Texas Commission on Environmental Quality
INTEROFFICE MEMORANDUM

TO: Office of Chief Clerk **Date:** August 25, 2023

FROM: Contessa N. Gay
Amanda Kraynok
Staff Attorneys
Environmental Law Division

SUBJECT: Transmittal of Documents for Administrative Record

Applicant:	Exxon Mobil Corporation
Proposed Permit No.:	102982
Program:	Air
Docket Nos.:	TCEQ Docket No. 2023-0649-AIR SOAH Docket No. 582-23-22762

In a permit hearing, the record in a contested case includes copies of the public notices relating to the permit application, as well as affidavits of public notices that are filed by the Applicant directly with the Office of the Chief Clerk (OCC). In addition, the record includes the documents listed below that are provided to the OCC by the Executive Director's staff, as required by 30 Tex. Admin. Code § 80.118.

This transmittal serves to also request that the OCC transmit the attached items, together with (a) the public notice documents (including the notice of hearing), and (b) where available for direct referral cases only, the Executive Director's Response to Comments, to the State Office of Administrative Hearings.

Documents included with this transmittal are indicated below:

- The final draft permit, including any special conditions or provisions
- Maximum Allowable Emission Rate Table (MAERT)
- The summary of the technical review of the permit application
- The Air Quality Analysis Audit memoranda
- The compliance summary of the Applicant
- The Executive Director's Preliminary Decision and the Executive Director's Decision on the Permit Application, if applicable.
- The Final Decision Letter
- The List of Actions from the Commissioner's Integrated Database (CID)
- Any agency documents determined by the Executive Director to be necessary to reflect the administrative and technical review of the application. The following documents are included:
    - The Executive Director's Response to Comments
    - The map of the hearing requestors prepared by the Executive Director

Texas Commission on Environmental Quality
Air Quality Permit

A Permit Is Hereby Issued To
Exxon Mobil Corporation
Authorizing the Construction and Operation of
Exxon Mobil Chemical Baytown Olefins Plant
Located at **Baytown, Harris County, Texas**
Latitude 29.760555 Longitude -95.010555

STATE OF TEXAS §
COUNTY OF TRAVIS §
I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF A TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RECORD
AUG 25 2023

Permit: 102982
Amendment Date: DRAFT - TBD
Expiration Date: February 19, 2024

For the Commission

1. **Facilities** covered by this permit shall be constructed and operated as specified in the application for the permit. All representations regarding construction plans and operation procedures contained in the permit application shall be conditions upon which the permit is issued. Variations from these representations shall be unlawful unless the permit holder first makes application to the Texas Commission on Environmental Quality (commission) Executive Director to amend this permit in that regard and such amendment is approved. [Title 30 Texas Administrative Code (TAC) Section 116.116 (30 TAC § 116.116)] [1]
2. **Voiding of Permit**. A permit or permit amendment is automatically void if the holder fails to begin construction within 18 months of the date of issuance, discontinues construction for more than 18 months prior to completion, or fails to complete construction within a reasonable time. Upon request, the executive director may grant an 18-month extension. Before the extension is granted the permit may be subject to revision based on best available control technology, lowest achievable emission rate, and netting or offsets as applicable. One additional extension of up to 18 months may be granted if the permit holder demonstrates that emissions from the facility will comply with all rules and regulations of the commission, the intent of the Texas Clean Air Act (TCAA), including protection of the public's health and physical property, and (b)(1)the permit holder is a party to litigation not of the permit holder's initiation regarding the issuance of the permit; or (b)(2) the permit holder has spent, or committed to spend, at least 10 percent of the estimated total cost of the project up to a maximum of $5 million. A permit holder granted an extension under subsection (b)(1) of this section may receive one subsequent extension if the permit holder meets the conditions of subsection (b)(2) of this section. [30 TAC § 116.120]
3. **Construction Progress**. Start of construction, construction interruptions exceeding 45 days, and completion of construction shall be reported to the appropriate regional office of the commission not later than 15 working days after occurrence of the event. [30 TAC § 116.115(b)(2)(A)]
4. **Start-up Notification**. The appropriate air program regional office shall be notified prior to the commencement of operations of the facilities authorized by the permit in such a manner that a representative of the commission may be present. The permit holder shall provide a separate notification for the commencement of operations for each unit of phased construction, which may involve a series of units commencing operations at different times. Prior to operation of the facilities authorized by the permit, the permit holder shall identify the source or sources of allowances to be utilized for compliance with Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program). [30 TAC § 116.115(b)(2)(B)]
5. **Sampling Requirements**. If sampling is required, the permit holder shall contact the commission's Office of Compliance and Enforcement prior to sampling to obtain the proper data forms and procedures. All sampling and testing procedures must be approved by the executive director and coordinated with the regional representatives of the commission. The permit holder is also responsible for providing sampling facilities and conducting the sampling operations or contracting with an independent sampling consultant. [30 TAC § 116.115(b)(2)(C)]
6. **Equivalency of Methods.** The permit holder must demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the permit. [30 TAC § 116.115(b)(2)(D)]
7. **Recordkeeping.** The permit holder shall maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with the permit, including production records and

operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, records shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission or any air pollution control program having jurisdiction in a timely manner; comply with any additional recordkeeping requirements specified in special conditions in the permit; and retain information in the file for at least two years following the date that the information or data is obtained. [30 TAC § 116.115(b)(2)(E)]

8. **Maximum Allowable Emission Rates**. The total emissions of air contaminants from any of the sources of emissions must not exceed the values stated on the table attached to the permit entitled "Emission Sources--Maximum Allowable Emission Rates." [30 TAC § 116.115(b)(2)(F)] [1]
9. **Maintenance of Emission Control**. The permitted facilities shall not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. The permit holder shall provide notification in accordance with 30 TAC §101.201, 101.211, and 101.221 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements; Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements; and Operational Requirements). [30 TAC§ 116.115(b)(2)(G)]
10. **Compliance with Rules**. Acceptance of a permit by an applicant constitutes an acknowledgment and agreement that the permit holder will comply with all rules and orders of the commission issued in conformity with the TCAA and the conditions precedent to the granting of the permit. If more than one state or federal rule or regulation or permit condition is applicable, the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated. Acceptance includes consent to the entrance of commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the permit. [30 TAC § 116.115(b)(2)(H)]
11. **This** permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC § 116.110(e)]
12. **There** may be additional special conditions attached to a permit upon issuance or modification of the permit. Such conditions in a permit may be more restrictive than the requirements of Title 30 of the Texas Administrative Code. [30 TAC § 116.115(c)]
13. **Emissions** from this facility must not cause or contribute to "air pollution" as defined in Texas Health and Safety Code (THSC) §382.003(3) or violate THSC § 382.085. If the executive director determines that such a condition or violation occurs, the holder shall implement additional abatement measures as necessary to control or prevent the condition or violation.
14. **The** permit holder shall comply with all the requirements of this permit. Emissions that exceed the limits of this permit are not authorized and are violations of this permit. [1]

[1] Please be advised that the requirements of this provision of the general conditions may not be applicable to greenhouse gas emissions.

Common Acronyms in Air Permits

°C = Temperature in degrees Celsius
°F = Temperature in degrees Fahrenheit
°K = Temperature in degrees Kelvin
µg = microgram
µg/m^3 = microgram per cubic meter
acfm = actual cubic feet per minute
AMOC = alternate means of control
AOS = alternative operating scenario
AP-42 = Air Pollutant Emission Factors, 5th edition
APD = Air Permits Division
API = American Petroleum Institute
APWL = air pollutant watch list
BPA = Beaumont/ Port Arthur
BACT = best available control technology
BAE = baseline actual emissions
bbl = barrel
bbl/day = barrel per day
bhp = brake horsepower
BMP = best management practices
Btu = British thermal unit
Btu/scf = British thermal unit per standard cubic foot or feet
CAA = Clean Air Act
CAM = compliance-assurance monitoring
CEMS = continuous emissions monitoring systems
cfm = cubic feet (per) minute
CFR = Code of Federal Regulations
CN = customer ID number
CNG = compressed natural gas
CO = carbon monoxide
COMS = continuous opacity monitoring system
CPMS = continuous parametric monitoring system
DFW = Dallas/ Fort Worth (Metroplex)
DE = destruction efficiency
DRE = destruction and removal efficiency
dscf = dry standard cubic foot or feet
dscfm = dry standard cubic foot or feet per minute
ED = (TCEQ) Executive Director
EF = emissions factor
EFR = external floating roof tank
EGU = electric generating unit
EI = Emissions Inventory
ELP = El Paso
EPA = (United States) Environmental Protection Agency
EPN = emission point number
ESL = effects screening level
ESP = electrostatic precipitator
FCAA = Federal Clean Air Act
FCCU = fluid catalytic cracking unit
FID = flame ionization detector
FIN = facility identification number
ft = foot or feet
ft/sec = foot or feet per second
g = gram
gal/wk = gallon per week
gal/yr = gallon per year
GLC = ground level concentration
GLC_{max} = maximum (predicted) ground-level concentration
gpm = gallon per minute
gr/1000scf = grain per 1000 standard cubic feet
gr/dscf = grain per dry standard cubic feet
H_2CO = formaldehyde
H_2S = hydrogen sulfide
H_2SO_4 = sulfuric acid
HAP = hazardous air pollutant as listed in § 112(b) of the Federal Clean Air Act or Title 40 Code of Federal Regulations Part 63, Subpart C
HC = hydrocarbons
HCl = hydrochloric acid, hydrogen chloride
Hg = mercury
HGB = Houston/Galveston/Brazoria
hp = horsepower
hr = hour
IFR = internal floating roof tank
in H_2O = inches of water
in Hg = inches of mercury
IR = infrared
ISC3 = Industrial Source Complex, a dispersion model
ISCST3 = Industrial Source Complex Short-Term, a dispersion model
K = Kelvin; extension of the degree Celsius scaled-down to absolute zero
LACT = lease automatic custody transfer
LAER = lowest achievable emission rate
lb = pound
lb/day = pound per day
lb/hr = pound per hour
lb/MMBtu = pound per million British thermal units
LDAR = Leak Detection and Repair (Requirements)
LNG = liquefied natural gas
LPG = liquefied petroleum gas
LT/D = long ton per day
m = meter
m^3 = cubic meter
m/sec = meters per second
MACT = maximum achievable control technology
MAERT = Maximum Allowable Emission Rate Table
MERA = Modeling and Effects Review Applicability
mg = milligram
mg/g = milligram per gram
mL = milliliter
MMBtu = million British thermal units
MMBtu/hr = million British thermal units per hour
MSDS = material safety data sheet
MSS = maintenance, startup, and shutdown
MW = megawatt
NAAQS = National Ambient Air Quality Standards
NESHAP = National Emission Standards for Hazardous Air Pollutants
NGL = natural gas liquids
NNSR = nonattainment new source review
NO_x = total oxides of nitrogen
NSPS = New Source Performance Standards

PAL = plant-wide applicability limit
PBR = Permit(s) by Rule
PCP = pollution control project
PEMS = predictive emission monitoring system
PID = photo ionization detector
PM = periodic monitoring
PM = total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
$PM_{2.5}$ = particulate matter equal to or less than 2.5 microns in diameter
PM_{10} = total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
POC = products of combustion
ppb = parts per billion
ppm = parts per million
ppmv = parts per million (by) volume
psia = pounds (per) square inch, absolute
psig = pounds (per) square inch, gage
PTE = potential to emit
RA = relative accuracy
RATA = relative accuracy test audit
RM = reference method
RVP = Reid vapor pressure
scf = standard cubic foot or feet
scfm = standard cubic foot or feet (per) minute
SCR = selective catalytic reduction
SIL = significant impact levels
SNCR = selective non-catalytic reduction
SO_2 = sulfur dioxide
SOCMI = synthetic organic chemical manufacturing industry
SRU = sulfur recovery unit
TAC = Texas Administrative Code
TCAA = Texas Clean Air Act
TCEQ = Texas Commission on Environmental Quality
TD = Toxicology Division
TLV = threshold limit value
TMDL = total maximum daily load
tpd = tons per day
tpy = tons per year
TVP = true vapor pressure
VOC = volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
VRU = vapor recovery unit or system

Special Conditions

Permit Number 102982

1. This permit authorizes chemical manufacturing operations for a facility located at 3525 Decker Drive, Baytown, Harris County, Texas.

2. 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.

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 Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984;

   C. 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;

   D. Subpart NNN, Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations;

   E. Subpart RRR, Standards of Performance for Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes; and

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

4. These facilities shall comply with all applicable requirements of EPA regulations on National Emission Standards for Hazardous Air Pollutants in 40 CFR Part 61:

   A. Subpart A, General Provisions.

   B. Subpart J, National Emission Standards for Equipment Leaks (Fugitive Emission Sources) of Benzene;

   C. Subpart V, National Emission Standards for Equipment Leaks (Fugitive Emission Sources); and

   D. Subpart FF, National Emission Standard for Benzene Waste Operations.

5. These facilities shall comply with all applicable requirements of the EPA regulations on National Emission Standards for Hazardous Air Pollutants for Source Categories in 40 CFR Part 63:

   A. Subpart A, General Provisions.

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

6. If any condition of this permit is more stringent than the applicable regulations in Special Condition Nos. 3, 4, and 5, then for the purposes of complying with this permit, the permit shall govern and be the standard by which compliance shall be demonstrated.

Emission Standards and Operational Specifications

7. The furnaces [Emission Point Numbers (EPNs) XXAF01-ST, XXBF01-ST, XXCF01-ST, XXDF01-ST, XXEF01-ST, XXFF01-ST, XXGF01-ST, XXHF01-ST, and XXIF01-ST] shall be designed and operated in accordance with the following requirements: **(xx/xx)**

A. Fuel fired in the furnaces shall contain no more than 5 grains of total sulfur per 100 dry standard cubic feet (dscf).

B. The permit holder shall install and operate a fuel flow meter to measure the gas fuel usage for each furnace. The monitored data shall be reduced to an hourly average flow rate at least once every day, using a minimum of four equally-spaced data points from each one-hour period. Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications, or equivalent, or at least annually, whichever is more frequent, and shall be accurate to within 5 percent. In lieu of monitoring fuel flow, the permit holder may monitor stack exhaust flow using the flow monitoring specifications of Title 40 of the Code of Federal Regulations Part 60 (40 CFR Part 60), Appendix B, Performance Specification 6 or 40 CFR Part 75, Appendix A.

C. Emissions from EPN BOPXXFURNACE (EPNs XXAF01-ST, XXBF01-ST, XXCF01-ST, XXDF01-ST, XXEF01-ST, XXFF01-ST, XXGF01-ST and XXHF01-ST) shall not exceed the following:

(1) 0.015 pounds nitrogen oxides (NO_x) per million Btu (lb NO_x/MMBtu) at higher heating value (HHV) on a 24-hour rolling average;

(2) 0.010 lb NO_x/MMBtu HHV on a 12-month rolling average;

(3) 50 parts per million by volume, dry (ppmvd) carbon monoxide (CO) corrected to 3 percent oxygen on a 12-month rolling average; and

(4) 15 ppmvd ammonia (NH_3) corrected to 3 percent oxygen on a one-hour rolling average.

D. Emissions from Furnace XXI (EPN XXIF01-ST) shall not exceed the following: **(xx/xx)**

(1) 0.015 pounds nitrogen oxides (NO_x) per million Btu (lb NO_x/MMBtu) at higher heating value (HHV) on a 24-hour rolling average;

(2) 0.010 lb NO_x/MMBtu HHV on a 12-month rolling average;

(3) 50 parts per million by volume, dry (ppmvd) carbon monoxide (CO) corrected to 3 percent oxygen on a one-hour rolling average; and

(4) 15 ppmvd ammonia (NH_3) corrected to 3 percent oxygen on a one-hour rolling average and 10 ppmvd NH_3 corrected to 3 percent oxygen on a 12-month rolling average.

E. Compliance with the limits in Special Condition Nos. 7.C and 7.D shall be demonstrated for the average of all operating furnaces, EPNs BOPXXFURNACE and XXIF01-ST, respectively, except as specified in Special Condition No. 21. **(xx/xx)**

F. Per Alternative Method of Control (AMOC) No. 183, compliance with the limit in 30 TAC § 117.310(c)(2)(B), 10 ppmvd NH_3 corrected to 3 percent oxygen on a 24-hour rolling average basis, shall be demonstrated for each operating furnace represented by EPN BOPXXFURNACE (EPNs XXAF01-ST, XXBF01-ST, XXCF01-ST, XXDF01-ST, XXEF01-ST, XXFF01-ST, XXGF01-ST and XXHF01-ST) except as specified in Special Condition No. 21. **(xx/xx)**

G. The requirements in this condition and the initial demonstration of compliance requirements in Special Condition No. 25 shall apply once the furnaces are operational after a shakedown period not to exceed 180 days.

8. During decoking events, cyclonic scrubbers shall achieve a particulate matter removal efficiency of at least 95%. There shall be no visible emissions exceeding 20 percent in any six-minute period as determined using U.S. Environmental Protection Agency (EPA) Test Method 22.

