data), repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in minutes) that the unit operated over the previous rolling 12-month period. The measurements missed shall be estimated using engineering judgment and the methods used recorded.

   D. The requirements of Paragraph C of this Special Condition may be satisfied through compliance with the applicable fuel flow monitoring requirements of 30 TAC § 117.340(a).

10. The Reactor Feed Heater (EPN EF7360) shall not exceed 0.04 lb $NO_X$/MMBtu on a 1-hour average and when firing carbon based fuels CO concentrations shall not exceed 400 ppm @ 3% $O_2$ on a 1-hr average and 50 ppm @ 3% $O_2$ on a rolling 12-month average.

A. The firing rate of the heater shall not exceed 20.04 MMBtu/hr.

B. Startup and shutdown emissions as defined in this Special Condition are excluded from the limits listed above. The emissions from startup and shutdown shall not exceed the hourly emission rates authorized as routine (EPN EF7360) in the MAERT.

(1) A planned startup is defined as the period of time to reach operating temperature. A planned startup shall not exceed 4 hours per event.

(2) A planned shutdown is defined as the period of time necessary to remove fuel from heater. A planned shutdown shall not exceed 4 hours per event.

11. The Reactor Feed Heater (EPN EF7360) shall be operated with no visible emissions except periods not to exceed a total of five minutes during any two consecutive hours.

**Emergency Engine**

12. The diesel-fired emergency engine (EPN EF2GEN1) shall comply with the following requirements:

A. Emissions from the diesel emergency engine shall not exceed 0.50 grams per horsepower-hour (g/hp-hr) of nitrogen oxides ($NO_X$) and 2.60 g/hp-hr of carbon monoxide (CO).

B. Engine operation shall be limited to 100 hours per rolling 12-month period during non-emergency situations.

C. Testing or maintenance on the engines between 6:00 am and noon shall be additionally restricted as required under 30 TAC §117.310(f).

D. Each engine shall be equipped with a non-resettable run time meter. Run time hours shall be recorded monthly.

E. Records of maintenance activities and the duration of the activity shall be kept for five years.

**Storage Tanks**

13. Storage tanks throughput and service shall be limited to the following: **(NA)**

| Tank Identifier | Tank Type | Service | Fill/Withdrawal rate (gallons/hour) | Rolling 12-Month Throughput (gallons) |
|---|---|---|---|---|
| D-7310 | Pressurized | n-hexane 1016 | 2,500 | 60,000 |
| D-7311 | Pressurized | n-hexane 11 | 2,500 | 150,000 |
| D-7316 | Pressurized | n-hexane 1016 | 2,500 | 60,000 |
| D-7384 | Pressurized | Gasoline | 1,532 | 39,657 |
| D-7383 | Pressurized | Spent Caustic | 23 | 79,009 |
| D-7386 | Pressurized | Heavy Oil | 299 | 6,768 |

14. Storage tanks are subject to the following requirements: The control requirements specified in parts A–D of this condition shall not apply (1) where the VOC has an aggregate partial pressure of less than 0.50 psia at the maximum feed temperature or 95°F, whichever is greater, or (2) to storage tanks smaller than 25,000 gallons. **(NA)**

    A. Except for labels, logos, etc. not to exceed 15 percent of the tank total surface area, uninsulated tank exterior surfaces exposed to the sun shall be white or unpainted aluminum. Storage tanks must be equipped with permanent submerged fill pipes.

    B. The permit holder shall maintain an emissions record which includes calculated emissions of VOC from all storage tanks during the previous calendar month and the past consecutive 12 month period. The record shall include tank identification number, control method used, tank capacity in gallons, name of the material stored, VOC molecular weight, VOC monthly average temperature in degrees Fahrenheit, VOC vapor pressure at the monthly average material temperature in psia, VOC throughput for the previous month and year-to-date. Records of VOC monthly average temperature are not required to be kept for unheated tanks which receive liquids that are at or below ambient temperatures.

    C. Storage tanks D-7310, D-7311, D-7316, D-7384, D-7383, D-7386 shall be pressurized.

    D. All vents from storage tanks D-7310, D-7311, D-7316, D-7384, D-7383, and D-7386 shall be routed to the OP1 Flare (EPN 38E01).

15. Emissions from tanks shall be calculated using the following methods: **(NA)**

    A. The TCEQ February 2020 Guidance for “Estimating Short Term Emission Rates from Fixed Roof Tanks”

    B. The TCEQ February 2020 Guidance for “Estimating Short Term Emission Rates from Floating Roof Tanks”

    C. AP-42 “Compilation of Air Pollution Emission Factors, Chapter 7, Section 7.1 – Organic Liquid Storage Tanks dated June 2020 for annual emissions.

    Sample calculations from the application shall be attached to a copy of this permit at the plant site.

16. Wastewater tanks TK38010 and TK38011 shall be operated in accordance with the conditions outlined in NSR Permit Nos. 1768, PSDTX1272, and N142M1 for routine and MSS operations.

**Cooling Tower**

17. The OP1 Cooling Tower (EPN 38E11) shall be operated in accordance with the conditions outlined in NSR Permit Nos. 1768, PSDTX1272, and N142M1 for routine and MSS operations.

**Fugitive Monitoring**

**Piping Valves, Pumps, Agitators, and Compressors - Intensive Directed Maintenance – 28LAER**

18. Except as may be provided for in the Special Conditions of this permit, the following requirements apply to the above-referenced equipment: **(NA)**

A. The requirements of paragraphs F and G shall not apply (1) where the VOC has an aggregate partial pressure or vapor pressure of less than 0.044 pounds per square inch, absolute (psia) at 68°F or (2) operating pressure is at least 5 kilopascals (0.725 psi) below ambient pressure. Equipment excluded from this condition shall be identified in a list or by one of the methods described below to be made readily available upon request.

The exempted components may be identified by one or more of the following methods:

- piping and instrumentation diagram (PID);
- a written or electronic database or electronic file;
- color coding;
- a form of weatherproof identification; or
- designation of exempted process unit boundaries.

B. Construction of new and reworked piping, valves, pump systems, and compressor systems shall conform to applicable American National Standards Institute (ANSI), American Petroleum Institute (API), American Society of Mechanical Engineers (ASME), or equivalent codes.

C. New and reworked underground process pipelines shall contain no buried valves such that fugitive emission monitoring is rendered impractical. New and reworked buried connectors shall be welded.

D. To the extent that good engineering practice will permit, new and reworked valves and piping connections shall be so located to be reasonably accessible for leak-checking during plant operation. Difficult-to-monitor and unsafe-to-monitor valves, as defined by Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115), shall be identified in a list to be made readily available upon request. The difficult-to-monitor and unsafe-to-monitor valves may be identified by one or more of the methods described in paragraph A above. If an unsafe to monitor component is not considered safe to monitor within a calendar year, then it shall be monitored as soon as possible during safe to monitor times. A difficult to monitor component for which quarterly monitoring is specified may instead be monitored annually.

E. New and reworked piping connections shall be welded or flanged. Screwed connections are permissible only on piping smaller than two-inch diameter. Gas or hydraulic testing of the new and reworked piping connections at no less than operating pressure shall be performed prior to returning the components to service or they shall be monitored for leaks using an approved gas analyzer within 15 days of the components being returned to service. Adjustments shall be made as necessary to obtain leak-free performance.

