

US EPA ARCHIVE DOCUMENT

**PREVENTION OF SIGNIFICANT DETERIORATION PERMIT
FOR GREENHOUSE GAS EMISSIONS
ISSUED PURSUANT TO THE REQUIREMENTS AT 40 CFR § 52.21**

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 6

PSD PERMIT NUMBER: PSD-TX-103048-GHG

PERMITTEE: ExxonMobil Chemical Company
P.O. Box 1653
Mont Belvieu, TX 77580

FACILITY NAME: ExxonMobil Chemical Company
Mont Belvieu Plastics Plant

FACILITY LOCATION: 13330 Hatcherville Road
Mont Belvieu, TX 77580

Pursuant to the provisions of the Clean Air Act (CAA), Subchapter I, Part C (42 U.S.C. Section 7470, *et. Seq.*), and the Code of Federal Regulations (CFR) Title 40, Section 52.21, and the Federal Implementation Plan at 40 CFR § 52.2305 (effective May 1, 2011 and published at 76 FR 25178), the U.S. Environmental Protection Agency, Region 6 is issuing a *Prevention of Significant Deterioration* (PSD) permit to ExxonMobil Chemical Company for Greenhouse Gas (GHG) emissions. The Permit applies to the addition of a new polyethylene production unit at their Mont Belvieu Plastics Plant (MBPP) located in Mont Belvieu, Texas.

ExxonMobil is authorized to construct the new polyethylene production unit as described herein, in accordance with the permit application (and plans submitted with the permit application), the federal PSD regulations at 40 CFR § 52.21, and other terms and conditions set forth in this PSD permit in conjunction with the corresponding Texas Commission on Environmental Quality (TCEQ) NSR permit No. 103048. Failure to comply with any condition or term set forth in this PSD Permit may result in enforcement action pursuant to Section 113 of the Clean Air Act (CAA). This PSD Permit does not relieve ExxonMobil of the responsibility to comply with any other applicable provisions of the CAA (including applicable implementing regulations in 40 CFR Parts 51, 52, 60, 61, 72 through 75, and 98) or other federal and state requirements (including the state PSD program that remains under approval at 40 CFR § 52.2303).

In accordance with 40 CFR §124.15(b), this PSD Permit becomes effective 30 days after the service of notice of this final decision unless review is requested on the permit pursuant to 40 CFR §124.19.

Wren Stenger, Director
Multimedia Planning and Permitting Division

Date

ExxonMobil Chemical Company (PSD-TX-103048-GHG)
Prevention of Significant Deterioration Permit
For Greenhouse Gas Emissions
Draft Permit Conditions

PROJECT DESCRIPTION

The proposed GHG PSD permit, if finalized, will allow ExxonMobil to construct a new polyethylene production unit. The new unit will produce polyethylene in low pressure, gas-phase fluidized bed reactors. The proposed facilities include process feed purification, polymerization, resin degassing, additives addition, pelletization, blending, storage and shipping consisting of the following emission units: flameless thermal oxidizers, a regenerative thermal oxidizer, an elevated flare, a multi-point ground flare, two boilers, analyzer catalytic oxidizers, and fugitives. The new polyethylene production unit increases the plant capacity adding approximately 1.75 million tons per year of polyethylene production.

EQUIPMENT LIST

The following devices are subject to this GHG PSD permit.

| FIN | EPN | Description |
|----------------------------|----------------------------|--|
| 3UF61A 3UF61B 3UF61C | 3UF61A 3UF61B 3UF61C | Three Flameless Thermal Oxidizers (Combustion Units). |
| 3UFLARE62 | 3UFLARE62 | Elevated Flare (Combustion Unit). |
| 3UFLARE63 | 3UFLARE63 | Multi-point Ground Flare (Combustion Unit). |
| RUPK71 | RUPK71 | Regenerative Thermal Oxidizer (Combustion Unit). |
| RUPK31 RUPK32 | RUPK31 RUPK32 | Boilers (Combustion Units). Each boiler will have a maximum design heat input rate of 98 MMBtu/hr, and is equipped with Selective Catalytic Reduction (SCR) systems. |
| PEXANALZ | PEXANALZ | Analyzer Catalytic Oxidizers |
| PEXFUGEM | PEXFUGEM | Fugitive Emissions. |