A. The decoking vents covered by this permit shall not operate unless control devices and associated equipment are maintained in good working order and operating. All decoking vents will be inspected for visible emissions once per day during decoking mode. Records shall be maintained of all inspections and maintenance performed on decoking drum cyclone and ductwork.

B. The minimum steam flow rate into each decoking drum shall be continuously monitored and be recorded at least once an hour during decoking mode. The minimum steam flow rate shall be 45,000 lb/hr.

C. The steam flow meter shall be calibrated at a frequency in accordance with the manufacturer's specifications, or equivalent, or at least annually, whichever is more frequent, and shall be accurate to within 10 percent.

9. The decoking facilities shall be evaluated to demonstrate compliance with the Special Conditions and MAERT prior to commencement of operation. The evaluation procedures shall be submitted for approval to the Office of Air, Air Permits Division.

10. The elevated flare (EPN FLAREXX1) shall be designed and operated in accordance with the following requirements:

A. The flare system shall be designed such that the combined assist gas and waste stream to each flare meets the 40 CFR § 60.18 specifications of minimum heating value and maximum tip velocity under normal, upset, and maintenance flow conditions.

Flare testing per 40 CFR § 60.18(f) may be requested by the appropriate regional office to demonstrate compliance with these requirements.

B. The flare shall be operated with a flame present at all times and/or have a constant pilot flame. The pilot flame shall be continuously monitored by a thermocouple or an infrared monitor. The time, date, and duration of any loss of pilot flame shall be recorded. Each monitoring device shall be accurate to, and shall be calibrated at a frequency in accordance with, the manufacturer's specifications or equivalent.

C. The flare shall be operated with no visible emissions except periods not to exceed a total of five minutes during any two consecutive hours. This shall be ensured by the use of steam assist to the flare, as appropriate.

D. The permit holder shall install a continuous flow monitor and composition analyzer that provide a record of the vent stream flow and composition to the flare. The flow monitor sensor and analyzer sample points shall be installed in the vent stream as near as possible to the flare inlet such that the total vent stream to the flare is measured and analyzed. Readings shall be taken at least once every 15 minutes and the average hourly values of the flow and composition shall be recorded each hour.

The monitors shall be calibrated on an annual basis to meet the following accuracy specifications: the flow monitor shall be ±5.0%, temperature monitor shall be ±2.0% at absolute temperature, and pressure monitor shall be ±5.0 mm Hg. The initial calibration of the flow monitor shall demonstrate the flow monitor accuracy specification of ±5.0%, at flow rates equivalent to 30%, 60%, and 90% of monitor full scale. Annual calibrations of the flow monitor thereafter shall be per manufacturer specification, or equivalent.

Calibration of the analyzer shall follow the procedures and requirements of Section 10.0 of 40 CFR Part 60, Appendix B, Performance Specification 9, as amended through October 17, 2000 (65 FR 61744), except that the multi-point calibration procedure in Section 10.1 of Performance Specification 9 shall be performed at least once every calendar quarter instead of once every month for HRVOC species, and the mid-level calibration check procedure in Section 10.2 of Performance Specification 9 shall be performed at least once every calendar week instead of once every 24 hours. The calibration gases used for calibration procedures shall be in accordance with Section 7.1 of Performance Specification 9. Net heating value of the gas combusted in the flare shall be calculated according to the equation given in 40 CFR §60.18(f)(3) as amended through October 17, 2000 (65 FR 61744).

As an alternative to the calibration requirements for the continuous flow monitor and composition analyzer, the requirements for flares in 30 TAC Chapter 115 Subchapter H Division 1 (highly-Reactive Volatile Organic Compounds – Vent Gas Control) as amended to be effective December 23, 2004 (29 TexReg 11623) may be used.

The monitors and analyzers shall operate as required by this section at least 95% of the time when the flare is operational, averaged over a rolling 12 month period. Flared gas net heating value and actual exit velocity determined in accordance with 40 CFR §60.18(f) shall be recorded at least once every 15 minutes.

11. The following requirements apply to the capture systems for the flare system (EPN FLAREXX1 and FLAREXX2). **(11/16)**

A. The control device shall not have a bypass.

Or

If there is a bypass for the control device, comply with either of the following requirements:

(1) Install a flow indicator that records and verifies zero flow at least once every fifteen minutes immediately downstream of each valve if opened would allow a vent stream to bypass the control device and be emitted, either directly or indirectly, to the atmosphere; or

(2) Once a month, inspect the valves, verifying that the position of the valves and the condition of the car seals prevent flow out the bypass.

A bypass does not include authorized analyzer vents, highpoint bleeder vents, low point drains, or rupture discs upstream of pressure relief valves if the pressure between the disc and relief valve is monitored and recorded at least weekly. A deviation shall be reported if the monitoring or inspections indicate bypass of the control device when it is required to be in service.

B. Records of the inspections required shall be maintained and if the results of any of the above inspections are not satisfactory, the permit holder shall promptly take necessary action.

12. The emergency generators shall be designed and operated in accordance with the following conditions: **(11/16)**

A. The emergency generators (EPN DIESELXX) are each authorized to fire diesel fuel containing not more than 0.3 weight percent sulfur and is limited to a maximum of 100 hours of engine testing annually.

B. Any operation in excess of the times specified in Special Condition No. 12.A is subject to reporting as required by 30 TAC § 122.

13. The cooling tower (EPN BOPXXCT) shall be designed and operated in accordance with the following conditions:

A. The total dissolved solids (TDS) concentration and the recirculation rate shall be used to demonstrate compliance with the limits in the MAERT.

B. The holder of this permit shall monitor the conductivity of the cooling water at a monitoring point in the recirculating water of the cooling tower, and record these conductivity readings on a no less than weekly basis. Each conductivity measurement shall be converted to TDS concentration in ppmw using the conversion factor established in accordance with Special Condition No. 13.E.

C. The holder of this permit shall monitor the flow rate of the recirculating water of the cooling tower, and record these flow rate values on a no less than hourly basis.

D. The permit holder shall use the following equation to determine Total Dissolved Solids (TDS) concentration in cooling tower from conductivity measurement:

TDS = Conductivity x Conversion Factor (CF_{TDS})

Where:

TDS = Total dissolved solids concentration of the cooling water (ppmw)

Conductivity = Conductivity of cooling water (micromho per centimeter [µmho/cm])

Conversion Factor (CF_{TDS}) = Factor to convert conductivity measurement to TDS concentration (ppmw per µmho/cm)

E. The holder of this permit shall perform sampling to establish the relationship between TDS and conductivity that shall be used by the permit holder to demonstrate compliance with the MAERT. A cooling water sample shall be collected in each of the three calendar months following the facility startup and a conductivity and TDS analysis shall be performed for each of the three samples in order to establish the actual cooling water conductivity to TDS conversion factor. The conductivity and TDS analyses shall be performed in accordance with "Standard Methods for the Examination of Water and Wastewater" Method 2510 (Conductivity) and Method 2540 (Solids). An average conversion factor and standard deviation based on the three values shall be determined from the cooling water sample results. Additional sampling to adjust the conversion factor is allowed with approval from the Texas Commission on Environmental Quality (TCEQ) Regional Office.

The permit application TDS/conductivity conversion factor of 0.67 may be used initially until a site specific demonstrated value is determined.

F. Within 30 days after completion of the sampling as specified in Special Condition No. 13.E above, copies of the sampling report shall be submitted to the TCEQ Regional Office.

G. The VOC associated with cooling tower water shall be monitored at least monthly with an approved air stripping system, or equivalent for the purpose of detecting leaks of VOC into the cooling water.

When leaks are detected, the appropriate equipment shall be maintained so as to minimize fugitive VOC emissions from the cooling tower. Faulty equipment shall be repaired at the earliest opportunity, but no later than the next scheduled shutdown of the process unit in which the leak occurs. The results of the monitoring and maintenance efforts shall be recorded, and such records shall be maintained at the plant site and cover at least the two-year trailing period. The records shall be made available upon request to TCEQ personnel or any local air pollution control program having jurisdiction.

H. Cooling tower drift eliminators must have manufacturer’s design assurance of 0.0005% drift or less, and shall be maintained and inspected at least annually with a record of the inspection and all repairs.

14. VOC storage tanks and totes are subject to the following requirements: **(11/16)**

A. The control requirements specified in paragraphs B-E 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 and totes smaller than 25,000 gallons.

B. An internal floating deck or “roof” or equivalent control shall be installed in all tanks. The floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof: (1) a liquid-mounted seal, (2) two continuous seals mounted one above the other, or (3) a mechanical shoe seal.

C. An open-top tank containing a floating roof (external floating roof tank) which uses double seal or secondary seal technology shall be an approved control alternative to an internal floating roof tank provided the primary seal consists of either a mechanical shoe seal or a liquid-mounted seal and the secondary seal is rim-mounted. A weathershield is not approvable as a secondary seal unless specifically reviewed and determined to be vapor-tight.

D. For any tank equipped with a floating roof, the permit holder shall perform the visual inspections and seal gap measurements as specified in Title 40 Code of Federal Regulations § 60.113b (40 CFR § 60.113b) Testing and Procedures (as amended at 54 FR 32973, Aug. 11, 1989) to verify fitting and seal integrity. Records shall be maintained of the dates seals were inspected and seal gap measurements made, results of inspections and measurements made (including raw data), and actions taken to correct any deficiencies noted.

E. The floating roof design shall incorporate sufficient flotation to conform to the requirements of API Code 650 dated November 1, 1998, or an equivalent degree of flotation, except that an internal floating cover need not be designed to meet rainfall support requirements and the materials of construction may be steel or other materials.

F. Uninsulated tank and tote exterior surfaces exposed to the sun shall be painted white, aluminum, or an equivalent light color, except for labels, logos, etc. not to exceed 15 percent of the exterior surface area. Storage tanks must be equipped with permanent submerged fill pipes.

G. As an alternative to the control requirements of Special Condition Nos. 14.B through 14.F, the tank vent may be routed for destruction in a combustion device, such as EPNs XXAF01-ST, XXBF01-ST, XXCF01-ST, XXDF01-ST, XXEF01-ST, XXFF01-ST, XXGF01-ST, XXHF01-ST, XXIF01-ST, FLAREXX1, or FLAREXX2. **(xx/xx)**

H. During routine operation, the Wastewater tank vent (FIN XXZTK05) shall be routed to the furnace firebox system (EPNs XXAF01-ST, XXBF01-ST, and XXCF01-ST), and the Compressor Wash Oil tank vent (FIN XXZTK11) shall be routed to the flare header (EPNs FLAREXX1 and/or FLAREXX2).

I. The permit holder shall maintain a record of tank and tote throughput for the previous month and the past consecutive 12 month period for each tank.

15. Piping, Valves, Connectors, Pumps, Agitators, and Compressors - 28VHP

Except as may be provided for in the special conditions of this permit, the following requirements apply to the above-referenced equipment:

A. The requirements of paragraphs F and G shall not apply (1) where the Volatile Organic Compound (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 subparagraph 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.

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 within the 72 hour 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. 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. If a relief valve is equipped with rupture disc, a pressure-sensing device shall be installed between the relief valve and rupture disc to monitor disc integrity.

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. All leaking discs shall be replaced at the earliest opportunity but no later than the next process shutdown.

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, then 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.

Replacements for leaking components shall be re-monitored within 15 days of being placed back into VOC service.

G. Except as may be provided for in the special conditions of this permit, all pump, compressor, and agitator seals shall be monitored with an approved gas analyzer at least quarterly or be equipped with a shaft sealing system that prevents or detects emissions of VOC from the seal. Seal systems designed and operated to prevent emissions or seals equipped with an automatic seal failure detection and alarm system need not be monitored. These seal systems 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.

H. Damaged or leaking valves or connectors 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. Damaged or leaking pump, compressor, and agitator seals found to be emitting VOC in excess of 2,000 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 and a record of the attempt shall be maintained.

I. 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 within 15 days of the detection of the leak. 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.

J. 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 and 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.

K. Alternative monitoring frequency schedules of 30 TAC § 115.352 - 115.359 or National Emission Standards for Organic Hazardous Air Pollutants, 40 CFR Part 63, Subpart H, may be used in lieu of Items F through G of this condition.

L. 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.

16. Alternative requirements for the equipment specified in Special Condition No. 15:

A. In addition to the methods identified in Special Condition No. 15.A, exempted components may be identified by process flow diagrams that exhibit sufficient detail to identify major pieces of equipment, including major process flows to, from, and within a process unit. Major equipment includes, but is not limited to, columns, reactors, pumps, compressors, drums, tanks, and exchangers.

B. In lieu of the requirements specified in Special Condition No. 15.E, new and reworked piping connections may be monitored for leaks using an approved gas analyzer within 30 days of the components being returned to service.

C. As an alternative to comparing the daily emission rate of the components on the delay of repair (DOR) list to the total emissions from a unit shutdown per the requirements of Special Condition No. 15, Subparagraph I, the cumulative hourly emission rate of all components on the DOR list may be compared to ten percent of the fugitive short term allowable on the Maximum Allowable Emission Rate Table in order to determine if the TCEQ Regional Director and any local program is to be notified. In addition, the hourly emission rates of each specific compound on the DOR list must be less than ten percent of the speciated hourly fugitive emission rate of the same compound.

D. Open-ended valves or lines in an emergency shutdown system that are designed to open automatically in the event of a process upset are exempt from the requirements in Paragraphs E(1) and E(2) of Special Condition No. 15. **(11/16)**

17. Additional Flange Monitoring - 28CNTQ

A. All non-insulated flanges in gas/vapor and/or light liquid service shall be monitored quarterly with an approved gas analyzer in accordance with Special Condition Nos. 15.F through 15.J.

B. In lieu of the monitoring frequency specified in paragraph A, flanges may be monitored on a semiannual basis if the percent of flanges leaking for two consecutive quarterly monitoring periods is less than 0.5 percent. Flanges may be monitored on an annual basis if the percent of flanges leaking for two consecutive semiannual monitoring periods is less than 0.5 percent. If the percent of flanges 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.

18. Piping, Valves, Pumps, and Compressors in NH_3 service – 28AVO **(xx/xx)**

Except as may be provided for in the Special Conditions of this permit, the following requirements apply to the above-referenced equipment:

A. Audio, olfactory, and visual checks for NH_3 leaks within the operating area shall be made once per shift.

B. As soon as practicable, following detection of a leak, plant personnel shall take at least one of the following actions:

(1) Isolate the leak.

(2) Commence repair or replacement of the leaking component.

(3) Use a leak collection/containment system to contain the leak until repair or replacement can be made if immediate repair is not possible.

Date and time of each inspection shall be noted in the operator's log or equivalent. Records shall be maintained at the plant site of all repairs and replacements made due to leaks. These records shall be made available to representatives of the TCEQ upon request.

Planned Maintenance, Startup and Shutdown (MSS)

19. The holder of this permit shall minimize emissions during planned maintenance, start-up and shutdown (MSS) activities by operating the facility and associated air pollution control equipment in accordance with good air pollution control practices, safe operating practices, and protection of the facility.

20. Allowable emissions for planned MSS activities associated with the facilities authorized by this permit are contained in Permit No. 3452, unless specified otherwise in this permit.

21. The emissions limits that are identified in Special Conditions No. 7.C(1) through 7.C(4), 7.D(1) through 7.D(4), and 7.F do not apply during the planned MSS activities for the furnaces (EPNs BOPXXFURNACE and XXIF01-ST) as listed in the following Paragraphs A through F: **(xx/xx)**

    A. Hot Steam Standby Mode, defined as the period when the furnace is firing at 50% or less of the maximum allowable firing rate and no hydrocarbon feed is being charged to the furnace.

    B. Decoking Mode, defined as the period starts when air is introduced to the furnace for the purpose of decoking and ends when air is removed from the furnace.

    C. Start-up Mode, defined as the period beginning when fuel is introduced to the furnace and ending when the SCR catalyst bed reaches its stable operating temperature. A planned startup for each furnace is limited to 24 hours at 25% or less of the maximum allowable firing rate, except during startups requiring refractory dry out which is limited to 72 hours at 25% or less of the maximum allowable firing rate.

    D. Shutdown Mode, defined as the period beginning when the SCR catalyst bed first drops below its stable operating temperature and ending when the fuel is removed from the furnace.

    E. Feed in Mode, defined as the period beginning when hydrocarbon feed is introduced to the furnace and ending when the furnace reaches 70% of the maximum allowable firing rate.

    F. Feed out Mode, defined as the period beginning when a furnace drops below 70% of the maximum allowable firing rate and ending when hydrocarbon feed is isolated from the furnace.

    G. Planned MSS activities during which Furnace XXI's SCR is out of service for planned MSS (EPN XXIF01-MSS) shall not exceed 100 hours per rolling 12-month period. **(xx/xx)**

Aqueous Ammonia Transfer

22. Unloading and Storage of Aqueous NH3 **(11/16)**

    A. The ammonia sump (EPN XXNH3SUMP) shall be filled such that the water level in the sump is at least 2.95 feet before each ammonia storage drum filling activity. The water shall be drained following each activity.

    B. Audio, olfactory, and visual checks for NH3 leaks within the operating area shall be performed while drum filling activities are occurring.