Connectors shall be inspected by visual, audible, and/or olfactory means at least weekly by operating personnel walk-through. In addition, all connectors shall be monitored by leak-checking for fugitive emissions at least quarterly using an approved gas analyzer with a directed maintenance program in accordance with items F thru J of this special condition.

In lieu of the monitoring frequency specified above, connectors may be monitored on a semiannual basis if the percent of connectors leaking for two consecutive quarterly monitoring periods is less than 0.5 percent.

Connectors may be monitored on an annual basis if the percent of connectors leaking for two consecutive semiannual monitoring periods is less than 0.5 percent.

If the percent of connectors leaking for any semiannual or annual monitoring period is 0.5 percent or greater, the facility shall revert to quarterly monitoring until the facility again qualifies for the alternative monitoring schedules previously outlined in this paragraph.

The percent of connectors leaking shall be determined using the following formula:

$$(Cl + Cs) \times 100/Ct = Cp$$

Where:

Cl = the number of connectors found leaking by the end of the monitoring period, either by Method 21 or sight, sound, and smell.

Cs = the number of connectors for which repair has been delayed and are listed on the facility shutdown log.

Ct = the total number of connectors in the facility subject to the monitoring requirements, as of the last day of the monitoring period, not including non-accessible and unsafe to monitor connectors.

Cp = the percentage of leaking connectors for the monitoring period.

Each open-ended valve or line shall be equipped with an appropriately sized cap, blind flange, plug, or a second valve to seal the line. Except during sampling, both valves shall be closed. If the isolation of equipment for hot work or the removal of a component for repair or replacement results in an open ended line or valve, it is exempt from the requirement to install a cap, blind flange, plug, or second valve for 72 hours. If the repair or replacement is not completed within 72 hours, the permit holder must complete either of the following actions within that time period;

(1) a cap, blind flange, plug, or second valve must be installed on the line or valve; or

(2) The open-ended valve or line shall be monitored once for leaks above background for a plant or unit turnaround lasting up to 45 days with an approved gas analyzer and the results recorded. For all other situations, the open-ended valve or line shall be monitored once by the end of the 72 hours period following the creation of the open ended line and monthly thereafter with an approved gas analyzer and the results recorded. For turnarounds and all other situations, leaks are indicated by readings of 500 ppmv and must be repaired within 24 hours or a cap, blind flange, plug, or second valve must be installed on the line or valve.

F. Accessible valves shall be monitored by leak-checking for fugitive emissions at least quarterly using an approved gas analyzer with a directed maintenance program. Non accessible valves shall be monitored by leak-checking for fugitive emissions at least annually using an approved gas analyzer with a directed maintenance program. Sealless/leakless valves (including, but not limited to, welded bonnet bellows and diaphragm valves) and relief valves equipped with a rupture disc upstream or venting to a control device are not required to be monitored. For valves equipped with rupture discs, a pressure-sensing device shall be installed between the relief valve and rupture disc to monitor disc integrity. All leaking discs shall be replaced at the earliest opportunity but no later than the next process shutdown. A check of the reading of the pressure-sensing device to verify disc integrity shall be performed at least quarterly and recorded in the unit log or equivalent. Pressure-sensing devices that are continuously monitored with alarms are exempt from recordkeeping requirements specified in this paragraph.

The gas analyzer shall conform to requirements listed in Method 21 of 40 CFR part 60, appendix A. The gas analyzer shall be calibrated with methane. In addition, the response

factor of the instrument for a specific VOC of interest shall be determined and meet the requirements of Section 8 of Method 21. If a mixture of VOCs is being monitored, the response factor shall be calculated for the average composition of the process fluid. A calculated average is not required when all of the compounds in the mixture have a response factor less than 10 using methane. If a response factor less than 10 cannot be achieved using methane, than the instrument may be calibrated with one of the VOC to be measured or any other VOC so long as the instrument has a response factor of less than 10 for each of the VOC to be measured.

A directed maintenance program shall consist of the repair and maintenance of components assisted simultaneously by the use of an approved gas analyzer such that a minimum concentration of leaking VOC is obtained for each component being maintained. Replaced components shall be re-monitored within 15 days of being placed back into VOC service.

G. All new and replacement pumps, compressors, and agitators shall be equipped with a shaft sealing system that prevents or detects emissions of VOC from the seal. These seal systems need not be monitored and may include (but are not limited to) dual pump seals with barrier fluid at higher pressure than process pressure, seals degassing to vent control systems kept in good working order, or seals equipped with an automatic seal failure detection and alarm system. Submerged pumps or sealless pumps (including, but not limited to, diaphragm, canned, or magnetic-driven pumps) may be used to satisfy the requirements of this condition and need not be monitored.

All other pump, compressor, and agitator seals shall be monitored with an approved gas analyzer at least quarterly.

H. Damaged or leaking valves, connectors, compressor seals, pump seals, and agitator seals found to be emitting VOC in excess of 500 parts per million by volume (ppmv) or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. A first attempt to repair the leak must be made within 5 days. Records of the first attempt to repair shall be maintained. A leaking component shall be repaired as soon as practicable, but no later than 15 days after the leak is found. If the repair of a component would require a unit shutdown that would create more emissions than the repair would eliminate, the repair may be delayed until the next scheduled shutdown. All leaking components which cannot be repaired until a scheduled shutdown shall be identified for such repair by tagging. A listing of all components that qualify for delay of repair shall be maintained on a delay of repair list. The cumulative daily emissions from all components on the delay of repair list shall be estimated by multiplying by 24 the mass emission rate for each component calculated in accordance with the instructions in 30 TAC 115.782 (c)(1)(B)(i)(II). The calculations of the cumulative daily emissions from all components on the delay of repair list shall be updated within ten days of when the latest leaking component is added to the delay of repair list. When the cumulative daily emission rate of all components on the delay of repair list times the number of days until the next scheduled unit shutdown is equal to or exceeds the total emissions from a unit shutdown as calculated in accordance with 30 TAC 115.782 (c)(1)(B)(i)(I), the TCEQ Regional Manager and any local programs shall be notified and may require early unit shutdown or other appropriate action based on the number and severity of tagged leaks awaiting shutdown. This notification shall be made within 15 days of making this determination.

I. Records of repairs shall include date of repairs, repair results, justification for delay of repairs, and corrective actions taken for all components. Records of instrument monitoring shall indicate dates, times, test methods, and instrument readings. The instrument monitoring record shall include the time that monitoring took place for no less than 95% of the instrument

readings recorded. Records of physical inspections shall be noted in the operator's log or equivalent.

J. Compliance with the requirements of this condition does not assure compliance with requirements of 30 TAC Chapter 115, an applicable New Source Performance Standard (NSPS), or an applicable National Emission Standard for Hazardous Air Pollutants (NESHAPS), and does not constitute approval of alternative standards for these regulations.

K. In lieu of the monitoring frequency specified in paragraph F, valves in gas and light liquid service may be monitored on a semiannual basis if the percent of valves leaking for two consecutive quarterly monitoring periods is less than 0.5 percent.