I. GENERAL PERMIT CONDITIONS

A. PERMIT EXPIRATION

As provided in 40 CFR §52.21(r), this PSD Permit shall become invalid if construction:

1. is not commenced (as defined in 40 CFR §52.21(b)(9)) within 18 months after the approval takes effect; or
2. is discontinued for a period of 18 months or more; or
3. is not completed within a reasonable time.

Pursuant to 40 CFR §52.21(r), EPA may extend the 18-month period upon a written satisfactory showing that an extension is justified.

B. PERMIT NOTIFICATION REQUIREMENTS

Permittee shall notify EPA Region 6 in writing or by electronic mail of the:

1. date construction is commenced, postmarked within 30 days of such date;
2. actual date of initial startup, as defined in 40 CFR §60.2, postmarked within 15 days of such date; and
3. date upon which initial performance tests will commence, in accordance with the provisions of Section V, postmarked not less than 30 days prior to such date. Notification may be provided with the submittal of the performance test protocol required pursuant to Condition V.B.

C. FACILITY OPERATION

At all times, including periods of startup, shutdown, and maintenance, Permittee shall, to the extent practicable, maintain and operate the facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the EPA, which may include, but is not limited to, monitoring results, review of operating maintenance procedures and inspection of the facility.

D. MALFUNCTION REPORTING

1. Permittee shall notify EPA by mail, or other means identified by EPA, within 48 hours following the discovery of any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in GHG emissions above the allowable emission limits stated in Section II and III of this permit.
2. Within 10 days of the discovery of any GHG emissions above the allowable emission limits resulting from malfunctions as described in I.D.1., Permittee shall provide a written supplement to the initial notification that includes a description of the malfunctioning equipment or abnormal operation, the date of the initial malfunction, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed in Section II and III, and the methods utilized to mitigate emissions and restore normal operations.
3. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violation of this permit or any law or regulation such malfunction may cause.

E. RIGHT OF ENTRY

EPA authorized representatives, upon the presentation of credentials, shall be permitted:

1. to enter the premises where the facility is located or where any records are required to be kept under the terms and conditions of this PSD Permit;
2. during normal business hours, to have access to and to copy any records required to be kept under the terms and conditions of this PSD Permit;
3. to inspect any equipment, operation, or method subject to requirements in this PSD Permit; and,
4. to sample materials and emissions from the source(s).

F. TRANSFER OF OWNERSHIP

In the event of any changes in control or ownership of the facilities to be constructed, this PSD Permit shall be binding on all subsequent owners and operators. Permittee shall notify the succeeding owner and operator of the existence of the PSD Permit and its conditions by letter; a copy of the letter shall be forwarded to EPA Region 6 within thirty days of the letter signature.

G. SEVERABILITY

The provisions of this PSD Permit are severable, and, if any provision of the PSD Permit is held invalid, the remainder of this PSD Permit shall not be affected.

H. ADHERENCE TO APPLICATION AND COMPLIANCE WITH OTHER ENVIRONMENTAL LAWS

Permittee shall construct this project in compliance with this PSD Permit, the application on which this permit is based, the TCEQ NSR Permit No. 103048 (when issued) and all other applicable federal, state, and local air quality regulations. This PSD permit does not release the Permittee from any liability for compliance with other applicable federal, state and local environmental laws and regulations, including the Clean Air Act.