        (1) Discontinue the transfer activity once a leak is detected.

(2) Immediately, but no later than 24 hours upon detection of a leak, plant personnel shall take at least one of the following actions:

(a) Isolate the leak.

(b) Commence repair or replacement of the leaking component.

(c) Use a leak collection or containment system to prevent the leak until repair or replacement can be made if immediate repair is not possible.

(3) Date and time of each inspection shall be noted in the operator's log or equivalent. Records shall be maintained at the plant site of all repairs and replacements made due to leaks. These records shall be made available to representatives of the Texas Commission of Environmental Quality (TCEQ) upon request.

C. The ammonia sump shall be covered.

D. The ammonia storage drum filling activity shall be defined as starting with the depressurizing of the ammonia storage drum for filling and ending with the disconnecting of the ammonia truck.

E. Annual aqueous ammonia transfer to the drum shall be limited to 461,200 gallons per year on a rolling 12-month average.

F. Ammonia storage drum emissions shall be routed to EPN XXNH3SUMP during drum filling activities. Alternatively, the ammonia vapor can be vapor balanced from the ammonia storage drum back to the ammonia truck.

G. Records shall be kept for the ammonia sump for at least 5 years from the date upon which they were made and include at least the date of the ammonia drum filling activity, the volume of ammonia transferred from the ammonia truck to the ammonia storage drum, and the date that the ammonia sump is drained.

Continuous Demonstration of Compliance

23. The permit holder shall install, calibrate, and maintain a continuous emission monitoring system (CEMS) to measure and record the in-stack concentration of NO_x and CO from the furnaces (EPNs XXAF01 through XXIF01). **(xx/xx)**

A. The CEMS shall meet the design and performance specifications, pass the field tests, and meet the installation requirements and the data analysis and reporting requirements specified in the applicable Performance Specification Nos. 1 through 9, Title 40 Code of Federal Regulation Part 60 (40 CFR Part 60), Appendix B. If there are no applicable performance specifications in 40 CFR Part 60, Appendix B, contact the TCEQ Office of Air, Air Permits Division for requirements to be met.

B. Section (1) below applies to sources subject to the quality-assurance requirements of 40 CFR Part 60, Appendix F; section (2) applies to all other sources:

(1) The permit holder shall assure that the CEMS meets the applicable quality-assurance requirements specified in 40 CFR Part 60, Appendix F, Procedure 1. Relative accuracy exceedances, as specified in 40 CFR Part 60, Appendix F, Subpart 5.2.3 and any CEMS downtime shall be reported to the appropriate TCEQ Regional Manager, and necessary corrective action shall be taken. Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Manager.

(2) The system shall be zeroed and spanned daily, and corrective action taken when the 24-hour span drift exceeds two times the amounts specified in the applicable Performance Specification Nos. 1 through 9, 40 CFR Part 60, Appendix B, or as specified by the TCEQ if not specified in Appendix B. Zero and span is not required on weekends and plant holidays if instrument technicians are not normally scheduled on those days.

Each monitor shall be quality-assured at least quarterly using Cylinder Gas Audits (CGA) in accordance with 40 CFR Part 60, Appendix F, Procedure 1, Section 5.1.2, with the following exception: a relative accuracy test audit (RATA) is not required once every four quarters (i.e., four successive quarterly CGA may be conducted). An equivalent quality-assurance method approved by the TCEQ may also be used. Successive quarterly audits shall occur no closer than two months.

All CGA exceedances of $\pm$15 percent accuracy or 5 ppm, whichever is greater, indicate that the CEMS is out of control.

C. The monitoring data shall be reduced to 1-hour average concentrations at least once every day, using a minimum of four equally-spaced data points from each one-hour period. The individual average concentrations shall be reduced to units of the permit allowable emission rate in the MAERT and Special Condition 7 at least once every week as follows:

Emissions calculations based on measured concentrations and exhaust flow rate shall be used to convert the 1-hour average concentration from the CEMS to lb/MMBtu, ppmvd, and lb/hr to demonstrate compliance with the NO_x and CO emission limits in Special Condition 7 and the MAERT. Exhaust flow rate may be monitored directly or calculated by monitoring fuel flow and using EPA Test Method 19.

(1) All monitoring data and quality-assurance data shall be maintained by the source. The data from the CEMS may, at the discretion of the TCEQ, be used to determine compliance with the conditions of this permit.

(2) The appropriate TCEQ Regional Office shall be notified at least 15 days prior to any required RATA in order to provide them the opportunity to observe the testing.

(3) Quality-assured (or valid) data must be generated when the furnace is operating except during the performance of a daily zero and span check. 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 hours) that the furnace operated over the previous calendar year. The measurements missed shall be estimated using engineering judgment and the methods used recorded. Options to increase system reliability to an acceptable value, including a redundant CEMS, may be required by the TCEQ Regional Manager.

24. The NH_3 concentration in each Exhaust Stack (EPNs XXAF01-ST, XXBF01-ST, XXCF01-ST, XXDF01-ST, XXEF01-ST, XXFF01-ST, XXGF01-ST XXHF01-ST, and XXIF01-ST) shall be tested or calculated according to one of the methods listed below and shall be tested or calculated according to frequency listed below. Testing for NH_3 slip is only required on days when the SCR unit is in operation. **(xx/xx)**

A. The holder of this permit may install, calibrate, maintain, and operate a CEMS to measure and record the concentrations of NH_3. The NH_3 concentrations shall be corrected in accordance with Special Condition Nos. 7.C(4) and 7.D(4).

B. As an approved alternative, the NH_3 slip may be measured using a sorbent or stain tube device specific for NH_3 measurement in the 5 to 10 ppm range. The frequency of sorbent or stain tube testing shall be daily for the first 60 days of operation, after which, the frequency may be reduced to weekly testing if operating procedures have been developed to prevent excess amounts of NH_3 from being introduced in the SCR unit and when operation of the SCR unit has been proven successful with regard to controlling NH_3 slip. Daily sorbent or stain tube testing shall resume when the catalyst is within 30 days of its useful life expectancy. These results shall be recorded and used to determine compliance with Special Condition Nos. 7.C(4) and 7.D(4).

C. As an approved alternative to sorbent or stain tube testing or an NH_3 CEMS, the permit holder may install and operate a second NO_x CEMS probe located between the firebox and the SCR, upstream of the stack NO_x CEMS, which may be used in association with the SCR efficiency and NH_3 injection rate to estimate NH_3 slip. This condition shall not be construed to set a minimum NO_x reduction efficiency on the SCR unit. These results shall be recorded and used to determine compliance with Special Condition Nos. 7.C(4) and 7.D(4).

D. If the sorbent or stain tube testing indicates an ammonia slip concentration which exceeds 5 parts per million (ppm) at any time, the permit holder shall begin NH_3 testing by either the Phenol-Nitroprusside Method, the Indophenol Method, or EPA Conditional Test Method (CTM) 27 on a quarterly basis in addition to the weekly sorbent or stain tube testing. The quarterly testing shall continue until such time as the SCR unit catalyst is replaced; or if the quarterly testing indicates NH_3 slip is 4 ppm or less, the Phenol-Nitroprusside/Indophenol/CTM 27 tests may be suspended until sorbent or stain tube testing again indicate 5 ppm NH_3 slip or greater. These results shall be recorded and used to determine compliance with Special Condition Nos. 7.C(4) and 7.D(4).

E. As an approved alternative to sorbent or stain tube testing, NH_3 CEMS, or a second NO_x CEMS, the permit holder may install and operate a dual stream system of NO_x CEMS at the exit of the SCR. One of the exhaust streams would be routed, in an unconverted state, to one NO_x CEMS, and the other exhaust stream would be routed through a NH_3 converter to convert NH_3 to NO_x and then to a second NO_x CEMS. The NH_3 slip concentration shall be calculated from the delta between the two NO_x CEMS readings (converted and unconverted). These results shall be recorded and used to determine compliance with Special Condition Nos. 7.C(4) and 7.D(4).

F. Any other method used for measuring NH_3 slip shall require prior approval from the TCEQ Regional Director.

Initial Demonstration of Compliance

25. 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 furnaces (EPNs XXAF01-ST, XXBF01-ST, XXCF01-ST, XXDF01-ST, XXEF01-ST, XXFF01-ST, XXGF01-ST, and XXHF01-ST) 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. **(11/16)**

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 during the sampling period.

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.

(a) Air contaminants emitted from the furnaces to be tested include (but are not limited to) SO_2, PM_{10}, $PM_{2.5}$, and VOC.

The sulfur content in the inlet fuel may be tested as an alternative to including SO_2 in the stack test.

(b) 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 and at such other times as may be required by the TCEQ Executive Director. Requests for additional time to perform sampling shall be submitted to the appropriate regional office.

(c) The facility being sampled shall operate at a minimum of 80 percent of the design 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 firing rate is more than 10 percent higher than the firing rate during the previous stack test, 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.

(d) 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 to the appropriate TCEQ Regional Office and each local air pollution control program, as required.

B. After four of the furnaces, two with vent emissions routed for control and two without, have been sampled and tested, the permit holder may submit their final reports to the TCEQ Office of Air, Air Permits Division to request a waiver for sampling and testing the remaining four furnaces. The waiver may be granted based on the consistency of the four final reports. If the waiver is denied, sampling and testing for the remaining four furnaces shall be completed no later than 60 days after receiving the notification letter from TCEQ. Copies of the final sampling report shall be submitted as specified in Special Condition No. 25.A(7)(d).

Recordkeeping

26. The permit holder shall maintain the following records electronically or in hard copy format for at least five years. These records shall be used to demonstrate compliance with the Special Conditions and the limits specified in the MAERT:

A. Gas fuel usage for each furnace as required by Special Condition No. 7.B. Records from CEMs or monitoring/testing to demonstrate compliance with the limits in Special Condition Nos. 7.C and 7.D. **(xx/xx)**

B. Records of decoke vent inspections and maintenance as required by Special Condition No. 8.A.

C. Records of steam flow rate and steam flow meter calibration as required in Special Condition Nos 8.B and 8.C.

D. Record of pilot flame presence for flare EPN FLAREXX1 as specified in Special Condition No. 10.B. Records of vent stream flow and composition to flare EPN FLAREXX1 as required by Special Condition No. 10.D. Records of pilot flame presence, vent stream flow and composition to flare EPN FLAREXX2 as specified in the Alternative Means of Control (AMOC) Plan AMOC-5. **(06/16)**

E. Records of testing hours for emergency generators (EPNs DIESELXX01, DIESELXX02 and DIESELXX03) to demonstrate compliance with Special Condition No. 12. **(11/16)**

F. Records of TDS concentration and recirculating water flow rate in the cooling tower (EPN BOPXXCT) as required by Special Condition No. 13.

G. Records of tank seal inspections as required by Special Condition No. 14.D.

H. Records demonstrating compliance with the requirements of 28VHP as specified in Special Condition No. 15.

I. Records of planned MSS activities and hours to demonstrate compliance with Special Condition No. 21 for the furnaces (EPNs XXAF01-ST, XXBF01-ST, XXCF01-ST, XXDF01-ST, XXEF01-ST, XXFF01-ST, XXGF01-ST, XXHF01-ST, and XXIF01-ST). **(xx/xx)**

J. Records of ammonia drum filling activity as specified in Special Condition No. 22. **(11/16)**

K. Records of quality assurance calibration for the CEMs as required by Special Condition No. 23.

L. Records of stack tests completed in accordance with Special Condition No. 25.

Alternate Means of Control (AMOC)

27. The multi-point ground flare (EPN FLAREXX2) shall comply with requirements in the approved Alternative Means of Control (AMOC) Plan AMOC-5, issued on November 18, 2015. A copy of the approved AMOC-5 Plan shall be attached to a copy of this permit at the plant site. **(11/16)**

Plantwide Applicability Limit (PAL)

28. Emissions from sources and activities authorized by this permit shall be included in the compliance demonstration for PAL6.

Date: DRAFT - TBD

Emission Sources - Maximum Allowable Emission Rates

Permit Number 102982

This table lists the maximum allowable emission rates and all sources of air contaminants 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)
BOPXXFURNACE	BOP-XX Furnace Vent Cap (6)	NO_x	45.20	155.58
		SO_2	2.47	5.16
		CO	2609.78	609.49
		PM	16.53	65.31
		PM_{10}	16.53	65.31
		$PM_{2.5}$	16.53	65.31
		NH_3	47.54	74.01
		H_2SO_4	0.19	0.39
		VOC	22.66	47.26
BOPXXDECOKE	BOP-XX Furnace Decoke Cap (7)	CO	630.76	183.95
		PM	53.12	15.49
		PM_{10}	45.84	13.37
		$PM_{2.5}$	39.68	11.57
		VOC	0.08	0.01
		NO_x	4.14	0.72
XXIF01-ST	XXI Furnace Combustion Vent	NO_x	18.00	29.27
		SO_2	8.19	35.89
		CO	21.62	94.69
		PM	4.36	18.98
		PM_{10}	4.36	18.98
		$PM_{2.5}$	4.36	18.98

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
		NH_3	3.94	11.52
		H_2SO_4	0.75	3.30
		VOC	3.15	13.82
XXIF01-MSS	XXI Furnace MSS	NO_x	38.61	1.93
FLAREXX1	Elevated Flare	NO_x	22.24	
		SO_2	7.97	
		CO	160.64	
		VOC	371.90	
FLAREXX2	Multi-Point Ground Flare	NO_x	2309.32	
		SO_2	233.32	
		CO	3742.46	
		VOC	3991.46	
BOPXXFLARE (8)	BOP-XX Flare System Cap (8)	NO_x		75.54
		SO_2		17.27
		CO		193.78
		VOC		104.59

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
BOPXXCT	BOP-XX Cooling Tower	PM	3.82	16.72
		PM_{10}	1.04	4.54
		$PM_{2.5}$	0.01	0.03
		VOC (5)	108.09	47.34
BOPXXFUG	BOP-XX Fugitives (5)	VOC	8.52	37.32
		NH_3	2.03	8.88
		CO	0.06	0.27
XXNH3SUMP	Ammonia Sump	NH_3	0.44	0.02
XXTOTES	Chemical Storage Totes	VOC	0.22	0.01
XXZLTK16	Emergency Generator Diesel Storage Tank 1	VOC	0.03	0.06
XXZLTK17	Emergency Generator Diesel Storage Tank 2	VOC	0.03	0.06
XXZLTK18	Emergency Generator Diesel Storage Tank 3	VOC	0.03	0.06
DIESELXX	Backup Generator Engines (9)	NO_x	23.06	1.15
		SO_2	0.03	<0.01
		CO	1.11	0.06
		PM	0.17	0.01
		PM_{10}	0.17	0.01
		$PM_{2.5}$	0.17	0.01
		VOC	1.50	0.07

(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

Emission Sources - Maximum Allowable Emission Rates

$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
CO - carbon monoxide
NH_3 - ammonia

(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) BOPXXFURNACE includes EPNs XXAF01-ST, XXBF01-ST, XXCF01-ST, XXDF01-ST, XXEF01-ST, XXFF01-ST, XXGF01-ST and XXHF01-ST.
(7) BOPXXDECOKE includes EPNs XXAB-DEC, XXCD-DEC, XXEF-DEC, XXGH-DEC, and XXI-DEC.
(8) BOPXXFLARE includes EPNs FLAREXX1 and FLAREXX2.
(9) DIESELXX includes EPNs DIESELXX01, DIESELXX02, and DIESELXX03.

Date: DRAFT - TBD

Permit Amendment
Source Analysis & Technical Review

Company	**Exxon Mobil Corporation**	Permit Number	**102982**
City	**Baytown**	Project Number	**347989**
County	**Harris**	Regulated Entity Number	**RN102212925**
Project Type	**Amendment**	Customer Reference Number	**CN600123939**
Project Reviewer	**Christopher Loughran, P.E.**	Received Date	**September 21, 2022**
Site Name	**Exxon Mobil Chemical Baytown Olefins Plant**		

Project Overview

Exxon Mobil Corporation (ExxonMobil) owns and operates an existing olefins plant in Baytown, Harris County, Texas, known as the Baytown Olefins Plant (BOP). ExxonMobil submitted an expedited application proposing to amend Permit No. 102982 to authorize a project that will increase production at the 2X Unit. ExxonMobil's is currently permitted to operate under NSR Permit No. 3452 for operation of the Baytown Olefins Plant as well as storage, transfer, and utility facilities, and NSR Permit No. 102982 for operation of the 2X Expansion Unit ("the BOP-2X Unit"). The NSR Permit for the BOP-2X Unit was issued on February 19, 2014, pursuant to 30 Texas Administrative Code (TAC) Chapter 116 Subchapter B and has been amended once (November 9, 2016) and altered three times (June 7, 2016, May 2, 2019, and January 31, 2022). BOP submitted this amendment to NSR Permit No. 102982 to authorize a project that will increase production at the BOP-2X Unit. This primarily affects emissions by the addition of a new furnace to be known as the XXI Furnace (EPN XXIF01-ST). Additionally, PBR Registration Nos. 166596, 168286, and 168893 will be incorporated by consolidation and PBR Registration No. 146579 will be partially incorporated by consolidation with this amendment project.