Valves in gas and light liquid service may be monitored on an annual basis if the percent of valves leaking for two consecutive semiannual monitoring periods is less than 0.5 percent.

If the percent of valves leaking for any semiannual or annual monitoring period is 0.5 percent or greater, the facility shall revert to quarterly monitoring until the facility again qualifies for the alternative monitoring schedules previously outlined in this paragraph.

L. The percent of valves leaking used in paragraph K shall be determined using the following formula:

$$(Vl + Vs) \times 100/Vt = Vp$$

Where:

Vl = the number of valves found leaking by the end of the monitoring period, either by Method 21 or sight, sound, and smell.

Vs = the number of valves for which repair has been delayed and are listed on the facility shutdown log.

Vt = the total number of valves in the facility subject to the monitoring requirements, as of the last day of the monitoring period, not including nonaccessible and unsafe to monitor valves.

Vp = the percentage of leaking valves for the monitoring period.

M. Any component found to be leaking by physical inspection (i.e., sight, sound, or smell) shall be repaired or monitored with an approved gas analyzer within 15 days to determine whether the component is leaking in excess of 500 ppmv of VOC. If the component is found to be leaking in excess of 500 ppmv of VOC, it shall be subject to the repair and replacement requirements contained in this special condition.

**Analyzer Vents**

19. Analyzer sample system vents or speed loops (EPN EETHDRVANL) shall be equipped with vapor recovery or liquid recovery systems (vapor samples or liquids samples route back to process or flare). Analyzer (gas chromatographs) vapor sample loops shall depressurize to atmospheric pressure during sample injection only and shall be routed to the flare or process during periods when a sample is not being injected.

**Flare**

20. The OP1 Flare (EPN 38E01) shall be designed and operated in accordance with the requirements outlined in NSR Permit Nos. 1768, PSDTX1272, and N142M1.

Before this unit (EPN 38E01) can begin operation under this permit, Permit Nos. 1768, PSDTX1272, and N142M1 shall be updated to be in compliance in MACT YY and/or Alternate Method Of Compliance (AMOC) No. 157.

21. The permit holder shall install, operate, calibrate, and maintain a monitoring system capable of continuously measuring, calculating, and recording the volumetric flow rate and composition of Vent Gas from the Ethylene Derivatives Unit (EDU) in the header or headers feeding the flare. This system must also be able to continuously analyze pressure and temperature at each point of Vent Gas flow measurement. Different flow calculation methodology may be used to quantify volume of different gaseous streams that make up the Vent Gas provided that the flow rates of all gas streams that contribute to the Vent Gas are determined. Flow must be calculated in scfm and pounds per hour such that compliance with the emission rates on the MAERT can be demonstrated. **(NA)**

**Wastewater Treatment Facilities**

22. The wastewater treatment unit (EPN MECUWWTP) shall be designed and operated in accordance with the requirements outlined in NSR Permit No. 49120. **(NA)**

**Initial Demonstration of Compliance**

23. The permit holder shall perform stack sampling and other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from the Reactor Feed Heater (EPN EF7360) to demonstrate compliance with the MAERT. The permit holder is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense. Sampling shall be conducted in accordance with the appropriate procedures of the Texas Commission on Environmental Quality (TCEQ) Sampling Procedures Manual and the U.S. Environmental Protection Agency (EPA) Reference Methods.

    Requests to waive testing for any pollutant specified in this condition shall be submitted to the TCEQ Office of Air, Air Permits Division. Test waivers and alternate/equivalent procedure proposals for Title 40 Code of Federal Regulation Part 60 (40 CFR Part 60) testing which must have EPA approval shall be submitted to the TCEQ Regional Director.

    A. The appropriate TCEQ Regional Office shall be notified not less than 45 days prior to sampling. The notice shall include:

        (1) Proposed date for pretest meeting.

        (2) Date sampling will occur.

        (3) Name of firm conducting sampling.

        (4) Type of sampling equipment to be used.

        (5) Method or procedure to be used in sampling.

        (6) Description of any proposed deviation from the sampling procedures specified in this permit or TCEQ/EPA sampling procedures.

        (7) Procedure/parameters to be used to determine worst case emissions

The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for the test reports. The TCEQ Regional Director must approve any deviation from specified sampling procedures.

B. Air contaminants emitted from the Reactor Feed Heater (EPN EF7360) to be tested for include (but are not limited to) $NO_X$, CO, and $O_2$.

C. Sampling shall occur within 60 days after achieving the maximum operating rate, but no later than 180 days after initial start-up of the facilities (or increase in production, as appropriate) and at such other times (identify the need for any periodic sampling here) as may be required by the TCEQ Executive Director. Requests for additional time to perform sampling shall be submitted to the appropriate regional office.

D. The facility being sampled shall operate at maximum firing rate during stack emission testing. These conditions/parameters and any other primary operating parameters that affect the emission rate shall be monitored and recorded during the stack test. Any additional parameters shall be determined at the pretest meeting and shall be stated in the sampling report. Permit conditions and parameter limits may be waived during stack testing performed under this condition if the proposed condition/parameter range is identified in the test notice specified in paragraph A and accepted by the TCEQ Regional Office. Permit allowable emissions and emission control requirements are not waived and still apply during stack testing periods.

During subsequent operations, if the heaters operate at a firing rate that is greater than that recorded during the test period, stack sampling shall be performed at the new operating conditions within 120 days. This sampling may be waived by the TCEQ Air Section Manager for the region.

E. Copies of the final sampling report shall be forwarded to the offices below within 60 days after sampling is completed. Sampling reports shall comply with the attached provisions entitled “Chapter 14, Contents of Sampling Reports” of the TCEQ Sampling Procedures Manual. The reports shall be distributed as follows:

One copy to the appropriate TCEQ Regional Office.
One copy to each local air pollution control program.

F. Sampling ports and platform(s) shall be incorporated into the design of (source stack and EPN) according to the specifications set forth in the attachment entitled “Chapter 2, Guidelines For Stack Sampling Facilities” of the Texas Commission on Environmental Quality (TCEQ) Sampling Procedures Manual. Alternate sampling facility designs must be submitted for approval to the TCEQ Regional Director.

**Planned Maintenance, Startup and Shutdown Operations**

24. This permit authorizes the emissions from the planned maintenance, startup, and shutdown (MSS) activities summarized in the MSS Activity Summary (Attachment A) attached to this permit. **(NA)**

Routine maintenance activities, as identified in Attachment B of this permit, may be tracked through work orders or their equivalent. Emissions from activities identified in Attachment A shall be calculated using the number of work orders or equivalent that month and the emissions associated with that activity identified in the permit application

The performance of each planned MSS activity not identified in Attachment A and the emissions associated with it shall be recorded and include at least the following information:

A. the process unit at which emissions from the MSS activity occurred, including the emission point number and common name of the process unit;

B. the type of planned MSS activity and the reason for the planned activity;

C. the common name and the facility identification number, if applicable, of the facilities at which the MSS activity and emissions occurred;

D. the date and time of the MSS activity and its duration;

E. the estimated quantity of each air contaminant, or mixture of air contaminants, emitted with the data and methods used to determine it. The emissions shall be estimated using the methods identified in the permit application, consistent with good engineering practice.