DRAFT

I. ACRONYMS AND ABBREVIATIONS

| | |
|-------------------|---|
| AVO | Auditory, Visual, and Olfactory |
| BACT | Best Available Control Technology |
| C ₃ + | Hydrocarbon with Three or More Carbon Atoms |
| CAA | Clean Air Act |
| CC | Carbon Content |
| CCS | Carbon Capture and Sequestration |
| CEMS | Continuous Emissions Monitoring System |
| CFR | Code of Federal Regulations |
| CH ₄ | Methane |
| CO ₂ | Carbon Dioxide |
| CO ₂ e | Carbon Dioxide Equivalent |
| dscf | Dry Standard Cubic Foot |
| EF | Emission Factor |
| EPN | Emission Point Number |
| FIN | Facility Identification Number |
| FR | Federal Register |
| GCV | Gross Calorific Value |
| GHG | Greenhouse Gas |
| gr | Grains |
| GWP | Global Warming Potential |
| HHV | High Heating Value |
| hr | Hour |
| HRSG | Heat Recovery Steam Generating |
| LAER | Lowest Achievable Emission Rate |
| lb | Pound |
| LHV | Lower Heating Value |
| LDAR | Leak Detection and Repair |
| MMBtu | Million British Thermal Units |
| MSS | Maintenance, Start-up and Shutdown |
| MW | Molecular Weight |
| N ₂ O | Nitrous Oxides |
| NSPS | New Source Performance Standards |
| ppmvd | Parts per Million Volume, Dry |
| PSD | Prevention of Significant Deterioration |
| QA/QC | Quality Assurance and/or Quality Control |
| SCFH | Standard Cubic Feet per Hour |
| SCR | Selective Catalytic Reduction |
| TAC | Texas Administrative Code |
| TCEQ | Texas Commission on Environmental Quality |
| TOC | Total Organic Carbon |
| TPY | Tons per Year |
| USC | United States Code |
| VOC | Volatile Organic Compound |

II. Annual Emission Limits

Annual emissions, in tons per year (TPY) on a 12-month total, rolling monthly, shall not exceed the following:

Table 1. Annual Emission Limits

| FIN | EPN | Description | GHG Mass Basis | | TPY CO ₂ e ^{1,2} | BACT Requirements |
|----------------------------|----------------------------|-------------------------------------|------------------|---|---|---|
| | | | | TPY ¹ | | |
| 3UF61A 3UF61B 3UF61C | 3UF61A 3UF61B 3UF61C | Flameless Thermal Oxidizers | CO ₂ | 91,660 ³ | 104,413 ⁴ | Good combustion and maintenance practices. See permit condition III.A.3. |
| | | | CH ₄ | 5 ³ | | |
| | | | N ₂ O | 1 ³ | | |
| 3UFLARE62 | 3UFLARE62 | Assisted Elevated Flare | CO ₂ | 6,304 | 104,413 ⁴ | Good combustion and maintenance practices. See permit conditions III.A.4. |
| | | | CH ₄ | 3 | | |
| | | | N ₂ O | 2 | | |
| 3UFLARE63 | 3UFLARE63 | Multi-point Ground Flare | CO ₂ | 7,735 | 104,413 ⁴ | Good combustion and maintenance practices. See permit condition III.A.2. |
| | | | CH ₄ | 4 | | |
| | | | N ₂ O | 2 | | |
| RUPK71 | RUPK71 | Regenerative Thermal Oxidizer | CO ₂ | 2,221 | 2,552 | Maintain a minimum combustion temperature as determined by initial compliance testing. See permit condition III.B.8 |
| | | | CH ₄ | 1 | | |
| | | | N ₂ O | 1 | | |
| RUPK31 RUPK32 | RUPK31 RUPK32 | Boilers | CO ₂ | 30,512 | 30,864 | Maintain a minimum thermal efficiency of 77%. See permit condition III.C.5. |
| | | | CH ₄ | 2 | | |
| | | | N ₂ O | 1 | | |
| PEXANALZ | PEXANALZ | Analyzer Catalytic Oxidizers | CO ₂ | 28 | 28 | Use of Good Combustion Practices. See permit condition III.D. |
| PEXFUGEM | PEXFUGEM | Fugitive Emissions | CO ₂ | No Numerical Limit Established ⁵ | No Numerical Limit Established ⁵ | Implementation of LDAR/AVO program. See permit condition III.E. |
| | | | CH ₄ | No Numerical Limit Established ⁵ | | |
| Totals⁶ | | | CO ₂ | 138,462 | CO₂e 138,216 | |
| | | | CH ₄ | 32 | | |
| | | | N ₂ O | 7 | | |