Emission Summary

Air Contaminant	Current Allowable Emission Rates (tpy)	Allowable Emission Rated Authorized by Consolidated PBRs (tpy)	Proposed Allowable Emission Rates (tpy)	Change in Allowable Emission Rates (tpy)	Project Changes at Major Sources (Baseline Actual to Allowable)* (tpy)
PM	90.37	0	116.51	26.14	N/A
PM_{10}	78.41	0	102.21	23.80	N/A
$PM_{2.5}$	73.28	0	95.90	22.62	N/A
VOC	219.40	0.02	250.60	31.18	N/A
NO_X	232.27	0.58	264.19	31.34	N/A
CO	929.75	0	1082.24	152.49	N/A
SO_2	22.44	0	58.33	35.89	N/A
NH_3	82.79	0.01	94.43	11.63	N/A
H_2SO_4	0.39	0	3.69	3.30	N/A

* BOP has Plant-wide Applicability Limits (PALs) for NOx, CO, VOC, PM/PM_{10}/$PM_{2.5}$, SO_2, and sulfuric acid (H_2SO_4) in Permit No. PAL6 issued on August 24, 2005. BOP is not requesting an increase in a PAL for any of these criteria pollutants as a result of the proposed project. Therefore, a federal permitting applicability review is not required in accordance with 30 TAC 116.190.

Compliance History Evaluation - 30 TAC Chapter 60 Rules

A compliance history report was reviewed on:	September 24, 2022
Site rating & classification:	9.26 / Satisfactory

A compliance history report was reviewed on:	September 24, 2022
Company rating & classification:	5.30 / Satisfactory
Has the permit changed on the basis of the compliance history or rating?	No
Did the Regional Office have any comments? If so, explain.	No

Public Notice Information

Requirement	**Date**
Legislator letters mailed	**9/27/2022**
Date 1st notice published	**10/20/2022**
Publication Name: **The Baytown Sun**	
Pollutants: **Carbon monoxide, nitrogen oxides, sulfuric acid, organic compounds, particulate matter including particulate matter with diameters of 10 microns or less and 2.5 microns or less, sulfur dioxide, and ammonia.**	
Date 1st notice Alternate Language published	**10/20/2022**
Publication Name (Alternate Language): **El Perico**	
1st public notice tearsheet(s) received	**10/26/2022**
1st public notice affidavit(s) received	**10/26/2022**
1st public notice certification of sign posting/application availability received	**12/8/2022**
SB709 Notification mailed	**10/4/2022**
Date 2nd notice published	**12/22/2022**
Publication Name: **The Baytown Sun**	
Pollutants: **Ammonia, hazardous air pollutants, carbon monoxide, nitrogen oxides, organic compounds, particulate matter including particulate matter with diameters of 10 microns or less and 2.5 microns or less, sulfur dioxide, and sulfuric acid mist.**	
Date 2nd notice published (Alternate Language)	**12/22/2022**
Publication Name (Alternate Language): **El Perico**	
2nd public notice tearsheet(s) received	**12/28/2022**
2nd public notice affidavit(s) received	**12/28/2022**
2nd public notice certification of sign posting/application availability received	**1/27/2023**

Public Interest

Number of comments received	1
Number of meeting requests received	2
Number of hearing requests received	2
Date meeting held	N/A, public meeting denied 1/23/2023
Date response to comments filed with OCC	6/1/2023

Number of comments received	1
Date of SOAH hearing	Preliminary hearing: 9/28/2023 Final hearing: TBD

Federal Rules Applicability

Requirement	
Subject to NSPS?	**Yes**
Subparts **A, Kb, VVa, NNN, RRR,** & **IIII**	
Subject to NESHAP?	**Yes**
Subparts **A, J, V,** & **FF**	
Subject to NESHAP (MACT) for source categories?	**Yes**
Subparts **A, XX,** & **YY**	

Nonattainment review applicability:

Harris County has been designated as a severe nonattainment area for ozone. BOP has Plant-wide Applicability Limits (PALs) for the ozone precursors of NOx and VOC in Permit No. PAL6 issued on August 24, 2005. BOP is not requesting an increase in a PAL for any of these criteria pollutants as a result of the proposed project. Therefore, a federal permitting applicability review is not required in accordance with 30 TAC 116.190.

PSD review applicability:

BOP has PALs for NO_X, CO, PM/PM_{10},/$PM_{2.5}$, SO_2, and sulfuric acid (H_2SO_4) in Permit No. PAL6 issued on August 24, 2005. BOP is not requesting an increase in a PAL for any of these criteria pollutants as a result of the proposed project. Therefore, a federal permitting applicability review is not required in accordance with 30 TAC 116.190. PSD review is also not triggered for greenhouse gas (GHG) emissions according to 30 TAC § 116.164(a)(2) since PSD review was not triggered for any non-GHG pollutants.

Title V Applicability - 30 TAC Chapter 122 Rules

Requirement

Title V applicability:

The site operates under Title V Permit O-1553.

Requirement

Periodic Monitoring (PM) applicability:

The site is a Title V major source and is subject to 30 TAC § 122 requirements. The permit requires periodic monitoring as follows:

- Furnace decoking (EPN BOPXXDECOKE) – daily visible emission inspections during decoking mode according to SC No. 8.A. This will include the new XXI Furnace (EPN XXIF01-ST).
- Fugitives – 28VHP and 28CNTQ LDAR programs for equipment leak fugitives in VOC service (SC Nos. 15 and 17). 28AVO LDAR program for components in NH_3 service associated with the SCR system (SC No. 18).
- Cooling Tower (EPN BOPXXCT) water recirculation rate, total dissolved solids (TDS), and VOC water concentration monitoring according to SC No. 13.
- Tank and tote throughput records according to SC No. 14.I. Note that the tanks and totes are not affected by this amendment project.
- NOx and CO CEMS for the furnaces, EPNs XXAF01-ST through XXIF01-ST, according to SC No. 23, which includes the new XXI Furnace (EPN XXIF01-ST).
- NH_3 stack monitoring for the furnaces, EPNs XXAF01-ST through XXIF01-ST, according to SC No. 24, which includes the new XXI Furnace (EPN XXIF01-ST).

Compliance Assurance Monitoring (CAM) applicability:

- A cyclone will be used to reduce PM/PM_{10},/$PM_{2.5}$ emissions from the BOP-XX Furnace Decoke Cap, EPN BOPXXDECOKE, with a represented particulate matter control efficiency of at least 95% as specified in SC No. 8 of the current permit. The proposed post-control PM emission rate from EPN BOPXXDECOKE is 15.49 tpy; assuming 95% control from the cyclone results in a pre-control PM emission rate of 309.80 tpy. However, there are five decoke pot drums (four existing and one additional one being added with the proposed project), and thus the pre-control PM emission rate per drum is 61.96 tpy. Since this annual PM emission rate is less than 100 tpy, CAM does not apply since the pre-control major source threshold specified in 30 TAC 122.604(b)(3) and 30 TAC 122.10(13)(C) is not exceeded. Nevertheless, the steam flow target and monitoring specified in SC No. 8 of the current permit ensures CAM is met for all of the decoking vents combined. The cyclonic decoke pot uses steam to provide motive force, which allows separation of fine particulate matter.
- Pilot flame monitoring of the Elevated Flare (EPN FLAREXX1) and Multi-Point Ground Flare (EPN FLAREXX2) according to SC Nos. 10.B and 26.D. Note that these flares are not affected by this amendment project.
- Capture system inspections and bypass specifications for the Elevated Flare (EPN FLAREXX1) and Multi-Point Ground Flare (EPN FLAREXX2) according to SC No. 11. Note that these flares are not affected by this amendment project.

Process Description

Furnaces

The unit will operate by firing the furnace section, consisting of steam cracking furnaces, continuously (EPN BOPXXFURNACE, which includes EPNs XXAF01-ST through XXIF01-ST). The project will add one new furnace (EPN XXIF01-ST, XXIF01-MSS). The furnace design is proprietary and is equipped with Selective Catalytic Reduction (SCR) systems to control NOx emissions. The furnaces crack fresh ethane that is combined with recycled ethane. Steam is introduced as part of the process. The furnace outlet stream is cooled in the Quench Tower. The furnaces fire imported natural gas or blended fuel gas that consists of imported natural gas and tail gas. Tail gas is a recycle stream resulting from an initial separation of methane and hydrogen during the chilling step within the Demethanizer System. The composition of blended fuel gas will depend on the BOP site hydrogen balance.

Decoking

In the cracking operation, coke (molecular carbon) gradually builds on the inside walls of the furnace tubes. This layer of coke impedes heat transfer and must be removed periodically while the furnace is offline through a steam/air decoke operation. The coke is removed from the walls of the furnace tubes through oxidation and spalling. The spalled coke fines

are disengaged from the furnace effluent in the decoke drum. Particulate matter emissions are controlled through cyclonic separators at the decoke drum vent which releases to atmosphere (EPN BOPXXDECOKE).

Quench Tower
The combined furnace effluent flows into the Quench Tower where it is cooled with quench water. The majority of the dilution steam and some of the heavier hydrocarbons are condensed and exit the tower bottoms. Cooled cracked gases from the tower overhead are caustic scrubbed and compressed. The Quench Tower bottoms stream is pyrolysis water that contains trace amounts of hydrogen sulfide, organic acids, phenols, and some heavy hydrocarbons through direct contact with the process gas. A stripper removes the hydrocarbons from the quench (pyrolysis) water stream that will be used for dilution steam. The heavier hydrocarbons removed from quench water stream are sent to the base plant for recovery. Some process water is removed from the circulating dilution steam and is processed in wastewater treatment facilities before the outfall.

Recovery System
The processing steps within the Recovery Section consist of process gas compression, ammonia removal, caustic scrubbing, and feed drying; deethanizing and acetylene conversion; feed chilling and demethanizing; and ethylene recovery. Refrigeration required for the heat removal in low temperature fractionation is provided by refrigeration systems.

Caustic Wash and Compression
Caustic Water Wash Towers are located between
compressor stages, where carbon dioxide (CO_2) and hydrogen sulfide (H_2S) are removed in stages of caustic scrubbing. Spent caustic resulting from the caustic scrubbing of the Quench Tower overhead is oxidized in a Wet Air Oxidation Unit prior to neutralization with sulfuric acid and introduction to the plant's wastewater treatment system. Gases from the Wet Air Oxidation Unit are combusted to minimize VOC emissions. The duty of the process gas compressors is to transfer low pressure gas from the Quench Tower overhead stream to a higher pressure disposition. This process allows the gas to move through the Recovery Section for separation. Once washed and compressed, the Quench Tower overhead stream is dried.

Deethanizer and Acetylene Converter
The Deethanizer separates the hydrocarbons with two or less carbon atoms from heavier hydrocarbons. The overhead stream is sent to the Acetylene Converters where acetylene is converted to ethylene and ethane. If the Acetylene Converter requires regeneration online, the gases from the Acetylene Converter regeneration are minimal and are captured in the flare header (EPN BOPXXFLARE). The Deethanizer bottoms product, hydrocarbons with more than two carbon atoms, is sent to the BOP Depropanizer in the existing plant facilities. The heavier products from the new facilities such as propylene, propane, 1,3-butadiene, isoprene, pyrolysis gasoline, and benzene are recovered along with the same products from the existing facilities.

Demethanizer System
The objective of the Demethanizer System is to separate ethylene from lighter components. The Demethanizer Chilling Train and Demethanizer accomplish this separation through progressively colder temperature levels and distillation. A tail gas stream consisting of methane and hydrogen is produced from the Demethanizer system. This stream can be further processed to purify and recover the commercial value of the hydrogen, although the Unit routes the tail gas with unrecovered hydrogen to the fuel gas system.

Ethylene Recovery
Ethylene and ethane are fractionated in the C2 Splitter to produce the ethylene product. The residual ethane is recycled to the steam cracking furnaces where it is mixed with fresh feed.

Cooling Tower
The cooling tower (EPN BOPXXCT) provides process heat removal and supplies cooling water to heat exchanger systems in the Unit. The cooling tower is a multi-cell, induced draft, counter-flow type cooling tower.

Flare System

The flare system (EPN BOPXXFLARE, which includes EPNs FLAREXX1 and FLAREXX2) is designed to provide safe control of gases vented from the proposed project. This system is equipped with a totalizing flow meter and an on-line analyzer to speciate the hydrocarbons in the flare gases, including Highly Reactive Volatile Organic Compounds (HRVOCs).

Wastewater Collection and Treatment System
The Unit operates a system to collect process wastewater, separate hydrocarbons from the water, and segregate the streams in storage tanks. The wastewater will be transported to the ExxonMobil Baytown Refinery Wastewater Treatment Plant for further processing to remove residual hydrocarbons. The treated water will then be discharged to an approved outfall location.

Backup Engines
There are three backup generators
powered by diesel engines (EPN DIESELXX) and there is one diesel tank associated with each backup generator. The normal operation of the generators is to test for proper operation weekly, in the event it needs to be used in an emergency or backup situation. There are also two booster pumps for the firewater system powered by diesel engines (EPN DIESELXX). The normal operation of the booster pumps is to test for proper operation weekly, in the event it needs to be used in an emergency or backup situation.

Planned Maintenance, Startup, and Shutdown (MSS) Activities
Emissions from planned maintenance, startup and shutdown activities including equipment openings, furnace startup, consumables, vacuum trucks, and frac tanks are authorized under Flexible Permit No. 3452. In addition, one hundred (100) hours of SCR downtime during MSS for the new furnace are being authorized under EPN XXIF01-MSS. The SCR system includes a variety of mechanical and electrical components that require maintenance to ensure good operation of ammonia injection, including ammonia pumps, ammonia filters, air blower systems, electric heaters, electric heater controls, hydraulic control valves, and atomization nozzles. The maintenance allotment under this EPN will allow for online scheduled maintenance of the system.

Project Scope

The BOP-2X Unit contains eight existing furnaces and recovery equipment, as well as a cooling tower, a flare system, and other utilities. The unit processes ethane to produce ethylene and other products. The unit is comprised of typical process equipment including vessels, drums, exchangers, rotating equipment, pipe and piping components, utilities, instrumentation including analyzers, and chemical injection facilities. Existing utilities (such as plant air, electric, marginal steam product) support the unit as needed.

The BOP2X Expansion Project will add facilities to enable an increase in olefins production at the BOP-2X Unit. This will be accomplished by adding a new furnace, adding a new decoke pot for the furnace, making piping and equipment changes to distillation, compression, and recovery equipment, and increasing the cooling water capacity of the existing cooling tower by adding new cells.

The emissions impact from the project is summarized below:

- New allowable limits for a new furnace to be known as the XXI Furnace (EPNs XXIF01-ST, XXIF01-MSS);
- Increase to allowable limits for Decoke Pot XXI (EPN XXI-DEC / EPN: BOPXXDECOKE);
- Increase to allowable limits for Fugitives (EPN BOPXXFUG); and
- Increase to allowable limits for the Cooling Tower (EP BOPXXCT).

The ammonia to be used for the SCR system associated with the new XXI Furnace will be in aqueous form; therefore, a disaster review is not triggered since the ammonia used is not in anhydrous form.

Additionally, the following PBR registrations are being incorporated by consolidation: Registration No. 166596 (30 TAC 106.262 for additional fugitive components), Registration 168286 (§106.261 for additional fugitive components), and Registration No. 168893 (§106.261 for additional fugitive components). PBR Registration No. 146579, which authorized

NOx and VOC emissions from decoking activities from the pyrolysis furnaces under EPN BOPXXDECOKE via §106.261/106.262, is being partially incorporated by consolidation; however, since it includes sources in NSR Permit No. 3452 as well, this registration will not be voided with this amendment project.

Revised/Additional Special Conditions

As a result of this amendment action, the permit special conditions (SCs) are being revised as summarized below.