All MSS emissions shall be summed monthly and the rolling 12-month emissions shall be updated on a monthly basis.

25. Process units and facilities shall be depressurized, emptied, degassed, and placed in service in accordance with the following requirements: **(NA)**

A. The process equipment shall be depressurized to a control device, transferred within the process unit, transferred to another process unit, transferred to a pressurized storage tank, or depressurized to a controlled recovery system prior to venting to atmosphere, degassing, or draining liquid. Equipment that only contains material that is liquid with volatile organic compounds (VOC) partial pressure less than 0.50 pound per square inch, absolute (psia) at the highest of the actual temperature or 95°F may be opened to atmosphere and drained in accordance with Paragraph C of this special condition. The vapor pressure at 95°F may be used if the actual temperature of the liquid is verified to be less than 95°F and the temperature is recorded.

B. If mixed phase materials must be removed from process equipment, the cleared material shall be routed to a knockout drum or equivalent to allow for managed initial phase separation. If the VOC partial pressure is greater than 0.50 psi at either the normal process temperature or 95°F, any vents in the system must be routed to a control device or a controlled recovery system. The vapor pressure at 95°F may be used if the actual temperature of the liquid is verified to be less than 95°F and the temperature is recorded. Control must remain in place until degassing has been completed or the system is no longer vented to atmosphere.

C. All liquids from process equipment or storage vessels must be removed to the maximum extent practical prior to opening equipment to commence degassing and/or maintenance. Liquids must be drained into a closed vessel or closed liquid recovery system unless prevented by the physical configuration of the equipment. If it is necessary to drain liquid into an open pan or sump, the liquid must be covered or transferred to a covered vessel within one hour of being drained.

D. If the VOC partial pressure is greater than 0.50 psi at the normal process temperature or 95°F, facilities shall be degassed using good engineering practice to ensure air contaminants are removed from the system through the control device or controlled recovery system to the extent allowed by process equipment or storage vessel design. The vapor pressure at 95°F may be used if the actual temperature of the liquid is verified to be less than 95°F and the

temperature is recorded. The facilities to be degassed shall not be vented directly to atmosphere, except as necessary to establish isolation of the work area or to monitor VOC concentration following controlled depressurization. The venting shall be minimized to the maximum extent practicable and actions taken recorded. The control device or recovery system utilized shall be recorded with the estimated emissions from controlled and uncontrolled degassing calculated using the methods that were used to determine allowable emissions for the permit application.

(1) For MSS activities identified in Attachment A, the following option may be used in lieu of item (2) below. The facilities being prepared for maintenance shall not be vented directly to atmosphere until the VOC concentration has been verified to be less than 10,000 ppmv or less than 10 percent of the lower explosive limit (LEL) per the site safety procedures.

(2) The locations and/or identifiers where the purge gas or steam enters the process equipment or storage vessel and the exit points for the exhaust gases shall be recorded (process flow diagrams [PFDs] or piping and instrumentation diagrams [P&IDs] may be used to demonstrate compliance with the requirement). If the process equipment is purged with a gas, two system volumes of purge gas must have passed through the control device or controlled recovery system before the vent stream may be sampled to verify acceptable VOC concentration prior to uncontrolled venting. The VOC sampling and analysis shall be performed using an instrument meeting the requirements of Special Condition No. 26 The sampling point shall be upstream of the inlet to the control device or controlled recovery system. The sample ports and the collection system must be designed and operated such that there is no air leakage into the sample probe or the collection system downstream of the process equipment or vessel being purged. The facilities shall be degassed to a control device or controlled recovery system until the VOC concentration is less than 10,000 ppmv or 10 percent of the LEL. Documented site procedures used to de-inventory equipment to a control device for safety purposes (e.g., hot work or vessel entry procedures) that achieve at least the same level of purging may be used in lieu of the above.

E. Gases and vapors with VOC partial pressure greater than 0.50 psi may be vented directly to atmosphere if all the following criteria are met:

(1) It is not technically practicable to depressurize or degas, as applicable, into the process;

(2) There is not an available connection to a plant control system (flare); and

(3) There is no more than 50 lbs of air contaminant to be vented to atmosphere during shutdown or start-up, as applicable.

All instances of venting directly to atmosphere per sub-paragraph E. of this condition must be documented when occurring as part of any MSS activity. The emissions associated with venting without control must be included in the work order or equivalent for those planned MSS activities identified in Attachment C.

All instances of venting directly to atmosphere per Special Condition 28.E must be documented when occurring as part of any MSS activity. The emissions associated with venting without control must be included in the work order or equivalent for those planned MSS activities identified in Attachment B

26. Air contaminant concentration shall be measured using an instrument/detector meeting one set of requirements specified below. **(NA)**

A. VOC concentration shall be measured using an instrument meeting all the requirements specified in EPA Method 21 (40 CFR 60, Appendix A) with the following exceptions:

(1) The instrument shall be calibrated within 24 hours of use with a calibration gas such that the response factor (RF) of the VOC (or mixture of VOCs) to be monitored shall be less than 2.0. The calibration gas and the gas to be measured, and its approximate (RF) shall be recorded.

If the RF of the VOC (or mixture of VOCs) to be monitored is greater than 2.0, the VOC concentration shall be determined as follows:

VOC Concentration = Concentration as read from the instrument*RF

In no case should a calibration gas be used such that the RF of the VOC (or mixture of VOCs) to be monitored is greater than 5.0.

(2) Sampling shall be performed as directed by this permit in lieu of section 8.3 of Method 21. During sampling, data recording shall not begin until after two times the instrument response time. The date and time shall be recorded, and VOC concentration shall be monitored for at least 5 minutes, recording VOC concentration each minute. As an alternative the VOC concentration may be monitored over a five-minute period with an instrument designed to continuously measure concentration and record the highest concentration read. The highest measured VOC concentration shall be recorded and shall not exceed the specified VOC concentration limit prior to uncontrolled venting.

B. Colorimetric gas detector tubes may be used to determine air contaminant concentrations if they are used in accordance with the following requirements.

(1) The air contaminant concentration measured as defined in (3) is less than 80 percent of the range of the tube and is at least 20 percent of the maximum range of the tube.

(2) The tube is used in accordance with the manufacturer's guidelines.

(3) At least 2 samples taken at least 5 minutes apart must satisfy the following prior to uncontrolled venting:

measured contaminant concentration (ppmv) < release concentration.

Where the release concentration is:

10,000*mole fraction of the total air contaminants present that can be detected by the tube.

The mole fraction may be estimated based on process knowledge. The release concentration and basis for its determination shall be recorded.

Records shall be maintained of the tube type, range, measured concentrations, and time the samples were taken.

C. Lower explosive limit measured with a lower explosive limit detector.

(1) The detector shall be calibrated within 30 days of use with a certified pentane gas standard at 25% of the lower explosive limit (LEL) for pentane. Records of the calibration date/time and calibration result (pass/fail) shall be maintained.

(2) A functionality test shall be performed on each detector within 24 hours of use with a certified gas standard at 25% of the LEL for pentane. The LEL monitor shall read no lower than 90% of the calibration gas certified value. Records, including the date/time and test results, shall be maintained.