1. The TPY emission limits specified in this table are not to be exceeded for this facility and include emissions from the facility during all operations and include MSS activities.
2. Global Warming Potentials (GWP): CH₄ = 21, N₂O = 310
3. The GHG Mass Basis TPY limit for the flameless thermal oxidizers (FTOs) applies to all three units combined in a vent recovery system.
4. The CO₂e TPY limit for the flameless thermal oxidizers (FTOs), Elevated Flare, and Multipoint Ground Flare applies to all units combined in the vent recovery system.
5. Fugitive process emissions from EPN PEXFUGEM are estimated to be 2 TPY of CO₂, 17 TPY of CH₄, and 359 TPY CO₂e. In lieu of an emission limit, the emissions will be limited by implementing a design/work practice standard as specified in the permit.
6. Total emissions include the PTE for fugitive emissions. Totals are given for informational purposes only and do not constitute emission limits.

III. SPECIAL PERMIT CONDITIONS

A. Vent Collection System Consisting of Flameless Thermal Oxidizers (EPNs: 3UF61A, 3UF61B, and 3UF61C), Assisted Elevated Flare (EPN: 3UFLARE62), and Multi-point Ground Flare System (EPN: 3UFLARE63) Work Practice Standards, Operational Requirements, and Monitoring

1. High Pressure (HP) Vent Header and Low Pressure (LP) Vent Header

- a. Continuously monitor and record the pressure of the HP Vent Header.
- b. Install and operate online analyzers on the HP Vent Header and the LP Vent Header.
- c. One or more online analyzers shall continuously monitor and record the composition of the waste gas and the heating value.
- d. The online analyzers shall have an on-stream time of 95% on a 12-month rolling basis.

2. Multi-point Ground Flare System (EPN: 3UFLARE63)

- a. The multipoint ground flare (3UFLARE63) shall have a minimum Destruction and Removal Efficiency (DRE) of 99.5% for methane.
- b. Flowrate and gas composition measurements shall be performed as specified in 40 CFR § 98.254(b).
- c. The multi-point ground flare shall combust pipeline quality natural gas in the pilots during normal operations.
- d. When waste gas is combusted in the multi-point ground flare, monitor and record the gas pressure to the multi-point ground flare to ensure the flare system pressure exceeds 4 psig; however, if a lower pressure can be demonstrated to achieve the same level of combustion efficiency (DRE), then this lower limit can be implemented following EPA approval.
- e. Monitor and maintain a minimum heating value of 800 Btu/scf of the gas being combusted (adjusted for hydrogen) in the multi-point ground flare system; however, if a lower heating value limit can be demonstrated to achieve the same level of combustion efficiency (DRE), then this lower limit shall be implemented following EPA approval.
- f. While the flare is operating, continuously monitor pilots for presence of flame by thermocouple or equivalent.
- g. CO₂ emissions are calculated using equation Y-1a found in 40 CFR § 98.253(b)(1)(ii)(A). CH₄ and N₂O emissions are calculated using equations Y-4 and Y-5 as found in 40 CFR Part 98 Subpart Y.
- h. The flare shall be designed and operated in accordance with 40 CFR 60.18 including specifications of minimum heating value of the waste gas, maximum tip velocity, and pilot flame monitoring or an approved alternate method. An infrared monitor is

considered equivalent to a thermocouple for flame monitoring purposes.

- i. As an alternative to Conditions III.2.h., the Permittee may submit a request for an equivalency determination for the multi-point ground flare (3UFLARE63), the requirements established in an approved equivalency determination may be utilized if approved by the EPA.