Initial SC No.	New SC No.	Description of Change
7	7	Added the new XXI Furnace (EPN XXIF01-ST) to the list of furnaces subject to the fuel sulfur content limitation of 5 grains total sulfur per 100 dscf fuel in paragraph A and the fuel flow meter requirement in paragraph B.
-	7.D	Added the new XXI Furnace (EPN XXIF01-ST) NOx, CO, and NH_3 concentration limits.
7.D	7.E	Added the new XXI Furnace (EPN XXIF01-ST) to this paragraph referencing SC No. 21 that exempts the concentration limits during planned MSS activities specified in SC No. 21.
7.E	7.F	Specified that AMOC No. 183 applies to EPN BOPXXFURNACE (EPNs XXAF01-ST, XXBF01-ST, XXCF01-ST, XXDF01-ST, XXEF01-ST, XXFF01-ST, XXGF01-ST and XXHF01-ST) since the EPNs were not previously listed and to clearly indicate that the new XXI Furnace (EPN XXIF01-ST) was not included in this AMOC.
14.G	14.G	Added the new XXI Furnace (EPN XXIF01-ST) to the list of combustion sources in which tank vents may be routed for control.
18	18	Updated this condition to match current TCEQ boilerplate language for the 28AVO LDAR program since the applicant represented this LDAR program for NH_3 fugitive components. Some slight wording changes to the boilerplate were included in paragraph B based on input from the applicant, who cited ExxonMobil Baytown Refinery Permit No. 18287, SC No. 43, as justification for the language (i.e., the language used in Permit No. 102982 matches Permit No. 18287).
21	21	Added the new XXI Furnace (EPN XXIF01-ST) to this condition related to the MSS activities during which the concentration limits in SC Nos. 7.C(1) through 7.C(4), 7.D(1) through 7.D(4), and 7.F do not apply. Added paragraph G that restricts the planned MSS activities during which Furnace XXI's SCR is out of service for planned MSS (EPN XXIF01-MSS) to no more than 100 hours per rolling 12-month period as represented in the emission calculations and BACT.
23	23	Added the new XXI Furnace (EPN XXIF01-ST) to this special condition that NOx and CO CEMS requirements to reflect that this new furnace will have NOx and CO CEMS.
24	24	Added the new XXI Furnace (EPN XXIF01-ST) to this special condition for ammonia concentration monitoring and added references to new paragraph 7.D(4) for the ammonia concentration limit similar to the other existing furnaces.
25, 25.B	25, 25.B	No change. The applicant was asked to justify that stack testing for the new XXI Furnace (EPN XXIF01-ST) was not warranted, to which they responded that the new furnace will be designed to be as similar as possible to the eight existing furnaces. The new XXI Furnace will use the same proprietary burner design as the existing eight. The duty is balanced across the furnace block and the XXI Furnace will operate in unison with the rest of the block, firing at the same rate. The ninth furnace will fire fuel like Furnaces XXD and XXH which were sampled. Stack testing was completed for existing furnaces XXA, XXB, XXD and XXH, and the results were approved to be used for compliance for the other four identical furnaces. The emission rates measured during stack sampling were used to show compliance with the MAERT limits of the permit and the site-specific emission factors from the tests are used for PAL reporting purposes. No testing according to SC No. 25 is being proposed for Furnace XXI for the same

		reason that additional testing was waived for existing furnaces XXC, XXE, XXF, and XXG.
26.A	26.A	Updated this recordkeeping requirement to reflect the concentration limits in new SC No. 7.D for the new XXI Furnace (EPN XXIF01-ST).
26.I	26.I	Updated this MSS recordkeeping requirement to include the new XXI Furnace (EPN XXIF01-ST) similar to the other furnaces. Also changed the recordkeeping reference from SC No. 21.C to 21 to require recordkeeping for all MSS modes of operations specified in SC No. 21 rather than just the start-up mode specified in SC No. 21.C.
MAERT		Updated the MAERT to reflect the proposed amendment project. Specific changes are: • Updated BOP-XX Furnace Decoke Cap CO and PM/PM_{10}/$PM_{2.5}$ emission rates, added VOC and NOx emission rates, and updated footnote 7 to include the new XXI Furnace, EPN XXI-DEC. • Added new XXI Furnace, EPN XXIF01-ST. • Added NOx MSS emissions from new XXI Furnace, EPN XXIF01-MSS. • Updated PM/PM_{10}/$PM_{2.5}$ and VOC emission rates from the BOP-XX Cooling Tower, EPN BOPXXCT. • Updated VOC and NH_3 emission rates for BOP-XX Fugitives, EPN BOPXXFUG.

Best Available Control Technology

Source Name	EPN	Best Available Control Technology Description
XXI Furnace	XXIF01-ST	Selective catalytic reduction (SCR) will be used to meet a maximum short-term (24-hour average) NOx emission factor of 0.015 lb/MMBtu during routine operations and an annual 12-month rolling NOx emission factor of 0.010 lb/MMBtu during routine operations. These proposed NOx emission factors during routine operations are consistent with the limits for Furnaces XXA through XXH as specified in SC No. 7.C of the current permit. The TCEQ Tier 1 guideline for furnaces greater than 40 MMBtu/hours is a NOx emission factor of 0.01 lb/MMBtu. The applicant proposed CEMS that will ensure the NOx emission factors are met. Additionally, the applicant provided the following table showing that the proposed NOx emission factors during routine operations is consistent with other recently permitted facilities in Texas:

Permit Holder	Permit Number	Issuance Date	Short-Term NOx EF (lb/MMBtu)	Annual NOx EF (lb/MMBtu)
GCGV, Corpus Christi	146425	6/12/19	0.015	0.01
ExxonMobil BOP XH	3452	11/6/19	0.015	0.01
Total, Port Arthur	122353	1/17/17	0.015	0.01
DuPont, Port Arthur	914	1/4/16	0.011	0.01
Formosa, Point Comfort	107518	8/8/14	0.015	0.01
Occidental, Corpus Christi	107530	5/16/14	0.015	0.01
Dow, Freeport	107153	3/27/14	0.015	0.01
ExxonMobil BOP2X	102982	2/19/14	0.015	0.01
CPChem, Cedar Bayou	1504A	8/6/13	0.015	0.01
CPChem, Sweeny	22690	5/17/13	0.015	0.01
BASF, Port Arthur	36644	7/16/12	0.025	0.01

The NOx emission factors for the most recent three permits in the table above were reviewed and confirmed to be correctly represented by the applicant.

During transient MSS modes of operation that include decoke mode, hot steam standby, start-up, shutdown, feed in, and feed out operations as

Source Name	EPN	Best Available Control Technology Description
		defined in SC No. 21 of the permit, a higher NOx emission rate of 18.00 lb/hour at up to 600 hours/year was proposed as BACT. During furnace transient operations, the flue gas flow rate and temperature are changing and the SCR reactions are no longer in steady state. The applicant represented that a lb/MMBtu emission factor is not practical to assign when the SCR is not in steady state and the oxygen concentration is high. However, MSS modes will comply with the lb/hr rate for the furnace which includes a lower duty of the furnace. As noted earlier, the applicant represented that a NOx CEMS will be employed, which will ensure compliance with the represented emission factors. The CO emission basis was proposed as 50 ppmvd at 3% oxygen for the hourly and annual basis through the use of good design and combustion practices, which meets the TCEQ Tier 1 guideline of 50 ppmvd at 3% oxygen using good combustion practices for furnaces greater than 40 MMBtu/hour. The applicant proposed CEMS that will ensure the annual CO emission factor is met. Good design and combustion practices and gaseous fuel firing was proposed BACT for VOC and particulate matter from the furnace. These emission factors were taken from Table 1.4-2 of AP-42 dated July 1998. Combustion of low sulfur fuel gas is proposed as BACT for SO_2 and H_2SO_4. The SO_2 emissions are based on a fuel sulfur content of 5 grains total sulfur/100 scf specified in the current version of the permit, SC No. 7.A. The furnace will fire imported natural gas or blended fuel gas that consists of imported natural gas and tail gas. Sulfuric acid emissions were estimated assuming a 6% molar conversion of SO_2 to H_2SO_4. The proposed annual emission rate of the NH_3 is based on 10 ppmvd at 3% O_2 on a 12-month rolling basis and 15 ppmvd at 3% O_2 on a short-term hourly basis to allow for short-term operational variations.
XXI Furnace MSS (SCR down for planned MSS)	XXIF01-MSS	For MSS operations when the SCR is down for planned maintenance (EPN XXIF01-MSS), a NOx emission factor of 0.066 lb/MMBtu at up to 100 hours/year was proposed to satisfy BACT. The applicant justified the NOx MSS emission factor by citing Permit No. 149177 issued January 11, 2019, for the ExxonMobil Baytown Chemical Plant (BTCP). This project represented a NOx emission factor of 0.06 lb/MMBtu (HHV) during planned MSS operations at up to 168 hours/year. While the proposed NOx emission factor is 10% higher than that provided in Permit No. 149177, the proposed MSS annual operation is 100 hours/year compared to 168 hours/year in Permit No. 149177 (40% less annual hours of MSS activities), and the proposed annual NOx emission rate is 1.93 tpy. Given the difference in proposed annual hours per year and relatively low annual NOx emission rate, the proposed NOx emissions during SCR planned MSS downtime is considered acceptable.
Cooling Tower	BOPXXCT	The cooling tower is a non-contact design with monthly monitoring of VOC in the water according to TCEQ Sampling Procedures Manual, Appendix P (dated January 2003 or a later edition), with leaks repaired as soon as

Source Name	EPN	Best Available Control Technology Description
		possible. The maximum hourly and rolling 12-month total VOC emission rates were based on VOC concentration in the water of 0.8 ppmw and 0.08 ppmw, respectively. To minimize PM/PM_{10}/$PM_{2.5}$ from the cooling tower, drift eliminators are employed which have a drift loss of 0.0005%, which is less than the TCEQ Tier I BACT guideline of 0.001%. The proposed PM/PM_{10}/$PM_{2.5}$ emission rates were calculated based on the maximum cooling tower recirculation rate and the maximum total dissolved solids (TDS) concentration.
BOP-XX Furnace Decoke Cap (furnace decoking operations, decoking drum)	BOPXXDECOKE	Emissions from the decoking activities result from combustion of the coke build-up on the coils of the new furnace, which is emitted to the atmosphere through the decoke drum vent. The spalling off and oxidation of the coke from the addition of oxygen and steam inside the furnace's radiant tubes after stopping the fuel flow and feed stock forms large particulate matter and small particulate matter, PM_{10}/$PM_{2.5}$. The oxidation of the coke also forms VOC and CO, which are emitted from the decoke stack. The combustion also causes thermal conversion of nitrogen in makeup air forming NOx. For decoking CO emissions, minimizing coke formation will reduce CO emissions since the combustion of coke during decoking will be minimized to a minimum amount of coke. Coke formation is minimized through good combustion and maintenance practices of the furnaces. The applicant represented that this method of control is standard industry practice and because of the infrequency of decoking and the resulting low annual emissions, proposed no further controls. Therefore, good combustion and maintenance practices were proposed as BACT for CO from decoking of the proposed furnace. Decoking vent NOx and VOC emissions, as well as CO emissions, will be minimized by meeting the work practices specified in the Ethylene MACT rule, specifically 40 CFR 63.1103(e)(7), which requires complying with two of the following four work practices: • Continuously monitor the CO_2 concentration. • Continuously monitor the temperature at the radiant tube(s) outlet. • Verify that decoke air is no longer being added after decoking and before back to normal. • Inject materials into the steam or feed to reduce coke formation inside the radiant tube(s). The work practices listed above ensure good combustion of coke buildup inside the pyrolysis tubes during decoke and limits them within the proposed allowable emission rates. For PM/PM_{10}/$PM_{2.5}$ emissions, minimizing coke formation will reduce PM/PM_{10}/$PM_{2.5}$ emissions since the combustion of coke during decoking will be minimized to a minimum amount of coke. Good combustion and maintenance practices were proposed as BACT for decoking of the proposed furnace. Additionally, the proposed project will meet BACT through control of particulate matter generated during decoking

Source Name	EPN	Best Available Control Technology Description

operations with cyclonic separation in the decoke drum to remove coke fines from the effluent. The cyclone scrubber was represented as controlling particulate matter by at least 95%. Additionally, the steam flow target and monitoring specified in SC No. 8 of the current permit ensures that the represented cyclone control is met since the cyclonic decoke pot uses steam to provide motive force, which allows separation of fine particulate matter.

The above proposed practices to satisfy BACT from the decoking vents based on a review of recent BACT determinations provided by the applicant as summarized below:

Permit Holder	Permit Number	Issuance Date	Decoking BACT Summary
GCGV, Corpus Christi	146425	6/12/19	Control decoke effluent by a cyclone separator to remove particulates, and the exhaust from the cyclone is redirected to the furnace firebox to destroy remaining organic particulates and CO.
ExxonMobil BOP XH	3452	11/6/19	Limit the number and duration of decoking events using good combustion and maintenance practices. PM emissions are controlled with a cyclone with 95% capture efficiency.
Total, Port Arthur	122353	1/17/17	PM emissions are controlled with two cyclones.
DuPont, Port Arthur	914	1/4/16	Limit the hours of decoking events.
Formosa, Point Comfort	107518	8/8/14	PM emissions are controlled with cyclones with 99.7% capture efficiency. Good combustion engineering practices are applied to minimize VOC & CO emissions from de-coking.
Occidental, Corpus Christi	107530	5/16/14	Route the exhaust to furnace firebox.
Dow, Freeport	107153	3/27/14	Control decoke effluent by a cyclone separator, and the exhaust is redirected to the furnace firebox.
ExxonMobil BOP2X	102982	2/19/14	PM emissions are controlled with a cyclone with 95% capture efficiency. Good combustion and maintenance practices are applied to minimize VOC & CO emissions from de-coking.
CPChem, Cedar Bayou	1504A	8/6/13	Route the exhaust to furnace firebox.
CPChem, Sweeny	22690	5/17/13	BACT discussion not found.
BASF, Port Arthur	36644	7/16/12	BACT discussion not found.

The BACT for the most recent three permits in the table above were reviewed and confirmed to be correctly represented by the applicant.

No add-on control device was proposed for VOC, CO, and NOx by the applicant. The applicant noted that another combustion device such as a catalytic thermal oxidizer could in theory be used in series with the decoke pot to control VOC in the low concentration / high volume stream. However, the applicant stated that catalytic thermal oxidizers typically do not receive high CO loads. Instead, the furnace firebox itself could be used as a thermal oxidizer for VOC in the effluent from the decoke pot when it is in decoke mode, but the applicant noted that EPA's review of organic HAP sampling has found virtually no difference between concentrations of organics that were sampled from decokes that had been routed to decoke pot versus routed to firebox according to the

Source Name	EPN	Best Available Control Technology Description
		preamble discussion for Ethylene MACT (Federal Register Volume 84, No. 196, page 54307, dated October 9, 2019), which states: *"The emissions stream generated from decoking operations (i.e., the combination of coke combustion constituents, air, and steam from the radiant tube(s)) is very dilute with a high moisture content (e.g., generally >95 percent water). As part of our CAA section 114 request, we required companies to perform testing for HAP from this emissions source at certain ethylene cracking furnaces (see section II.C of this preamble for details about our CAA section 114 request). A minimum of three decoking cycles were required to be tested; and emissions data were obtained for three test runs spaced over the entire duration of each decoking cycle. The test data collected from industry confirm that HAP emissions, such as non-PAH organic HAP, occur during decoking operations. However, the majority (i.e., 88 percent) of non-PAH organic HAP were found to be below detection levels (BDL)." We regard situations where, as here, the majority of measurements are below detection limits, as measurements that are not "technologically practicable" within the meaning of CAA section 112(h)."* The applicant stated that the firebox in decoke mode would oxidize more CO to CO_2, but would provide no reduction in NOx, as the NOx emissions would be expected to be higher due to the need for burners with hotter flames that can tolerate the expansion of decoke steam. The applicant expects no control effect on particulate matter and a nominal reduction in small particulate matter, $PM_{10}/PM_{2.5}$. For the XXI Furnace, decoke to firebox is not technically practicable without introducing safety risks associated with the expansion of decoke steam as well as a fouling risk of the SCR by the remaining uncontrolled fraction of large particulate matter from the decoke pot according to the applicant.
Piping Fugitive Components	BOPXXFUG	The applicant proposed the 28VHP LDAR program for fugitive components in VOC and CO service associated with the project along with 28CNTQ that requires quarterly monitoring of connectors/flanges at the same leak definition as valves, 500 ppmv. This meets TCEQ's Tier I BACT guidelines, which is the 28VHP LDAR program for sites with uncontrolled VOC fugitive emissions that exceed 25 tpy. The 28VHP and 28CNTQ requirements are already listed in the permit as SC Nos. 15 and 17, respectively. The applicant proposed the 28AVO LDAR program for components in NH_3 service associated with the SCR system. Audio, visual, and olfactory (AVO) checks will be conducted once per shift to check for leaks (already specified in SC No. 18).

Permits Incorporation

Permit by Rule (PBR) / Standard Permit / Permit Nos.	Description (include affected EPNs)	Action (Reference / Consolidate / Void)
Registration No. 166596 (PBR 30 TAC 106.262)	BOPXXFUG (authorized additional fugitive components)	Fully consolidate and void
Registration No. 168286 (PBR 30 TAC 106.261)	BOPXXFUG (authorized additional fugitive components)	Fully consolidate and void
Registration No. 168893 (PBR 30 TAC 106.261)	BOPXXFUG (authorized additional fugitive components)	Fully consolidate and void
Registration No. 146579 (PBR 30 TAC 106.261/262)	BOPXXDECOKE (authorized NOx and VOC emissions from decoking activities from the pyrolysis furnaces)	Partially Consolidate

Impacts Evaluation

Was modeling conducted? **Yes** Type of Modeling: **AERMOD, version 22112**

Is the site within 3,000 feet of any school? **No**

Additional site/land use information: **Urban modeling option chosen, consistent with previous modeling conducted for the site which has been approved by TCEQ in multiple projects (population of 104,000 within 10-km radius of site).**

The applicant provided an air quality analysis, which was audited by the TCEQ ADMT. The air quality analysis is acceptable for all review types and pollutants. More detailed information regarding the air quality analysis may be found in the ADMT modelling memo, ADMT Project No. 8256, dated November 8, 2022.