(3) A certified methane gas standard equivalent to 25% of the LEL for pentane may be used for calibration and functionality tests provided that the LEL response is within 95% of that for pentane.

27. This condition applies only to piping and components subject to leak detection and repair monitoring requirements identified in other NSR permits. Each open-ended valve or line shall be equipped with an appropriately sized cap, blind flange, plug, or a second valve to seal the line. Except during sampling, both valves shall be closed. If the isolation of equipment for hot work or the removal of a component for repair or replacement results in an open ended line or valve, it is exempt from the requirement to install a cap, blind flange, plug, or second valve for 72 hours. If the repair or replacement is not completed within 72 hours, the permit holder must complete either of the following actions within that time period; **(NA)**

A. a cap, blind flange, plug, or second valve must be installed on the line or valve; or

B. the open-ended valve or line shall be monitored once for leaks above background for a plant or unit turnaround lasting up to 45 days with an approved gas analyzer and the results recorded. For all other situations, the open-ended valve or line shall be monitored once by the end of the 72 hours period following the creation of the open ended line and monthly thereafter with an approved gas analyzer and the results recorded. For turnarounds and all other situations, leaks are indicated by readings of 500 ppmv and must be repaired within 24 hours or a cap, blind flange, plug, or second valve must be installed on the line or valve.

28. Additional occurrences of MSS activities authorized by this permit (see Attachment A) may be authorized under permit by rule only if conducted in compliance with this permit's procedures, emission controls, monitoring, and recordkeeping requirements applicable to the activity. **(NA)**

29. Planned maintenance activities must be conducted in a manner consistent with good practice for minimizing emissions, including the use of air pollution control equipment, practices and processes. All reasonable and practical efforts to comply with Special Conditions 24 through 28 must be used when conducting the planned maintenance activity, until the commission determines that the efforts are unreasonable or impractical, or that the activity is an unplanned maintenance activity. **(NA)**

**Recordkeeping and Reporting**

30. The permit holder shall calculate emissions from each emission point monthly to show compliance with the rolling 12-month annual emission limits on the attached MAERT.

31. Individual emission points which have allowable emissions on the attached MAERT of less than 1 ton per year are exempt from the requirement to calculate emissions on a monthly basis.

32. The records required by these special conditions shall be maintained in hard copy or electronic format and shall be maintained for at least five years rather than the two-year period specified in General Condition No. 7. These records shall be made immediately available at the request of personnel from the TCEQ or any air pollution control agency with jurisdiction.

**Netting and Offsets**

33. The permit holder shall use 24.8 tons per year (tpy) of VOC credits to offset the 19.01 tpy VOC project emission increase for the facilities authorized by this permit at a ratio of 1.3 to 1.0.

34. Prior to the commencement of operation, the permit holder shall obtain approval from the TCEQ EBT Program for the credits being used and then submit a permit alteration or amendment request to the TCEQ Air Permits Division (and copy the TCEQ Regional Office) to identify approved credits by TCEQ credit certificate number

Date: TBD

**Permit Numbers 174650 and N312**

Attachment A

MSS Activity Summary

| Facilities | Description | Emission Activity | EPN |
|---|---|---|---|
| all process units | process unit purge/degas/drain | Vent to vapor recovery system | N/A |
| all process units | process unit purge/degas/drain<br><br>(high pressure vent gas recovery not available) | MSS venting to Flare | 38E01 |
| all process units | Reactor clearing | Vent to atmosphere | ENMSSROUT |



Date: TBD

**Permit Numbers 174650 and N312**

Attachment B

Routine Maintenance Activities

Process & Storage Vessel cleaning/repair/replacement

Fugitive component (valve, pipe, flange) repair/replacement

The R-7360 reactors decoking

Date: TBD

**Emission Sources - Maximum Allowable Emission Rates**

Permit Number 174650 and N312

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data

| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | |
|---|---|---|---|---|
| | | | lbs/hour | TPY (4) |
| 38E11 | OP1 Cooling Tower (6) | VOC (8) | 1.62 | 3.04 |
| | | PM | 0.58 | 2.53 |
| | | $PM_{10}$ | 0.29 | 1.27 |
| | | $PM_{2.5}$ | 0.29 | 1.27 |
| FUGETHDRV | Unit Fugitives (5) | VOC (8) | 3.46 | 14.18 |
| 38E010 | Wastewater Tank 38010 (6) | VOC (8) | - | 0.01 |
| 38E011 | Wastewater Tank 38011 (6) | VOC (8) | - | 0.01 |
| MECUWWTP | Wastewater (7) | VOC (8) | 0.00 | 0.00 |
| EF7360 | Reactor Feed Heater | $NO_x$ | 0.80 | 3.51 |
| | | CO | 6.02 | 3.30 |
| | | $SO_2$ | 0.01 | 0.05 |
| | | VOC (8) | 0.11 | 0.47 |
| | | PM | 0.15 | 0.65 |
| | | $PM_{10}$ | 0.15 | 0.65 |
| | | $PM_{2.5}$ | 0.15 | 0.65 |
| ER7360AB | Catalyst Decoke Vent | CO | 2.34 | 3.01 |
| | | VOC (8) | 2.36 | 0.02 |
| | | PM | 0.07 | 0.09 |
| | | $PM_{10}$ | 0.07 | 0.09 |
| | | $PM_{2.5}$ | 0.07 | 0.09 |
| 38E01 | OP1 Flare (6) | $NO_x$ | 1.58 | 0.09 |
| | | CO | 8.15 | 0.44 |
| | | VOC (8) | 23.79 | 1.21 |

Emission Sources - Maximum Allowable Emission Rates

| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | |
|---|---|---|---|---|
| | | | lbs/hour | TPY (4) |
| EETHDRVANL | Analyzer Vents | VOC (8) | 0.01 | 0.02 |
| ENMSSROUT | MSS Vessel Clearing | VOC (8) | 3.21 | 0.04 |
| EF2GEN1 | Emergency Engine | $NO_X$ | 0.66 | 0.03 |
| | | CO | 3.45 | 0.17 |
| | | $SO_2$ | 0.01 | <0.01 |
| | | VOC (8) | 0.19 | 0.01 |
| | | PM | 0.03 | <0.01 |
| | | $PM_{10}$ | 0.03 | <0.01 |
| | | $PM_{2.5}$ | 0.03 | <0.01 |

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.
(2) Specific point source name. For fugitive sources, use area name or fugitive source name.
(3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
$NO_x$ - total oxides of nitrogen
$SO_2$ - sulfur dioxide
PM - total particulate matter, suspended in the atmosphere, including $PM_{10}$ and $PM_{2.5}$, as represented
$PM_{10}$ - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
CO - carbon monoxide
(4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
(6) Emissions from the OP1 Cooling Tower (EPN 38E11), Wastewater Tanks (EPNs TK38010 and TK38011), and OP1 Flare (EPN 38E01) are only from the waste generated from the process authorized under this permit and are in addition to emissions authorized on the MAERT for NSR Permit Nos. 1768, PSDTX1272, and N142M1.
(7) Emissions from the wastewater treatment system (EPN MECUWWTP) are only from the waste generated from the process authorized under this permit and are in addition to emissions authorized on the MAERT for NSR Permit No. 49120.
(8) Hazardous Air Pollutants are included in the VOC emission rate.