3. Flameless Thermal Oxidizers (EPNs: 3UF61A, 3UF61B, and 3UF61C)

- a. The flameless thermal oxidizers (FTOs) shall only combust pipeline quality natural gas in the pilots during startup, and when the minimum heating value of the incoming stream is too low to maintain proper control device temperature.
- b. The FTO shall meet or exceed a DRE of 99.99% for hydrocarbons containing three or less carbon molecules (e.g. methane).
- c. Permittee shall monitor and record the vent gas flow (volume) to the FTOs through a flow monitoring system.
- d. An initial compliance test shall be performed on the three FTOs to determine the minimum excess oxygen content required for the designated DRE, and the minimum temperature required for proper operation.
- e. Visually inspect burners, at a minimum every five years, or when the system is shut-down for maintenance, whichever comes first.
- f. CO₂ emissions are calculated using equation C-5 from 40 CFR Part 98 Subpart C. CH₄ and N₂O emissions are calculated using equations C-8b as found in 40 CFR Part 98 Subpart C.

4. Elevated Flare (EPN: 3UFLARE62)

- a. The elevated flare (3UFLARE62) shall have a minimum DRE of 99% for methane.
- b. Flowrate and gas composition measurements shall be performed as specified in 40 CFR § 98.254(b).
- c. The elevated flare shall only combust pipeline natural gas in the pilots during normal operations.
- d. The Permittee shall monitor and record the flow to the elevated flare through a flow monitoring system.
- e. While the flare is operating, the Permittee shall continuously monitor for flame presence at the elevated flare.
- f. CO₂ emissions are calculated using equation Y-1a found in 40 CFR § 98.253(b)(1)(ii)(A). CH₄ and N₂O emissions are calculated using equations Y-4 and Y-5 as found in 40 CFR Part 98 Subpart Y.
- g. The flare shall be designed and operated in accordance with 40 CFR 60.18 including specifications of minimum heating value of the gas being combusted, maximum tip velocity, and pilot flame monitoring or an approved alternate method. An infrared monitor is considered equivalent to a thermocouple for flame monitoring purposes.

B. Regenerative Thermal Oxidizer (EPN: RUPK71) Work Practice Standards, Operational Requirements, and Monitoring

1. The regenerative thermal oxidizer (RTO) may combust pipeline quality natural gas and process waste gases vented from the powder hopper bag filter, conveying air vents, and extruder feed vents.
2. The RTO shall have an initial stack test to verify destruction and removal efficiency (DRE) of at least 99% for methane or less than 2 ppmv methane in the outlet. If the flow of vented gases to the RTO exceeds the flow rate during testing by 10% or greater, additional sampling may be required by TCEQ or EPA.
3. For burner combustion, natural gas fuel usage (scf) is recorded using an operational non-resettable elapsed flow meter at the RTO. A computer that collects, sums, and stores electronic data from continuous fuel flow meters is an acceptable totalizer.
4. The flow rate of the waste gas combusted shall be measured and recorded using an operational non-resettable elapsed flow meter at the RTO. A computer that collects, sums, and stores electronic data from continuous fuel flow meters is an acceptable totalizer.
5. Waste gas will be sampled and analyzed on a quarterly basis for composition. The sampled data will be used to calculate GHG emissions to show compliance with the limits specified in Table 1.
6. Permittee shall calculate CO₂ emissions, on a monthly basis, using equation C-5 consistent with 40 CFR § 98.33(a)(3)(iii).
7. Periodic maintenance and/or inspections will help maintain the efficiency of the thermal oxidizer and shall be performed at a minimum annually or more often as recommended by the manufacturer specifications or equivalent.
8. The Permittee shall maintain the combustion temperature above the one-hour average temperature maintained in the initial stack test, as required by the TCEQ NSR Permit No. 103048, based on the minimum chamber temperature on a 15 minute average. Prior to the stack test, the minimum combustion temperature will be 1,400 °F (760 °C). Temperature monitoring of the RTO will ensure proper operation.
9. The Permittee shall install and maintain a temperature recording device with an accuracy of $\pm 2.5^{\circ}\text{C}$ or ± 0.75 percent of the temperature being measured expressed in degrees Celsius.