The modelling predicted that SO_2 and H_2SO_4 impacts are below the state property line de minimis level. The results are summarized in the table below.

Project-Related Modeling Results for State Property Line

Pollutant	Averaging Time	GLCmax (µg/m^3)	De Minimis (µg/m^3)
SO_2	1-hr	3.3	14.3
H_2SO_4	1-hr	0.30	1
H_2SO_4	24-hr	0.12	0.3

The criteria pollutants are below the de minimis levels as shown in the table below.

Modeling Results for Minor NSR De Minimis

Pollutant	Averaging Time	GLCmax (µg/m^3)	De Minimis (µg/m^3)
SO_2	1-hr	3.3	7.8
SO_2	3-hr	3	25

Pollutant	Averaging Time	GLCmax (µg/m^3)	De Minimis (µg/m^3)
PM_{10}	24-hr	1	5
$PM_{2.5}$	24-hr	0.72[a] 0.85[b]	1.2
$PM_{2.5}$	Annual	0.12[a] 0.13[b]	0.2
NO_2	1-hr	7.3	7.5
NO_2	Annual	0.2	1
CO	1-hr	9	2000
CO	8-hr	6	500

[a] Excluding secondary $PM_{2.5}$ impacts.
[b] Including secondary $PM_{2.5}$ impacts.

The applicant provided a health effects review as specified in the TCEQ's Modelling and Effects Review Applicability (MERA) guidance (APDG 5874 dated March 2018) for project emission increases of non-criteria pollutants. The project emissions of non-criteria pollutants listed below satisfy the MERA and are protective of human health and the environment.

Health Effects Review - Minor NSR Project-Related Results

Pollutant & CAS#	Averaging Time	GLCmax µg/m^3	ESL µg/m^3	Modeling and Effects Review Applicability (MERA) Step in Which Pollutant Screened Out
Ammonia 7664-41-7	1-hr	3.41	180	Step 3 - GLCmax < 10% ESL
	annual	0.39	92	Step 3 - GLCmax < 10% ESL
Distillates (petroleum), light catalytic cracked 64741-59-9	1-hr	304.4	3500	Step 3 - GLCmax < 10% ESL
	annual	12.74	350	Step 3 - GLCmax < 10% ESL

In summary, the applicant has demonstrated that the proposed project's emissions will not adversely affect public health and welfare, which includes NAAQS, additional impacts, minor new source review of regulated pollutants without a NAAQS, and air toxics review. The proposed increases in 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.

Permit Concurrence and Related Authorization Actions

Is the applicant in agreement with special conditions?	**Yes**
Company representative(s):	**Thomas Wauhob**
Contacted Via:	**Email**

Date of contact:

11/30/2022

Other permit(s) or permits by rule affected by this action:	**See permits incorporation summary table above**
List permit and/or PBR number(s) and actions required or taken:	**See permits incorporation summary table above**

Project Reviewer	Date	Section Manager	Date
Christopher Loughran, P.E.		Kristyn Campbell	

TCEQ Interoffice Memorandum

To: Chris Loughran, P.E.
Energy Section

Thru: Chad Dumas, Team Leader
Air Dispersion Modeling Team (ADMT)

From: Margaret Eldredge
ADMT

Date: November 8, 2022

Subject: Air Quality Analysis Audit – Exxon Mobil Corporation (RN102212925)

1. Project Identification Information

Permit Application Number: 102982
NSR Project Number: 347989
ADMT Project Number: 8256
County: Harris
Published Map: \\tceq4avmgisdata\GISWRK\APD\MODEL PROJECTS\8256\8256.pdf

Air Quality Analysis: Submitted by Trinity Consultants, October 2022, on behalf of Exxon Mobil Corporation.

2. Report Summary

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

A. Minor Source NSR and Air Toxics Analysis

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

Pollutant	Averaging Time	GLCmax (µg/m³)	De Minimis (µg/m³)
SO_2	1-hr	3.3	14.3
H_2SO_4	1-hr	0.30	1
H_2SO_4	24-hr	0.12	0.3

Table 2. Modeling Results for Minor NSR De Minimis

Pollutant	Averaging Time	GLCmax (µg/m³)	De Minimis (µg/m³)
SO_2	1-hr	3.3	7.8
SO_2	3-hr	3	25
PM_{10}	24-hr	1	5

Pollutant	Averaging Time	GLCmax (µg/m^3)	De Minimis (µg/m^3)
$PM_{2.5}$	24-hr	0.7	1.2
$PM_{2.5}$	Annual	0.1	0.2
NO_2	1-hr	7.3	7.5
NO_2	Annual	0.2	1
CO	1-hr	9	2000
CO	8-hr	6	500

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

The justification for selecting the 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[1,2], the 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 NAAQS.

The $PM_{2.5}$ De Minimis levels are the EPA recommended De Minimis levels. The use of the EPA recommended De Minimis levels is sufficient to conclude that a proposed source will not cause or contribute to a violation of a $PM_{2.5}$ NAAQS based on the analyses documented in EPA guidance and policy memorandums[3].

To evaluate secondary $PM_{2.5}$ impacts, the applicant provided an analysis based on a Tier 1 demonstration approach consistent with the EPA's Guideline on Air Quality Models. Specifically, the applicant used a Tier 1 demonstration tool developed by the EPA referred to as Modeled Emission Rates for Precursors (MERPs). The basic idea behind the 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 source, the applicant estimated 24-hr and annual secondary $PM_{2.5}$ concentrations of 0.13 µg/m^3 and 0.005 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)
XXIF01	0.40	0.03
BOPXXCT	8.01	0.56

[1] www.epa.gov/sites/production/files/2015-07/documents/appwso2.pdf

[2] www.tceq.texas.gov/assets/public/permitting/air/memos/guidance_1hr_no2naaqs.pdf

[3] 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)
BOPXXFUG	65.03	11.40
XXABDEC	0.31	0.02
XXCDDEC	0.34	0.02
XXEFDEC	0.27	0.02
XXGHDEC	0.27	0.02
XXIHDEC	0.27	0.02

3. Model Used and Modeling Techniques

AERMOD (Version 22112) was used in a refined screening mode.

For the health effects analysis, a unitized emission rate of 1 lb/hr was used to predict a generic short-term and long-term impact for each source. The generic impact was multiplied by the proposed pollutant specific emission rates to calculate a maximum predicted concentration for each source. The maximum predicted concentration for each source was summed to get a total predicted concentration for each pollutant. All health effect pollutants fell out at step 3 of the MERA.

Emissions from the decoking activities were modeled at the worst-case decoke vent based on generic modeling. For the 1-hr averaging time, vent XXCDDEC was modeled. For the annual averaging time, vent XXABDEC was modeled

For the 1-hr NO_2 analysis, two source groups were modeled. Source group “normal” represents normal operations of the proposed furnace (model ID XXIF01) plus all other sources (model ID XXCDDEC). Source group “MSS” represents maintenance, startup, and shutdown operations of the proposed furnace (model ID XXIF01M) and all other sources (model ID XXCDDEC). The result associated with the worst-case scenario was reported and summarized in the tables above. All sources were evaluated together for the annual NO_2 analysis.

The applicant conducted the 1-hr NO_2 NAAQS analysis using the ARM2 model option following EPA guidance.

A. Land Use

Medium roughness and elevated terrain were used in the modeling analysis. These selections are consistent with the AERSURFACE analysis, topographic map, DEMs, and aerial photography. The selection of medium roughness is reasonable.

The urban option was used in AERMOD to account for enhanced night-time dispersion due to heat island effects associated with the urban area and heat generated from nearby

industrial sources. The population chosen was 104,000 people. The applicant followed EPA guidance from Section 5 of the AERMOD Implementation Guide.

B. Meteorological Data

Surface Station and ID: Houston, TX (Station #: 12918)
Upper Air Station and ID: Lake Charles, LA (Station #: 3937)
Meteorological Dataset: 2016
Profile Base Elevation: 14.3 meters

C. Receptor Grid

The grid modeled was sufficient in density and spatial coverage to capture representative maximum ground-level concentrations.

D. Building Wake Effects (Downwash)

Input data to Building Profile Input Program Prime (Version 04274) are consistent with the aerial photography, plot plan, and modeling report.

4. Modeling Emissions Inventory

The modeled emission point and volume source parameters and rates were consistent with the modeling report. The source characterizations used to represent the sources were appropriate.

For the annual NO_2 analysis, the applicant assumed full conversion of NO_x to NO_2, which is conservative.

For the 1-hr NO_2 de Minimis analysis, MSS emissions from the XXI Furnace (EPN XXIF01-MSS) were modeled with an annual average emission rate, consistent with EPA guidance for evaluating intermittent emissions. Emissions from the furnace were represented to occur for no more than 99.6 hours per year.

With the exception above, maximum allowable hourly emission rates were used for the short-term averaging time analyses, and annual average emission rates were used for the annual averaging time analyses.

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Compliance History Report

Compliance History Report for CN600123939, RN102212925, Rating Year 2022 which includes Compliance History (CH) components from September 1, 2017, through August 31, 2022.

Customer, Respondent, or Owner/Operator: CN600123939, Exxon Mobil Corporation **Classification:** SATISFACTORY **Rating:** 5.30

Regulated Entity: RN102212925, EXXON MOBIL CHEMICAL BAYTOWN OLEFINS PLANT **Classification:** SATISFACTORY **Rating:** 9.26

Complexity Points: 31 **Repeat Violator:** NO

CH Group: 02 - Oil and Petroleum Refineries

Location: 3525 DECKER DR BAYTOWN, TX 77520-1646, HARRIS COUNTY

TCEQ Region: REGION 12 - HOUSTON

ID Number(s):

AIR OPERATING PERMITS PERMIT 1553
AIR NEW SOURCE PERMITS PERMIT 3452
AIR NEW SOURCE PERMITS REGISTRATION 34420
AIR NEW SOURCE PERMITS REGISTRATION 142612
AIR NEW SOURCE PERMITS REGISTRATION 54793
AIR NEW SOURCE PERMITS REGISTRATION 53401
AIR NEW SOURCE PERMITS REGISTRATION 168893
AIR NEW SOURCE PERMITS REGISTRATION 56790
AIR NEW SOURCE PERMITS REGISTRATION 71717
AIR NEW SOURCE PERMITS REGISTRATION 74541
AIR NEW SOURCE PERMITS EPA PERMIT PSDTX302M1
AIR NEW SOURCE PERMITS REGISTRATION 78611
AIR NEW SOURCE PERMITS REGISTRATION 80283
AIR NEW SOURCE PERMITS EPA PERMIT PAL6
AIR NEW SOURCE PERMITS REGISTRATION 85189
AIR NEW SOURCE PERMITS REGISTRATION 89698
AIR NEW SOURCE PERMITS REGISTRATION 87598
AIR NEW SOURCE PERMITS REGISTRATION 95582
AIR NEW SOURCE PERMITS REGISTRATION 139961
AIR NEW SOURCE PERMITS EPA PERMIT GHGPSDTX24
AIR NEW SOURCE PERMITS EPA PERMIT PSDTX302M2
AIR NEW SOURCE PERMITS REGISTRATION 154040
AIR NEW SOURCE PERMITS PERMIT AMOC170
AIR NEW SOURCE PERMITS PERMIT AMOC183
AIR NEW SOURCE PERMITS REGISTRATION 162318
AIR NEW SOURCE PERMITS REGISTRATION 146579
AIR NEW SOURCE PERMITS REGISTRATION 156570
AIR NEW SOURCE PERMITS REGISTRATION 168286
AIR NEW SOURCE PERMITS REGISTRATION 169145
STORMWATER PERMIT TXR05FG40
WASTEWATER PERMIT WQ0002184000
AIR EMISSIONS INVENTORY ACCOUNT NUMBER HG0228H
INDUSTRIAL AND HAZARDOUS WASTE EPA ID TXD980625966
AIR OPERATING PERMITS ACCOUNT NUMBER HG0228H
AIR NEW SOURCE PERMITS REGISTRATION 29094
AIR NEW SOURCE PERMITS ACCOUNT NUMBER HG0228H
AIR NEW SOURCE PERMITS REGISTRATION 52330
AIR NEW SOURCE PERMITS REGISTRATION 54383
AIR NEW SOURCE PERMITS REGISTRATION 169356
AIR NEW SOURCE PERMITS AFS NUM 4820100257
AIR NEW SOURCE PERMITS REGISTRATION 55105
AIR NEW SOURCE PERMITS REGISTRATION 55660
AIR NEW SOURCE PERMITS REGISTRATION 73880
AIR NEW SOURCE PERMITS EPA PERMIT PSDTX731M2
AIR NEW SOURCE PERMITS REGISTRATION 79047
AIR NEW SOURCE PERMITS REGISTRATION 81373
AIR NEW SOURCE PERMITS REGISTRATION 81754
AIR NEW SOURCE PERMITS EPA PERMIT PSDTX713
AIR NEW SOURCE PERMITS REGISTRATION 87751
AIR NEW SOURCE PERMITS REGISTRATION 96117
AIR NEW SOURCE PERMITS PERMIT 102982
AIR NEW SOURCE PERMITS REGISTRATION 123435
AIR NEW SOURCE PERMITS REGISTRATION 131869
AIR NEW SOURCE PERMITS REGISTRATION 135579
AIR NEW SOURCE PERMITS PERMIT AMOC5
AIR NEW SOURCE PERMITS PERMIT AMOC198
AIR NEW SOURCE PERMITS REGISTRATION 166596
AIR NEW SOURCE PERMITS PERMIT AMOC202
AIR NEW SOURCE PERMITS REGISTRATION 153939
AIR NEW SOURCE PERMITS REGISTRATION 160685
AIR NEW SOURCE PERMITS REGISTRATION 172278
IHW CORRECTIVE ACTION SOLID WASTE REGISTRATION # (SWR) 31404
STORMWATER PERMIT TXR1552KP
WASTEWATER EPA ID TX0077887
POLLUTION PREVENTION PLANNING ID NUMBER P00232
INDUSTRIAL AND HAZARDOUS WASTE SOLID WASTE REGISTRATION # (SWR) 31404

Compliance History Period: September 01, 2017 to August 31, 2022 **Rating Year:** 2022 **Rating Date:** 09/01/2022

Date Compliance History Report Prepared: August 16, 2023

Agency Decision Requiring Compliance History: Permit - Issuance, renewal, amendment, modification, denial, suspension, or revocation of a permit.

Component Period Selected: September 01, 2017 to August 31, 2022

TCEQ Staff Member to Contact for Additional Information Regarding This Compliance History.

Name: Chris Loughran **Phone:** (512) 239-0838

Site and Owner/Operator History:

1) Has the site been in existence and/or operation for the full five year compliance period? YES
2) Has there been a (known) change in ownership/operator of the site during the compliance period? NO

Components (Multimedia) for the Site Are Listed in Sections A - J

A. Final Orders, court judgments, and consent decrees:

1 Effective Date: 09/25/2018 ADMINORDER 2017-1764-AIR-E (1660 Order-Agreed Order With Denial)
Classification: Moderate
Citation: 30 TAC Chapter 122, SubChapter B 122.121
30 TAC Chapter 122, SubChapter C 122.210(a)
5C THSC Chapter 382 382.085(b)
Description: Failure to timely submit a revision application for a FOP for those activities at a site which change, add, or remove one or more permit terms or conditions.

2 Effective Date: 10/08/2018 ADMINORDER 2017-1596-AIR-E (1660 Order-Agreed Order With Denial)
Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter G 116.715(a)
5C THSC Chapter 382 382.085(b)
Rqmt Prov: Special Condition No. 1 PERMIT
Description: Failure to prevent unauthorized emissions. ExxonMobil failed to prevent the overpressurization of the Depropanizer Tower (NT01), which resulted in the release of unauthorized emissions (Category A12i(6)).

3 Effective Date: 02/03/2020 ADMINORDER 2019-0180-AIR-E (1660 Order-Agreed Order With Denial)
Classification: Moderate
Citation: 30 TAC Chapter 101, SubChapter A 101.20(3)
30 TAC Chapter 115, SubChapter H 115.722(c)(1)
30 TAC Chapter 116, SubChapter G 116.715(a)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Rqmt Prov: GTC OP
NSR Permit 3452, Special Condition 1 PERMIT
STC No. 24 OP
Description: Failure to prevent unauthorized emissions and failed to limit HRVOC emissions to 1,200 lbs or less per one-hour block period.
Classification: Moderate
Citation: 30 TAC Chapter 101, SubChapter A 101.20(3)
30 TAC Chapter 115, SubChapter H 115.722(c)(1)
30 TAC Chapter 116, SubChapter G 116.715(a)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Rqmt Prov: GTC OP
NSR Special Condition 1 PERMIT
STC No. 24 OP
Description: Failure to prevent unauthorized emissions and failed to limit HRVOC emissions to 1,200 lbs or less per one-hour block period.
Classification: Moderate
Citation: 30 TAC Chapter 101, SubChapter A 101.20(3)
30 TAC Chapter 115, SubChapter H 115.722(c)(1)
30 TAC Chapter 116, SubChapter G 116.715(a)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Rqmt Prov: GTC OP
Special Condition 1 PERMIT

STC No. 24 OP

Description: Failure to prevent unauthorized emissions and failed to limit HRVOC emissions to 1,200 lbs or less per one-hour block period.