Date: TBD

# Preliminary Determination Summary

Equistar Chemicals, LP
Permit Numbers 174650 and N312

## I. Applicant

Equistar Chemicals LP
PO Box 777
Channelview, TX 77530-0777

## II. Project Location

Channelview Complex
8280 Sheldon Rd
Harris County
Channelview, Texas 77530

## III. Project Description

Equistar Chemicals, LP. (Equistar) submitted an initial air permit application to authorize the construction and operation of the Ethylene Derivatives Unit (EDU) at their Channelview Complex which is an existing chemical manufacturing complex located in Channelview, Harris County, Texas. The Channelview Complex is broken up into two operating areas and each area operates under a unique TCEQ Regulated Entity Number (RN) and Customer Number (CN): the North Plant operated by Equistar Chemicals, L.P. (RN100542281, CN600124705), and the South Plant operated by Lyondell Chemical Company (RN100633650, CN600344402). For the purpose of federal regulatory applicability, the North and South Plants are contiguous and under common control and considered as one site under LyondellBasell. The combined Channelview Site is an existing major source of volatile organic compounds (VOC), sulfur dioxide ($SO_2$), carbon monoxide (CO), both nitrogen dioxide ($NO_2$) and nitrogen oxides ($NO_X$), and particulate matter (PM).

The EDU will use ethylene to make longer chain olefins and by-product gasolines.

The proposed new EDU will receive feed from co-located ethylene operating units and/or pipeline. The EDU has been designed to utilize vent recovery systems to minimize emissions being sent to add-on controls. The process emission will primarily vent to a high-pressure vent recovery system that will recycle material to existing olefins process unit and secondarily vent to a low-pressure gas recovery system that will also recycle material to existing process unit.

The EDU will contain heaters, various process vessels, process analyzers, a cooling tower, and numerous equipment components in various forms of liquid and gas service. Products will be exported via hard-pipe to onsite and/or offsite dispositions. Additionally, The EDU will utilize 28LAER monitoring to minimize potential for equipment leak fugitive emissions.

Planned Maintenance, Startup, and Shutdown (MSS) activities for the EDU facility will be authorized with this permit and are included in the application.

## IV. Emissions

| Air Contaminant | Proposed Allowable Emission Rates (tpy) |
|---|---|
| VOC | 19.01 |
| $NO_X$ | 3.63 |
| $SO_2$ | 0.05 |

| | |
|---|---|
| CO | 6.92 |
| PM | 3.28 |
| $PM_{10}$ | 2.01 |
| $PM_{2.5}$ | 2.01 |

## V. Federal Applicability

The following chart illustrates the annual project emissions for each pollutant and whether this pollutant triggers PSD or Nonattainment (NA) review.

| Pollutant | Project Emissions (tpy) | Major Mod Trigger (tpy) | NA Triggered Y/N | PSD Triggered Y/N |
|---|---|---|---|---|
| VOC* | 19.01 | 25 for NA<br>40 for PSD | Y* | N |
| $NO_X$ | 3.63 | 25 for NA<br>40 for PSD | N | N |
| $SO_2$ | 0.05 | 40 | N | N |
| CO | 6.92 | 100 | N | N |
| PM | 3.28 | 25 | N | N |
| $PM_{10}$ | 2.01 | 15 | N | N |
| $PM_{2.5}$ | 2.01 | 10 | N | N |

*The VOC project increase is greater than the 5 tpy significant emission rate. Therefore, an applicability threshold test (netting analysis) is required. However, Equistar had foregone calculating the net emissions increase and states that Nonattainment review is applicable for VOC.

The site is located in Harris County which has been designated as a severe nonattainment area for ozone. The Channelview Complex is an existing major source of VOC and $NO_X$, and the project will result in a significant net increase of VOC.

The Channelview Complex is a named source. The site is located in an attainment area for at least one pollutant and is an existing major stationary source. The project emission increases are below the applicable significant significance threshold in 40 CFR § 52.21(b)(23)(i) for $NO_X$, $SO_2$, and CO. PSD BACT and air quality analysis (AQA) requirements do not apply.

The project increase for VOC is greater than 5 tpy; therefore, netting is triggered. Nonattainment permitting applicability for this project was accepted without netting.

| Pollutant | Project Increase (tpy) [1] | NA Netting Trigger (tpy) | PSD Netting Trigger (tpy) | Netting Required Y/N | Net Emission Change (tpy) [2] | Major Mod Trigger (tpy) | PSD Triggered Y/N | NA Triggered Y/N |
|---|---|---|---|---|---|---|---|---|
| VOC [3] | 19.01 | 5 | 40 | Y | N/A | 25 | N | Y |
| $NO_X$ [3,4] | 3.63 | 5 | 40 | N | N/A | 25 | N | N |
| $SO_2$ [4] | 0.05 | N/A | 40 | N | N/A | 40 | N | N |
| CO | 6.92 | N/A | 100 | N | N/A | 100 | N | N |
| PM | 3.28 | N/A | 25 | N | N/A | 25 | N | N |
| $PM_{10}$ | 2.01 | N/A | 15 | N | N/A | 15 | N | N |
| $PM_{2.5}$ [5] | 2.01 | N/A | 10 | N | N/A | 10 | N | N |

*Note*: Nonattainment (NA) significance levels (trigger levels) should follow current Federal New Source Review (FNSR) guidance, and be based on the classification of the NA area in which the project is proposed.

[1] Project Increases: Comparison of Baseline Actual to PTE (or Projected Actual) Increases only

[2] Net Emissions: Baseline Actual to PTE (or Projected Actual) for the project currently under review, Baseline Actual to PTE for all other increases and decreases within netting window.

[3] Ozone precursor. Either pollutant precursor can trigger BACT/LAER and impacts analysis, as applicable.

[4] $PM_{2.5}$ precursor. Not used to trigger $PM_{2.5}$ BACT/LAER or impacts analysis at this time.

[5] Use $PM_{10}$ emissions only if $PM_{2.5}$ emissions cannot be quantified or estimated. ($PM_{2.5}$ Implementation Plan).

## VI. Control Technology Review

The Lowest Achievable Emission Rate (LAER) is the most stringent emissions limitation achieved in practice or in an approved state implementation plan of any state for such class or source category. LAER takes technical feasibility into account, but not economic reasonableness. If a certain control technology is demonstrated for the specified class or source category at another site, then such use constitutes evidence that it is achievable in practice to implement that control technology to the industry.