C. Boilers (EPNs: RUPK31 and RUPK32) Work Practice Standards, Operational Requirements, and Monitoring

1. The boilers shall combust pipeline quality natural gas.
2. The boilers shall have fuel metering and the Permittee shall:

- a. Measure and record the fuel flow rate using an operational non-resettable elapsed flow meter. A computer that collects, sums, and stores electronic data from continuous fuel flow meters is an acceptable totalizer.
 - b. Record the total fuel combusted monthly.
 - c. Records of the fuel GCV shall be maintained for a minimum period of five years. Upon request, Permittee shall provide a sample and/or analysis of the fuel that is fired in any unit covered by this permit at the time of the request, or shall allow a sample to be taken by EPA for analysis.
 - d. The fuel flow of the fuel fired in the boilers shall be continuously monitored and recorded.
3. Permittee shall calibrate and perform a preventative maintenance check of the fuel gas flow meters and document annually.
 4. The boilers shall not exceed a one hour firing rate of 98 MMBtu/hr (HHV) per boiler.
 5. The Permittee shall maintain a minimum overall thermal efficiency of 77% on a 12-month rolling average basis, calculated monthly, for each emission unit (RUPK31 and RUPK32).
 6. Thermal efficiency of the boilers shall be calculated, for each unit, using the following equation:

$$\text{Boiler Efficiency} = \frac{(\text{steam flow rate} \times \text{steam enthalpy}) - (\text{feedwater flowrate} \times \text{feedwater enthalpy})}{\text{Fuel firing rate} \times \text{GCV}} * 100$$

7. Compliance with the Annual Emission Limit shall be demonstrated on a 12-month total, rolling monthly, calculated in accordance with equation C-5 found in 40 CFR §98.33(a)(3)(iii).

D. Analyzer Catalytic Oxidizers (EPN: PEXANALZ) Work Practice Standards, Operational Requirements, and Monitoring

1. The Permittee will have up to 35 analyzers utilizing catalytic oxidizers (TRACERase™ technology or equivalent technology) distributed throughout the process equipment.
2. The Permittee shall monitor the hours of operation for each analyzer equipped with a catalytic oxidizer.
3. The Permittee shall perform preventative maintenance to include replacement of the catalyst cartridge on each analyzer annually.
4. Compliance with the Annual Emission Limit shall be demonstrated on a 12-month total, rolling monthly average, calculated using the following equation.

$$CO_2 = \frac{QV}{MV} * DRE * 2 * MW_{CO_2} * 1/2000$$

Where:

CO₂ = Annual CO₂ mass emissions from analyzers (short tons)

QV = Total Analyzer gas volume flow (lb/hr).

MV = Molecular weight of gas (lb/lb mole).

DRE = Destruction efficiency of Analyzers (%).

MW_{CO2} = Molecular weight of CO₂ (lb/lb mole).

1/2,000 = Conversion from pounds to short tons.

2 = Mole conversion from ethylene to carbon dioxide.

E. Equipment Fugitives (EPN: PEXFUGEM) Work Practice Standards, Operational Requirements, and Monitoring

1. The Permittee shall implement the TCEQ 28VHP leak detection and repair (LDAR) program for fugitive emissions of methane for process lines in VOC service.
2. The Permittee shall implement an auditory, visual, and olfactory (AVO) method for detecting leaks in natural gas piping components and fugitive emission of methane from process lines not in VOC service but containing methane.
3. AVO monitoring shall be performed weekly.

F. Continuous Emissions Monitoring Systems (CEMS)

1. As an alternative to Special Conditions III.A.3.f., III.B.6. and III.C.7., Permittee may install a CO₂ CEMS and volumetric stack gas flow monitoring system with an automated data acquisition and handling system for measuring and recording CO₂ emissions discharged to the atmosphere, and use these values to show compliance with the annual emission limit in Table 1.
2. Permittee shall ensure that all required CO₂ monitoring system/equipment is installed and all certification tests are completed on or before the earlier of 90 unit operating days or 180 calendar days after the date the unit commences operation or after CO₂ CEMS are installed.
3. Permittee shall ensure compliance with the specifications and test procedures for CO₂ emission monitoring system at stationary sources, 40 CFR Part 75, or 40 CFR Part 60, Appendix B, Performance Specification numbers 1 through 9, as applicable.