4 Effective Date: 02/11/2020 ADMINORDER 2019-0958-AIR-E (1660 Order-Agreed Order With Denial)

Classification: Moderate

Citation: 30 TAC Chapter 101, SubChapter A 101.20(3)
30 TAC Chapter 116, SubChapter G 116.715(a)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: Special Condition 1 PERMIT

Description: Failure to prevent unauthorized emissions during an emissions event. (Category A12i6)

5 Effective Date: 06/02/2020 ADMINORDER 2019-1593-AIR-E (1660 Order-Agreed Order With Denial)

Classification: Moderate

Citation: 30 TAC Chapter 101, SubChapter A 101.20(1)
30 TAC Chapter 101, SubChapter A 101.20(3)
30 TAC Chapter 115, SubChapter H 115.722(d)
30 TAC Chapter 116, SubChapter G 116.715(a)
30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT A 60.18(c)(2)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: GTC and STC Nos. 1, 24, and 28.B OP
NSR Special Condition No. 1 PERMIT

Description: failed to operate the flare with a flame present at all times and failed to prevent unauthorized emissions.Specifically, the Respondent operated the flare without a flame present and released 13.88 lbs of CO, 2.86 lbs of NOx, and 658.67 lbs of VOC from the Primary Flare, EPN FLARE1, during an emissions event (Incident No. 290750) that occurred on August 22, 2018 and lasted 16 minutes.when a steam valve to the Primary Flare was opened, resulting in a pilot flame outage and the release to the atmo

6 Effective Date: 06/17/2022 ADMINORDER 2021-0282-AIR-E (1660 Order-Agreed Order With Denial)

Classification: Moderate

Citation: 30 TAC Chapter 101, SubChapter A 101.20(3)
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 116, SubChapter G 116.715(a)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: GTC OP
SC No. 1 PERMIT
Special Condition 1 PERMIT
STC No. 24 OP

Description: Failed to prevent unauthorized emissions. Specifically, the Respondent released 443.33 lbs of VOC, 346.67 lbs of CO, and 49.32 lbs of NOx from the Baytown Olefins Plant-X Flare, EPN FLAREX, during an emissions event (Incident No. 297145) that occurred on November 13, 2018 and lasted one hour and 12 minutes. The emissions event occurred when near-freezing temperatures caused the failure of one of the cycling valves within the Pressure Swing Adsorption Unit, resulting in flaring.

Classification: Moderate

Citation: 30 TAC Chapter 101, SubChapter A 101.20(3)
30 TAC Chapter 116, SubChapter G 116.715(a)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: GTC OP
SC No. 1 PERMIT
Special Condition No. 1 PERMIT
STC No. 24 OP

Description: Failed to prevent unauthorized emissions. The Respondent released 8.45 lbs of CO, 0.12 lb of hydrochloric acid, 0.15 lb of hydrogen sulfide, 0.20 lb of NOx, and 278.20 lbs of VOC as fugitive emissions, during an emissions event (Incident No. 345853) that occurred on November 11, 2020 and lasted four hours and 28 minutes. The emissions event occurred when a hole on a section of effluent piping on the Octant 8 of the Baytown Olefins Plant-I Furnace that caused an unplanned combustion incident.

See addendum for information regarding federal actions.

Compliance History Report for CN600123939, RN102212925, Rating Year 2022 which includes Compliance History (CH) components from September 01, 2017, through August 31, 2022.

B. Criminal convictions:

N/A

C. Chronic excessive emissions events:

N/A

D. The approval dates of investigations (CCEDS Inv. Track. No.):

Item 1	September 18, 2017	(1451148)
Item 2	October 16, 2017	(1457020)
Item 3	November 16, 2017	(1462477)
Item 4	December 15, 2017	(1468869)
Item 5	January 18, 2018	(1475574)
Item 6	February 20, 2018	(1487764)
Item 7	March 19, 2018	(1491447)
Item 8	April 19, 2018	(1494697)
Item 9	May 17, 2018	(1501647)
Item 10	June 18, 2018	(1508737)
Item 11	July 10, 2018	(1498520)
Item 12	July 19, 2018	(1515067)
Item 13	August 07, 2018	(1504019)
Item 14	August 17, 2018	(1521118)
Item 15	September 14, 2018	(1528302)
Item 16	October 12, 2018	(1534642)
Item 17	October 18, 2018	(1513745)
Item 18	November 16, 2018	(1542476)
Item 19	November 21, 2018	(1531110)
Item 20	November 30, 2018	(1530934)
Item 21	December 13, 2018	(1546240)
Item 22	December 27, 2018	(1537487)
Item 23	January 18, 2019	(1562793)
Item 24	February 19, 2019	(1562791)
Item 25	February 20, 2019	(1540502)
Item 26	February 25, 2019	(1544584)
Item 27	March 01, 2019	(1548621)
Item 28	March 12, 2019	(1531084)
Item 29	April 15, 2019	(1572854)
Item 30	May 20, 2019	(1585317)
Item 31	June 13, 2019	(1585318)
Item 32	July 10, 2019	(1594221)
Item 33	August 06, 2019	(1580472)
Item 34	August 13, 2019	(1600513)
Item 35	September 19, 2019	(1607416)
Item 36	October 09, 2019	(1614295)
Item 37	November 15, 2019	(1620087)
Item 38	December 13, 2019	(1627434)
Item 39	January 17, 2020	(1635067)
Item 40	February 14, 2020	(1641682)
Item 41	March 09, 2020	(1633639)
Item 42	April 13, 2020	(1654543)
Item 43	April 29, 2020	(1644533)
Item 44	May 08, 2020	(1661113)
Item 45	May 26, 2020	(1651677)
Item 46	June 18, 2020	(1667643)
Item 47	July 01, 2020	(1531077)
Item 48	July 08, 2020	(1659276)
Item 49	July 10, 2020	(1657460)
Item 50	August 17, 2020	(1681363)
Item 51	August 20, 2020	(1665425)

Item 52	September 15, 2020	(1687939)
Item 53	October 19, 2020	(1694287)
Item 54	November 16, 2020	(1715492)
Item 55	November 19, 2020	(1685792)
Item 56	November 23, 2020	(1659637)
Item 57	December 10, 2020	(1715493)
Item 58	December 11, 2020	(1692399)
Item 59	January 15, 2021	(1715494)
Item 60	March 16, 2021	(1728565)
Item 61	April 19, 2021	(1728566)
Item 62	May 19, 2021	(1741575)
Item 63	June 19, 2021	(1748111)
Item 64	June 29, 2021	(1737204)
Item 65	July 19, 2021	(1752713)
Item 66	August 17, 2021	(1758126)
Item 67	August 31, 2021	(1760342)
Item 68	September 16, 2021	(1767381)
Item 69	October 19, 2021	(1777840)
Item 70	November 18, 2021	(1773186)
Item 71	December 19, 2021	(1791669)
Item 72	January 10, 2022	(1799511)
Item 73	February 15, 2022	(1807343)
Item 74	March 10, 2022	(1814395)
Item 75	April 12, 2022	(1820965)
Item 76	May 13, 2022	(1829798)
Item 77	June 09, 2022	(1836098)
Item 78	July 13, 2022	(1710820)
Item 79	July 19, 2022	(1843297)

E. Written notices of violations (NOV) (CCEDS Inv. Track. No.):

A notice of violation represents a written allegation of a violation of a specific regulatory requirement from the commission to a regulated entity. A notice of violation is not a final enforcement action, nor proof that a violation has actually occurred.

1 Date: 05/02/2022 (1762599)

Self Report? NO Classification: Moderate

Citation:
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 117, SubChapter G 117.8130(4)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Special Condition 19A PERMIT
Special Term & Condition 1A OP
Special Term & Condition 24 OP

Description: Failure to conduct monthly validations for the NH3 continuous emissions monitoring system (CEMS) for heat steam recovery steam generators (Unit IDs: HRSG1; HRSG2; HRSG3; and HRSG5). (CATEGORY B1 Violation)

Self Report? NO Classification: Minor

Citation:
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
NSR Special Condition 16A2 PERMIT
Special Term & Condition 24 OP

Description: Failure to perform daily conductivity for Cooling Tower (Unit ID: BOPXCT). (CATEGORY C1 Violation)

Self Report? NO Classification: Minor

Citation:
30 TAC Chapter 115, SubChapter D 115.352(1)
30 TAC Chapter 115, SubChapter H 115.782(b)(2)
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT UU 63.1024(a)
5C THSC Chapter 382 382.085(b)
Special Condtion 12I PERMIT
Special Term & Condition 1A OP
Special Term & Condition 24 OP

Description: Failure to re-monitor components within the required timeframe. (CATEGORY C1 Violation)

Compliance History Report for CN600123939, RN102212925, Rating Year 2022 which includes Compliance History (CH) components from September 01, 2017, through August 31, 2022.

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 115, SubChapter H 115.725(d)(4)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Special Term & Condition 1A OP

Description: Failure to conduct sampling (Unit ID: FLAREXX1) within the required timeframe. (CATEGORY C1 Violation)

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 117, SubChapter B 117.345(b)(2)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Special Term & Condtion 1A OP

Description: Failure to submit relative accuracy test assessment (RATA) written notification within the required timeframe. (CATEGORY C3 Violation)

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Special Condition 73 PERMIT
Special Term & Condition 24 OP

Description: Failure to maintain combustion zone net heating values for Flare (Unit ID: SECFL). (CATEGORY B13 Violation)

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 101, SubChapter F 101.201(b)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Special Term & Condition 2F OP

Description: Failure to create a final record of emission event within the required 2 week timeframe. (CATEGORY C3 Violation)

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Special Condition 8C PERMIT
Special Term & Condition 24 OP

Description: Failure to conduct annual calibration for a Scrubber (Unit ID: XXAB-DEC). (CATEGORY B1 Violation)

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 122, SubChapter B 122.143(4)
30 TAC Chapter 122, SubChapter B 122.145(2)(A)
5C THSC Chapter 382 382.085(b)
General Terms & Conditions OP

Description: Failure to report all instances of deviations in the Deviation Report (DR) dated April 29, 2019. (CATEGORY B3 Violation)

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 122, SubChapter B 122.143(4)
30 TAC Chapter 122, SubChapter B 122.145(2)(A)
5C THSC Chapter 382 382.085(b)
General Terms & Conditions OP

Description: Failure to report all instances of deviations in the Deviation Report (DR) dated October 30, 2019. (CATEGORY B3 Violation)

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 122, SubChapter B 122.143(4)
30 TAC Chapter 122, SubChapter B 122.145(2)(A)
5C THSC Chapter 382 382.085(b)
General Terms & Conditions OP

Description: Failure to report all instances of deviations in the Deviation Report (DR) dated April 29, 2020. (CATEGORY B3 Violation)

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 115, SubChapter H 115.725(d)(4)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Special Term & Condition 1A OP

Description: Failure to conduct sampling (Unit ID: PRIMFL) within the required timeframe. (CATEGORY C1 Violation)

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 115, SubChapter H 115.725(d)(4)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Special Term & Condition 1A OP

Description: Failure to conduct sampling (Unit ID: SECFL) within the required timeframe. (CATEGORY C1 Violation)

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
FOP Special Term & Condition 24 OP
NSR Special Condition 8C PERMIT

Description: Failure to conduct annual calibration for a Scrubber (Unit ID: XXCD-DEC). (CATEGORY B3 Violation)

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
FOP Special Term & Conditoin 24 OP
NSR Special Condition 8C PERMIT

Description: Failure to conduct annual calibrations for a Scrubber (Unit ID: XXEF-DEC). (CATEGORY B1 Violation)

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
FOP Special Term & Condition 24 OP
NSR Special Condition 8C PERMIT

Description: Failure to conduct annual calibration for a Scrubber (Unit ID: XXGH-DEC). (CATEGORY B1 Violation)

2 Date: 07/31/2022 (1849464)

Self Report? YES Classification: Moderate

Citation: 2D TWC Chapter 26, SubChapter A 26.121(a)
30 TAC Chapter 305, SubChapter F 305.125(1)

Description: Failure to meet the limit for one or more permit parameter

F. Environmental audits:

Notice of Intent Date: 04/05/2019 (1555220)
Disclosure Date: 10/30/2019
Viol. Classification: Moderate
Citation: 30 TAC Chapter 101, SubChapter A 101.20(2)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT DDDDD 63.7540(a)(12)
Description: Failed to set the oxygen level no lower than the oxygen concentration measured during the most recent tune-up. Specifically, the excess oxygen level was set lower than the oxygen concentration measured during the most recent tune up on Unit IDs: BOILERA, BOILER B, BOILERC, and BOILDERD.

Notice of Intent Date: 07/02/2020 (1664598)
No DOV Associated

Notice of Intent Date: 10/28/2020 (1692588)
Disclosure Date: 10/27/2021
Viol. Classification: Minor
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
Rqmt Prov: PERMIT Special Conditions No. 14.A
Description: Failed to conduct quarterly monitor inspections. Specifically, in April 2021, it was discovered that the emissions monitoring criteria in the LDAR database in place prior to 4Q2020 did not trigger approximately 9,498 quarterly emissions monitor inspections (out of approximately 560,000potential quarterly emissions monitoring inspections) during the referenced time period.

G. Type of environmental management systems (EMSs):

N/A

H. Voluntary on-site compliance assessment dates:

N/A

I. Participation in a voluntary pollution reduction program:

N/A

Compliance History Report for CN600123939, RN102212925, Rating Year 2022 which includes Compliance History (CH) components from September 01, 2017, through August 31, 2022.

J. Early compliance:
N/A

Sites Outside of Texas:
N/A

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

December 13, 2022

MS KIM MUNKSGAARD
ENVIRONMENTAL SECTION SUPERVISOR
EXXON MOBIL CORPORATION
PO BOX 4004
BAYTOWN TX 77522-4004

Re: Permit Amendment Application
Permit Number: 102982
Exxon Mobil Corporation
Exxon Mobil Chemical Baytown Olefins Plant
Baytown, Harris County
Regulated Entity Number: RN102212925
Customer Reference Number: CN600123939

Dear Ms. Munksgaard:

The Texas Commission on Environmental Quality (TCEQ) has made a preliminary decision on the above-referenced application. In accordance with Title 30 Texas Administrative Code § 39.419(b), you are now required to publish Notice of Application and Preliminary Decision. You must provide a copy of this preliminary decision letter with the draft permit at the public place referenced in the public notice.

If you have any questions, please call Mr. Christopher Loughran, P.E. at (512) 239-0838, or write to the TCEQ, Office of Air, Air Permits Division, MC-163, P.O. Box 13087, Austin, Texas 78711-3087.

Sincerely,

Kristyn Campbell

Kristyn Campbell, Manager
Energy New Source Review Permits Section
Air Permits Division

Enclosure

cc: Randy Parmley, P.E., Executive Advisor, Trinity Consultants, Houston
Director, Harris County, Pollution Control Services, Pasadena
Air Section Manager, Region 12 - Houston

Project Number: 347989

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

December 13, 2022

MS KIM MUNKSGAARD
ENVIRONMENTAL SECTION SUPERVISOR
EXXON MOBIL CORPORATION
PO BOX 4004
BAYTOWN TX 77522-4004

Re: Permit Amendment Application
Permit Number: 102982
Exxon Mobil Corporation
Exxon Mobil Chemical Baytown Olefins Plant
Baytown, Harris County
Regulated Entity Number: RN102212925
Customer Reference Number: CN600123939

Dear Ms. Munksgaard:

The Texas Commission on Environmental Quality (TCEQ) has completed the technical review of your application and has prepared a preliminary decision and draft permit.

You are now required to publish notice of your proposed activity. To help you meet the regulatory requirements associated with this notice, we have included the following items:

- Notices for Newspaper Publication (Examples A and B)
- Public Notice Checklist
- Instructions for Public Notice
- Affidavit of Publication for Air Permitting (Form TCEQ-20533) and Alternative Language Affidavit of Publication for Air Permitting (Form TCEQ-20534)
- Web link to download Public Notice Verification Form (refer to Public Notice Instructions)
- Notification List
- Draft Permit

Please note that it is **very important** that you follow **all** directions in the enclosed instructions. If you do not, you may be required to republish the notice. A common mistake is the unauthorized changing of notice wording or font. If you have any questions, please contact us before you proceed with publication.

A "Public Notice Checklist" is enclosed which notes the time limitations for each step of the public notice process. **The processing of your application may be delayed if these time limitations are not met (i.e.; submitting proof of publication of the notice within 10 business days after publication, affidavits of publication within 30 calendar days after the date of publication, and public notice verification form within 10 business days after the end of the designated comment period).** This checklist should be used as a tool in conjunction with the enclosed, detailed instructions.

If you do not comply with **all** requirements described in the instructions, further processing of your application may be suspended or the agency may take other actions.

Re: Permit: 102982

If you have any questions regarding publication requirements, please contact the Office of the Chief Clerk at (512) 239-3300. If you have any other questions, please contact Mr. Christopher Loughran, P.E. at (512) 239-0838.