A control technology review is required for all new and modified sources. The following controls required by the permits satisfy LAER for emissions of VOC, based on a review of recently issued permits from Texas and other states, and consideration of RACT/BACT/LAER Clearinghouse (RBLC) data provided by the applicant. LAER for the proposed project is summarized in the table below for each emitting source.

| Source Name | EPN | LAER Description for VOC |
|---|---|---|
| OP1 Cooling Tower | 38E11 | The EPA RACT/BACT/LAER clearinghouse and recently issued TCEQ permits identified LAER for cooling towers as monthly monitoring per Appendix P or approved equivalent with an action level of 0.08 ppmw. Thus, the cooling tower design and operation will meet LAER requirements. |
| Unit Fugitive | FUGETHDRV | Leaks from piping components are minimized through use of the TCEQ 28LAER LDAR program, additional requirements for non-traditional component types under the 30 TAC Chapter 115 Subchapter H and, daily AVO monitoring of <10 wt% VOC streams meet LAER control requirements for VOC emissions per review of EPA RACT/BACT/LAER clearinghouse results and recently issued TCEQ non-attainment permit applications. |
| Wastewater | MECUWWTP | The EDU is designed to utilize existing wastewater systems to manage stormwater first flush and periodic maintenance water.<br><br>Process wastewater will be collected via covered sumps and hard-piped to the existing wastewater tanks (EPN TK38010 and TK38E011) and then piped to the existing wastewater treatment facility (under NSR Permit No. 49120) at the site that will treat the VOCs contained in the wastewater to remove greater than 90%. Per review of EPA RACT/BACT/LAER clearinghouse results and recently issued TCEQ non-attainment permit applications, this represents LAER for wastewater collection and treatment. |
| TK38010 | 38E010 | The existing storage wastewater storage tank TK38010 and TK38011 are part of the wastewater system and will meet the LAER requirement for a wastewater system.<br><br>These are internal floating roof tanks that store material with a true vapor pressure less than 11.0 psia and have a capacity greater than 100,000 gallons. Uninsulated exterior surfaces are painted white, and the tanks are equipped with a mechanical shoe primary seal. Tank TK38010 is equipped with a rim-mounted secondary seal. These tanks are evaluated as part of the wastewater treatment system to achieve LAER. |
| TK38011 | 38E011 | |

| Source Name | EPN | LAER Description for VOC |
|---|---|---|
| Pressurized Tanks D-7310, D-7311, D-7316, D-7384, D-7383, D-7386 | 38E01<br><br>(OP1 Flare) | Storage tanks D-7310, D-7311, D-7316, D-7384, D-7383, D-7386 are pressure-controlled tanks, and the pressure will be maintained to prevent any standing losses from occurring from diurnal temperature changes throughout the day. The tanks will be designed such that the pressure controller will minimize losses during filling and any subsequent working loss emissions will be routed to site low pressure vapor recovery system and/or OP1 flare (EPN 38E01).<br><br>The combined design of pressure-controlled tanks, cooling of material prior to storage and destruction of residual emissions by flare will meet control requirements of LAER. |
| Reactor Feed Heaters | EF7360 | Two heaters will be utilized in the EDU unit.<br><br>Heater F-7361 (FIN EF7361) will be 6.82 MMBtu/hr and be electric and operate with no emissions, therefore no EPN is being added for this unit.<br><br>Heater F-7360 (EPN EF7360) will be 20 MMBtu/hr and primarily fire low-VOC ($H_2$) fuel but will also have the capability to fire natural gas.<br><br>The EPA RACT/BACT/LAER database and recently issued TCEQ non-attainment permits indicated following proper heater design and good combustion practices to control VOC emissions from process heaters. The facility will utilize proper design, good combustion practices and utilization of a low VOC fuel to comply with LAER. |
| Catalyst Decoke Vents | ER7360AB | A search of the EPA RACT/BACT/LAER database did not indicate VOC control requirements for decoking process. The EPA RACT/BACT/LAER database identified removal efficiency of 99.9% for continuous process vents. Although, the decoking is a periodic activity and not a routine process vent, the clearing procedure and design will meet the LAER requirement for a continuous process vent.<br><br>To clear the reactor prior to decoking, 99.33% or greater of the vent stream will be recovered, 0.59% will be routed to the flare and 0.09% remaining when the equipment is opened prior to commencing decoking. Search of the RACT/BACT/LAER and recently issued permits indicated that the above-mentioned specifications meet LAER. |

| Source Name | EPN | LAER Description for VOC |
|---|---|---|
| OP1 Flare | 38E01 | This is an existing steam assisted flare that is authorized under Permit Nos. 1768, PSDTX1272, and N142M1. The flare is designed to meet the requirements of 40 CFR Part 60.18. The flare is equipped with a continuous flow monitor and composition analyzer.<br><br>Before this unit can begin operation under this permit, Permit Nos. Nos. 1768, PSDTX1272, and N142M1 shall be updated to be in compliance with MACT YY and/or Alternate Method Of Compliance (AMOC) No. 157. LAER is met for the flare's VOC emissions. |
| Analyzer Vents | EETHDRVANL | The facility will operate several analyzer systems to maintain the unit and ensure good operation. The sample loop for the analyzer will be routed back to the process. Small puff vents from the analyte will be released from the analyzer.<br><br>Search of the RACT/BACT/LAER and recently issued permits indicated that routing the analyzer sample loop back to process or control meets LAER. |
| MSS Vessel Clearing | ENMSSROUT | The EDU project includes the installation of additional process equipment, which will consist of various vessels. During MSS clearing operations of the new vessels associated with the process equipment, VOC process gases will be initially routed back to the high-pressure vent recovery. Residual VOC will then be cleared to the flare (EPN 38E01) until organics concentration is below 10,000 ppm.<br><br>Emission from maintenance and shutdown activities were estimated based on engineering knowledge of process conditions for temperature, pressure and concentration at shutdown and equipment dimensions. During start-up the high-pressure vent gas recovery may not be available.<br><br>During start-up periods, process vents will be routed to the flare until operations is able to direct vents to the vent gas recovery system or operate without needing to vent individual process equipment.<br><br>The RACT/BACT/LAER database and recent issued permits were consistent with clearing equipment vapor space to flare control before opening equipment at less than 10,000 ppm. |

| Source Name | EPN | LAER Description for VOC |
|---|---|---|
| Emergency Engine | EF2GEN1 | One ultra-low sulfur diesel fired emergency engine rated at 447 kW (600 hp) will be installed to provide electric power during emergencies. The engine will operate up to 100 hours per rolling 12-month period for non-emergency testing and maintenance.<br><br>Though only VOC is subject to LAER, other emissions from the emergency engine are subject to BACT and are evaluated for reference comparison purposes. The TCEQ Tier I BACT for emergency diesel fired engines is meeting the requirements of 40 CFR Part 60, Subpart IIII emissions standards for non-road diesel engines, firing ultra-low sulfur diesel fuel (no more than 15 ppmw sulfur), limited to 100 hours on a rolling 12-month basis of non-emergency operation (specific permissible non-emergency situations are defined at 40 CFR § 63.6640(f)), and equipped with a non-resettable runtime meter.<br><br>The emergency generator engine will meet the above listed Tier I BACT guidelines.<br><br>LAER for VOC is summarized below:<br><br>VOC: 0.19 g/kW-hr based on vendor information. The emission factor limit specified in NSPS Subpart IIII is 4.0 g/kW-hr that is represented as "$NO_X$+NMHC". The combined $NO_X$ emission factor (0.67 g/kW-hr) and VOC emission factor (0.19 g/kW-hr) for the emergency generator engine, i.e. 0.86 g/kW-hr, is less than the $NO_X$+NMHC limit in Subpart IIII of 4.0 g/kW-hr.<br><br>MSS: Separate planned MSS emissions are not being authorized for the emergency firewater pump engine.<br><br>Search of the RACT/BACT/LAER and recently issued permits indicated that the above-mentioned specifications meet LAER. |

Since PSD review is not triggered for the project, BACT is not addressed in this Preliminary Determination Summary (PDS) document. However, state BACT pursuant to 30 TAC §116.111(a)(2)(C) is required to be met and is addressed in the separate draft "Source Analysis & Technical Review" (TRV) document.