IV. Recordkeeping and Reporting

A. Records

1. In order to demonstrate compliance with the GHG emission limits in Table 1, the Permittee shall maintain the following parameters on a calendar month basis:
 - a. Records of operating hours for air emission sources listed in Table 1;
 - b. Records of the usage of pipeline quality natural gas, gas being combusted in the FTOs, gas being combusted in the elevated flare, and gas being combusted in the multi-point ground flare, measured in accordance with the Special Conditions in Section III of this permit;

- c. The fuel usage for the boilers and RTO and waste gas combusted in the FTOs, RTO, and flares, using continuous fuel flow monitors (a group of equipment can utilize a common fuel flow meter, as long as actual fuel usage is allocated to the individual equipment based upon actual operating hours and maximum firing rate) A computer that collects, sums, and stores electronic data from continuous fuel flow meters is an acceptable totalizer; and
 - d. Semi-annual fuel sampling for natural gas, daily fuel sampling of blended fuel gas, or other frequencies as allowed by 40 CFR § 98.34(b)(3) or other frequencies allowed by this permit.
2. For the EPNs listed in Table 1 and as required by this permit, the Permittee shall maintain records of the following for GHG emissions from the Equipment List (excluding fugitives): all records or reports pertaining to significant maintenance performed; duration of startup, shutdown; the initial startup period for the emission units; malfunctions; all records relating to performance tests, calibrations, checks, and monitoring of combustion equipment; duration of an inoperative monitoring device and emission units with the required corresponding emission data; and all other information required by this permit recorded in a permanent form suitable for inspection. These records may be maintained in electronic databases. The records must be retained for not less than five years following the date of such measurements, maintenance, reports, and/or records.
3. Permittee shall maintain records of all GHG emission units and CO₂ emission certification tests, and monitoring and compliance information required by this permit.
4. Permittee shall maintain records and submit a written report of all excess emissions to EPA semi-annually, except when: more frequent reporting is specifically required by an applicable subpart; or the Administrator or authorized representative, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. The report is due on the 30th day following the end of each semi-annual period and shall include the following:
 - a. Time intervals, data and magnitude of the excess emissions, the nature and cause (if known), corrective actions taken and preventive measures adopted;
 - b. Applicable time and date of each period during which the monitoring equipment was inoperative (monitoring down-time) while equipment was operating;
 - c. A statement in the report of a negative declaration; that is; a statement when no excess emissions occurred or when the monitoring equipment has not been inoperative, repaired or adjusted;
 - d. Any failure to conduct any required source testing, monitoring, or other compliance activities; and
 - e. Any violation of limitations on operation.

5. Excess emissions shall be defined as any period in which the facility emissions exceed a maximum emission limit set forth in this permit, a malfunction occurs of an emission unit listed in the Equipment List that results in excess GHG emissions, or any other unauthorized GHG emissions occur.
6. Excess emissions indicated by GHG emission source certification testing or compliance monitoring shall be considered violations of the applicable emission limit for the purpose of this permit.
7. Instruments and monitoring systems required by this PSD permit shall have a 95% on-stream time on a 12-month rolling basis.
8. All records required by this PSD Permit shall be retained for not less than 5 years following the date of such measurements, maintenance, and reporting.

V. Initial Performance Testing Requirements:

- A. The Permittee shall perform stack sampling and other testing to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from the Flameless Thermal Oxidizers (3UF61A, 3UF61B, and 3UF61C), Regenerative Thermal Oxidizer (RUPK71), and Boilers (RUPK31 and RUPK32), to determine the initial compliance with the CO₂ emission limits established in this permit. Sampling shall be conducted in accordance with 40 CFR § 60.8 and EPA Method 3a or 3b for the concentration of CO₂.
 1. Multiply the CO₂ hourly average emission rate determined under maximum operating test conditions by 8,760 hours.
 2. If the above calculated CO₂ emission total does not exceed the tons per year (TPY) specified on Table 1, no compliance strategy needs to be developed.
 3. If the above calculated CO₂ emission total exceeds the tons per year (TPY) specified in Table 1, the facility shall;
 - a. Document the exceedance in the test report; and
 - b. Explain within the report how the facility will assure compliance with the CO₂ emission limit listed in Table 1.
- B. Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility, performance tests(s) must be conducted and a written report of the performance testing results furnished to the EPA. Additional sampling may be required by TCEQ or EPA.
- C. Permittee shall submit a performance test protocol to EPA no later than 30 days prior to the test to allow review of the test plan and to arrange for an observer to be present at the test. The performance test shall be conducted in accordance with the submitted protocol, and any changes required by EPA.
- D. The Flameless Thermal Oxidizers (3UF61A, 3UF61B, and 3UF61C), Regenerative Thermal Oxidizer (RUPK71), and Boilers (RUPK31 and RUPK32) shall operate at representative production rates during stack emission testing.

- E. Performance testing must be conducted using flow rates that are comparable to the normal operating flow rates.
- F. Waste gas sampling for emission units 3UFLARE63 and 3UFLARE62 (flares) shall be conducted in accordance with 40 CFR Part 98.
- G. Flare compliance determinations shall be made following the requirements in 40 CFR sections 65.147(b)(3)(i) through (iv).
- H. The Regenerative Thermal Oxidizer (RUPK71) will be stack tested under TCEQ Permit No. 103048. Stack testing will establish the minimum combustion temperature for the RTO. Stack testing will be performed initially and within 120 days of a process flow changes as identified in III.B.2. ExxonMobil is to provide EPA with a copy of the stack testing results.
- I. The Multi-point Ground Flare System (3UFLARE63) shall be tested according to the agreement with EPA Compliance Assurance and Enforcement Division in response to the Permittee's request for an equivalency determination pertaining to the requirements of 40 CFR §60.18 and §63.11. If testing is required, the equivalency testing shall determine the minimum heating value that shall be maintained.
- J. Performance tests must be conducted under such conditions to ensure representative performance of the affected facility. The owner or operator must make available to the EPA such records as may be necessary to determine the conditions of the performance tests.
- K. The owner or operator must provide the EPA at least 30 days prior notice of any performance test required by this permit, except as specified under other subparts, to afford the EPA the opportunity to have an observer present and/or to attend a pre-test meeting. If there is a delay in the original test date, the facility must provide at least 7 days prior notice of the rescheduled date of the performance test unless EPA approves an earlier rescheduled date.
- L. The owner or operator shall provide, or cause to be provided, performance testing facilities as follows:
 - 1. Sampling ports adequate for test methods applicable to this facility,
 - 2. Safe sampling platform(s),
 - 3. Safe access to sampling platform(s), and
 - 4. Utilities for sampling and testing equipment.
- M. Unless otherwise specified, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For purposes of determining compliance with an applicable standard, the arithmetic mean of the results of the three runs shall apply.
- N. Emissions testing, as outlined above, shall be performed every five years, plus or minus 6 months, of when the previous performance test was performed, or within 180 days after the issuance of a permit renewal, whichever comes later to verify continued performance at permitted emission limits.

VI. Agency Notifications

Permittee shall submit GHG permit applications, permit amendments, and other applicable permit information to:

Multi Media Planning and Permitting Division
EPA Region 6
1445 Ross Avenue (6 PD-R)
Dallas, TX 75202
Email: Group R6AirPermits@EPA.gov

Permittee shall submit a copy of all compliance and enforcement correspondence as required by this Approval to Construct to:

Compliance Assurance and Enforcement Division
EPA Region 6
1445 Ross Avenue (6EN)
Dallas, TX 75202