## VII. Air Quality Analysis

The air quality analysis (AQA) is acceptable for all review types and pollutants. The results are summarized below.

**A. Minor Source NSR and Air Toxics Review**

**Table 1. Project-Related Modeling Results for State Property Line**

| Pollutant | Averaging Time | GLCmax[1] (µg/m$^3$) | De Minimis (µg/m$^3$) |
|---|---|---|---|
| $SO_2$ | 1-hr | 0.2 | 14.3 |

**Table 2. Modeling Results for Minor NSR De Minimis**

| Pollutant | Averaging Time | GLCmax (µg/m$^3$) | De Minimis (µg/m$^3$) |
|---|---|---|---|
| $SO_2$ | 1-hr | 0.2 | 7.8 |
| $SO_2$ | 3-hr | 0.2 | 25 |
| $PM_{10}$ | 24-hr | 0.4 | 5 |
| $PM_{2.5}$ | 24-hr | 0.4 | 1.2 |
| $PM_{2.5}$ | Annual | 0.05 | 0.13 |
| $NO_2$ | 1-hr | 1.6 | 7.5 |
| $NO_2$ | Annual | 0.1 | 1 |
| CO | 1-hr | 89 | 2000 |
| CO | 8-hr | 36 | 500 |

The GLCmax are the maximum predicted concentrations associated with one year of meteorological data.

EPA intermittent guidance was relied on for the 1-hr $NO_2$ De Minimis analysis. Refer to the Modeling Emissions Inventory section for details.

The justification for selecting EPA's interim 1-hr $NO_2$ and 1-hr $SO_2$ De Minimis levels was based on the assumptions underlying EPA's development of the 1-hr $NO_2$ and 1-hr $SO_2$ De Minimis levels. As explained in EPA guidance memoranda[2,3], EPA believes it is reasonable as an interim approach to use a De Minimis level that represents 4% of the 1-hr $NO_2$ and 1-hr $SO_2$ National Ambient Air Quality Standards (NAAQS).

The $PM_{2.5}$ De Minimis levels are EPA recommended De Minimis levels. The use of EPA recommended De Minimis levels is sufficient to conclude that a proposed source will not

[1] Ground level maximum concentration
[2] www.epa.gov/sites/production/files/2015-07/documents/appwso2.pdf
[3] www.tceq.texas.gov/assets/public/permitting/air/memos/guidance_1hr_no2naaqs.pdf

cause or contribute to a violation of a $PM_{2.5}$ NAAQS based on the analyses documented in EPA guidance and policy memorandums[4].

To evaluate secondary $PM_{2.5}$ impacts, the applicant provided an analysis based on a Tier 1 demonstration approach consistent with EPA's Guideline on Air Quality Models. Specifically, the applicant used a Tier 1 demonstration tool developed by EPA referred to as Modeled Emission Rates for Precursors (MERPs). The basic idea behind MERPs is to use technically credible air quality modeling to relate precursor emissions and peak secondary pollutants impacts from a source. Using data associated with the worst-case Texas source, the applicant estimated 24-hr and annual secondary $PM_{2.5}$ concentrations of 0.00202 µg/m$^3$ and 0.00008 µg/m$^3$, respectively. When these estimates are added to the GLCmax listed in the table above, the results are less than the De Minimis levels.

**Table 3. Generic Modeling Results**

| Source ID | 1-hr GLCmax (µg/m$^3$ per lb/hr) | Annual GLCmax (µg/m$^3$ per lb/hr) |
|---|---|---|
| 38E1101 | 1.78 | 0.07 |
| 38E1102 | 1.85 | 0.08 |
| 38E1103 | 1.91 | 0.08 |
| 38E1104 | 1.95 | 0.08 |
| 38E1105 | 2.06 | 0.08 |
| 38E1106 | 2.01 | 0.09 |
| 38E1107 | 1.87 | 0.1 |
| 38E1108 | 1.69 | 0.11 |
| 38E1109 | 1.55 | 0.11 |
| 38E1110 | 1.9 | 0.13 |
| 38E1111 | 2.01 | 0.13 |
| 38E1112 | 2.08 | 0.13 |
| 38E1113 | 2.09 | 0.13 |
| 38E1114 | 2.05 | 0.13 |
| 38E1115 | 1.93 | 0.13 |

[4] www.tceq.texas.gov/permitting/air/modeling/epa-mod-guidance.html

| Source ID | 1-hr GLCmax (µg/m$^3$ per lb/hr) | Annual GLCmax (µg/m$^3$ per lb/hr) |
|---|---|---|
| 38E1116 | 1.83 | 0.12 |
| 7360AB_C | 13.18 | 0.3 |
| 7360AB_D | 10.42 | 0.28 |
| EF7360 | 2.19 | 0.15 |
| EFL38E01 | 0.02 | 0.01 |
| FLEX2ANL | 11.32 | 0.31 |
| FUGFLEX2 | 10.12 | 0.31 |
| MSS | 10.12 | 0.31 |
| TK38010 | 108.7 | 1.5 |
| TK38011 | 147.22 | 2.48 |

## VIII. Offsets

The site is located in Harris County, which has been designated as a severe nonattainment area for ozone. The Channelview Complex is an existing major source of VOC and $NO_X$, and the project will result in a significant net increase of VOC.

When issued, the permit requires that the permit holder offset the project emission increase for facilities authorized by NSR Permit No. 174650 through participation in the TCEQ Emission Banking and Trading (EBT) Program in accordance with the rules in 30 TAC Chapter 101, Subchapter H.

The operation involves the use of 24.8 tpy of VOC credits to offset the 19.01 tpy total VOC project emissions increase for the facilities authorized by this permit at a ratio of 1.3 to 1.0.

The permit holder is required to obtain approval from the TCEQ EBT Program for the credits being used and then submit a permit alteration or amendment request to the TCEQ Air Permits Division (and copy the TCEQ Regional Office) to identify approved credits by TCEQ credit certificate number.

## IX. Alternative Site Analysis and Compliance Certification

The applicant has submitted the required demonstration relating to consideration of alternative sites and Clean Air Act compliance status for sites owned or operated by the applicant (or by any entity controlling, controlled by, or under common control with the applicant). The analysis demonstrated that the benefits of the proposed location and source configuration significantly outweigh the environmental and social costs of that location.

## X. Conclusion

In summary, the applicant has demonstrated that the proposed project's emissions will comply with applicable state and federal rules, meet LAER, and will not adversely affect public health and welfare, which includes NAAQS, minor new source review of regulated pollutants without a NAAQS, and air toxics review. The proposed emissions of health effects pollutants will not cause or contribute to any federal or state exceedances. Therefore, emissions from the facility are not expected to have an adverse impact on public health or the environment.

The Executive Director's preliminary determination is to issue Permit Nos. 174650 and N312.