Sincerely,

Laurie Gharis
Chief Clerk
Office of the Chief Clerk
Texas Commission on Environmental Quality

Enclosure

cc: Randy Parmley, P.E., Executive Advisor, Trinity Consultants, Houston
Director, Harris County, Pollution Control Services, Pasadena
Air Section Manager, Region 12 - Houston
Air Permits Section Chief, New Source Review Section (6MM-AP), U.S. Environmental Protection Agency, Region 6, Dallas

Project Number: 347989

bcc: Booker Harrison, Environmental Law Division, MC-173, Austin

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

EXAMPLE A

NOTICE OF APPLICATION AND PRELIMINARY DECISION FOR AN AIR QUALITY PERMIT

PERMIT NUMBER: 102982

APPLICATION AND PRELIMINARY DECISION. Exxon Mobil Corporation, P.O. Box 4004, Baytown, Texas 77522-4004, has applied to the Texas Commission on Environmental Quality (TCEQ) for an amendment to Air Quality Permit Number 102982, which would authorize a modification of the BOP-2X Unit at the Exxon Mobil Chemical Baytown Olefins Plant located at 3525 Decker Drive, Baytown, Harris County, Texas 77520. This application was processed in an expedited manner, as allowed by the commission's rules in 30 Texas Administrative Code, Chapter 101, Subchapter J. **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 September 21, 2022. The existing facility will emit the following contaminants: ammonia, hazardous air pollutants, carbon monoxide, nitrogen oxides, organic compounds, particulate matter including particulate matter with diameters of 10 microns or less and 2.5 microns or less, sulfur dioxide, and sulfuric acid mist.

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 executive director has made a preliminary decision to issue the permit because it meets all rules and regulations. The permit application, executive director's preliminary decision, and draft permit will be available for viewing and copying at the TCEQ central office, the TCEQ Houston regional office, and at the Sterling Municipal Library, 1 Mary Elizabeth Wilbanks Avenue, Baytown, 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 St Ste H, Houston, Texas.

PUBLIC COMMENT/PUBLIC MEETING. You may submit public comments or request a public meeting about this application. The purpose of a public meeting is to provide the opportunity to submit 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 comments, the executive director will consider the comments and prepare a response to all relevant and material or significant public comments. **The response to comments, along with the executive director's decision on the application will be mailed to everyone who submitted public comments or is on a mailing list for this application.**

OPPORTUNITY FOR A CONTESTED CASE HEARING. 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. A timely hearing request has been received by the TCEQ. However, if all timely contested case hearing requests have been withdrawn and no additional comments are received, 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 Commissioners' Integrated Database (CID). If all timely hearing requests are 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.

INFORMATION AVAILABLE ONLINE. When they become available, the executive director's response to comments and the final decision on this application will be accessible through the Commission's Web site at www.tceq.texas.gov/goto/cid. Once you have access to the CID using the above link, enter the permit number for this application which is provided at the top of this notice. 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. http://www.tceq.texas.gov/assets/public/hb610/index.html?lat=29.760555&lng=-95.010555&zoom=13&type=r.

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.

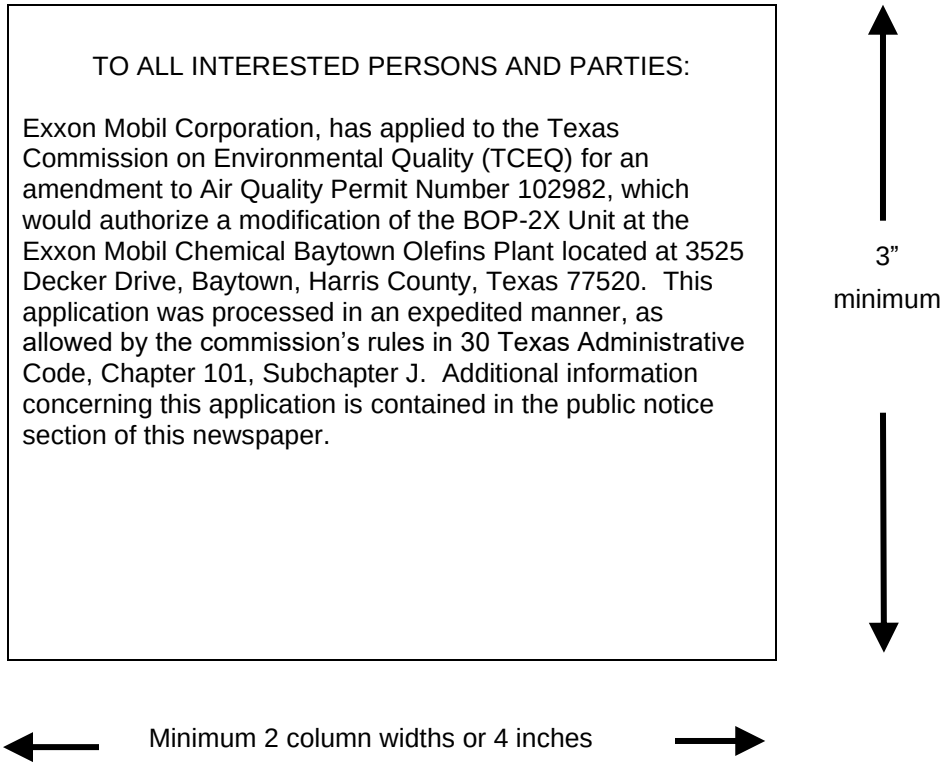
AGENCY CONTACTS AND INFORMATION. Public comments and requests must be submitted either electronically at www14.tceq.texas.gov/epic/eComment/, or in writing to the Texas Commission on Environmental Quality, Office of the Chief Clerk, MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Please be aware that 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 Exxon Mobil Corporation at the address stated above or by calling Mr. Thomas Wauhob, NSR Permitting Team Lead at (254) 545-3541.

Notice Issuance Date: December 13, 2022

Example B

Publication Elsewhere in the Newspaper:



Public Notice Checklist

Notice of Application and Preliminary Decision for an Air Quality Permit
(2nd Notice)

The following tasks must be completed for public notice. If publication in an alternative language is required, please complete the tasks for both the English and alternative language publications. Detailed instructions are included in the "Instructions for Public Notice" section of this package.

Within 33 calendar days after date of this letter
Publish *Notice of Application and Preliminary Decision for an Air Quality Permit* in the same newspaper(s) in which you published *Notice of Receipt of Intent to Obtain Permit* for this application. - Example A must be published in "public notice" section of newspaper. Review for accuracy prior to publishing. - Example B (if applicable) must be published in prominent location (other than "public notice") in same issue of newspaper - As part of the expedited permitting process, it is recommended that you publish immediately. Provide copy of the complete application (including any subsequent revisions) and the executive director's preliminary decision (including the draft permit) at a public place for review and copying. Keep them there for duration of the designated comment period.
First day of newspaper publication
Review published newspaper notice for accuracy. If errors, contact Air Permits Division. Ensure copy of the complete application (including any subsequent revisions) and the executive director's preliminary decision (including the draft permit) are at the public place. It is recommended that the signs from the first notice be in place and the lettering must remain legible and visible until 30 days after publication of the *Notice of Application and Preliminary Decision* (either English or alternative language notice, whichever is later).
Within 10 business days after date of publication
Proof of publication showing publication date and newspaper name should be emailed to PROOFS@tceq.texas.gov or mailed to: Texas Commission on Environmental Quality Office of the Chief Clerk, MC-105 Attn: Notice Team / AIR Expedited Permitting P.O. Box 13087 Austin, Texas 78711-3087 Mail or email, as instructed, photocopies of newspaper clippings showing publication date and newspaper name to persons listed on *Notification List*.
Within 30 calendar days after date of publication
Affidavit of publication for air permitting and alternative language affidavit of publication for air permitting (if applicable) should be emailed to PROOFS@tceq.texas.gov or mailed to: Texas Commission on Environmental Quality Office of the Chief Clerk, MC-105 Attn: Notice Team / AIR Expedited Permitting P.O. Box 13087 Austin, Texas 78711-3087 Mail or email, as instructed, photocopies of affidavits to persons listed on *Notification List*.
Within 10 business days after end of the designated comment period
Public Notice Verification Form should be emailed to PROOFS@tceq.texas.gov or mailed to: Texas Commission on Environmental Quality Office of the Chief Clerk, MC-105 Attn: Notice Team / AIR Expedited Permitting P.O. Box 13087 Austin, Texas 78711-3087 Mail or email, as instructed, photocopies of Public Notice Verification Form to persons listed on *Notification List*.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Instructions for Public Notice
For New Source Review Air Permit

Notice of Application and Preliminary Decision

We have completed the technical review of your application and issued a preliminary decision. You must comply with the following instructions:

Review Notice

Included in the notice is all of the information which the commission believes is necessary to effectuate compliance with applicable public notice requirements. Please read it carefully and notify the Texas Commission on Environmental Quality (TCEQ) immediately if it contains any errors or omissions. You are responsible for ensuring the accuracy of all information published. You may not change the text of the notice without prior approval from the TCEQ.

Newspaper Notice

- You must publish the enclosed *Notice of Application and Preliminary Decision for an Air Quality Permit* within **33 calendar days** after the date this information was mailed to you (see date of letter). As part of the expedited permitting process, it is recommended that you publish immediately.

- You must publish the enclosed *Notice of Application and Preliminary Decision for an Air Quality Permit* at your expense, in the same newspaper(s) in which you published the *Notice of Receipt and Intent to Obtain Permit* for this application. The newspaper must be a newspaper that is of general circulation in the municipality where the facility is or will be located. If the facility is not located within a municipality, the newspaper must be of general circulation in the municipality nearest the location.

- You must publish this notice in one issue of any applicable newspaper.

- You will find two example notices enclosed in this package. *Example A* must be published in the "public notice" section of the newspaper. The phrase "Example A" is not required to be published. *Example B* must be published in the **same issue** of the newspaper as *Example A*; however, it must be published in a prominent location (other than the public notice section). *Example B* refers the public to the "public notice" section of the newspaper where *Example A* provides more information regarding the permit application.

- *Example B* must be a total of at least **6 column inches (standard advertising units)** with a height of at least **3 inches** and a horizontal dimension of **2 column widths.** If the newspaper chosen does not use standard advertising units for measurement, the notice must be at least **12 square inches** with the shortest side of at least **3 inches**.

- The bold text of the enclosed notice **must** be printed in the newspaper in a font style or size that distinguishes it from the rest of the notice (i.e., **bold**, *italics*). **Failure to do so may require re-notice.**

Alternative Language Notice

In certain circumstances, applicants for air permits must complete notice in alternative languages.

- Public notice rules require the applicant to determine whether a bilingual program is required at either the elementary or middle school nearest to the facility or proposed facility location. Bilingual education programs are determined on a district-wide basis. When students who are required to attend either school are eligible to be enrolled in a bilingual education program, some alternative language notice is required (newspaper notice).

- Since the school district, and not the schools, must provide the bilingual education program, these programs do not have to be located at the elementary or middle school nearest to the facility or proposed facility to trigger the alternative language notice requirement. If there are students who would normally attend the nearest schools eligible to be taught in a bilingual education program at a different location, alternative language notice is required.

- If triggered, publications of alternative language notices must be made in a newspaper or publication printed primarily in each language taught in the bilingual education program. The same newspaper(s) used for *Notice of Receipt and Intent to Obtain Permit* must be used for publication of the *Notice of Application and Preliminary Decision for an Air Quality Permit*. This notice is required if such a newspaper or publication exists in the municipality or the county where the facility is or will be located.

- The applicant must demonstrate a good faith effort to identify a newspaper or publication in the required language. If a newspaper or publication of general circulation published at least once a month in such language cannot be found, publishing in that language is not required, but signs must remain posted in the same location(s) utilized during the *Notice of Receipt of Intent to Obtain Permit (1st public notice)*.

- Publication in an alternative language section or insertion within an English language newspaper does not satisfy these requirements.

- The applicant has the burden to demonstrate compliance with these requirements. You must fill out the ***Public Notice Verification Form (Form TCEQ-20244)*** indicating your compliance with the requirements regarding publication in an alternative language. **This form is available at www.tceq.texas.gov/permitting/air/nav/air_publicnotice.html.**

- It is suggested the applicant work with the local school district to do the following:

  (a) determine if a bilingual program is required in the district;
  (b) determine which language is required by the bilingual program;
  (c) locate the nearest elementary and middle schools; and
  (d) determine if any students attending either school are entitled to be enrolled in a bilingual educational program.

- **If you determine that you must meet the alternative language notice requirements after receipt of the full public notice package, you are responsible for ensuring that the publication in the alternative language is complete and accurate in that language. Spanish notice templates are available through the Air Permits Division Web site at www.tceq.texas.gov/permitting/air/nav/air_publicnotice.html**. All italic notes should be replaced with the corresponding Spanish translations for the specific application and published in the alternative language publication**. Email a copy to Air Permits Division staff.**

- If you are required to publish notice in a language other than Spanish, you must translate the entire public notice at your own expense.

Public Comment Period

- The public comment period should last at least **30 calendar days after publication of the last notice**.

- The comment period will be longer if the last day of the public comment period ends on a weekend or a holiday. In this case, the comment period will end on the next business day.

- The comment period for the permit may lengthen depending on whether a public meeting is held. If a public meeting is held, the comment period will be extended to the later of either the date of the public meeting or the end of the second notice period.

Proof of Publication

- Check each publication to ensure that the articles were accurately published. If a notice was not published correctly you may be required to republish.

- For each newspaper in which you published, you must submit proof of publication that shows the notice, the date of publication, and the name of the newspaper to the Office of the Chief Clerk within **10 business days** after the date of publication. Acceptable proofs of publication are 1) copies of the published notice or 2) the newspaper clippings of the published notice. If you choose to submit copies of the published notice to the Office of the Chief Clerk, copies must be on standard-size 8½'' x 11'' paper and must show the actual size of the published notice (do not reduce the image when making copies). Published notices longer than 11'' must be copied onto multiple 8½'' x 11'' pages. Please note, submitting a copy of your published notice could result in faster processing of your application. It is recommended that you maintain newspaper clippings or tear sheets of the notice for your records.

- You must submit an **affidavit of publication for air permitting and alternate language affidavit of publication for air permitting (if applicable)** to the Office of the Chief Clerk within **30 calendar days** after the date of publication. **You must use the enclosed affidavit forms.** The affidavits must clearly identify the applicant's name and permit number. You are encouraged to submit the affidavit with the proof of publication described above.

- You must submit the ***Public Notice Verification Form (Form TCEQ-20244)*** to the Office of the Chief Clerk within **10 business days** of the end of this public comment period. You must use this form to certify that you have met alternative language notice requirements. **This form is available at www.tceq.texas.gov/permitting/air/nav/air_publicnotice.html.**

- The **affidavits of publication, *Public Notice Verification Form,* and acceptable proof of publication of the published notices** should be emailed to PROOFS@tceq.texas.gov or mailed to:

Texas Commission on Environmental Quality
Office of the Chief Clerk, MC-105
Attn: Notice Team / AIR Expedited Permitting
P.O. Box 13087
Austin, Texas 78711-3087

- Please ensure that the affidavit(s) you send to the Chief Clerk have all blanks filled in correctly.

- Photocopies of newspaper clippings, affidavits, and verifications must also be sent to those listed on the enclosed *Notification List* within the deadlines specified above.

Texas Commission on Environmental Quality
INTEROFFICE MEMORANDUM

TO: Office of Chief Clerk **Date:** August 25, 2023

FROM: Contessa N. Gay
Amanda Kraynok
Staff Attorneys
Environmental Law Division

SUBJECT: Transmittal of Documents for Administrative Record

Applicant:	Exxon Mobil Corporation
Proposed Permit No.:	102982
Program:	Air
Docket Nos.:	TCEQ Docket No. 2023-0649-AIR SOAH Docket No. 582-23-22762

In a permit hearing, the record in a contested case includes copies of the public notices relating to the permit application, as well as affidavits of public notices that are filed by the Applicant directly with the Office of the Chief Clerk (OCC). In addition, the record includes the documents listed below that are provided to the OCC by the Executive Director's staff, as required by 30 Tex. Admin. Code § 80.118.

This transmittal serves to also request that the OCC transmit the attached items, together with (a) the public notice documents (including the notice of hearing), and (b) where available for direct referral cases only, the Executive Director's Response to Comments, to the State Office of Administrative Hearings.

Documents included with this transmittal are indicated below:

- The final draft permit, including any special conditions or provisions
- Maximum Allowable Emission Rate Table (MAERT)
- The summary of the technical review of the permit application
- The Air Quality Analysis Audit memoranda
- The compliance summary of the Applicant
- The Executive Director's Preliminary Decision and the Executive Director's Decision on the Permit Application, if applicable.
- The Final Decision Letter
- The List of Actions from the Commissioner's Integrated Database (CID)
- Any agency documents determined by the Executive Director to be necessary to reflect the administrative and technical review of the application. The following documents are included:
    - The Executive Director's Response to Comments
    - The map of the hearing requestors prepared by the Executive Director

Failure to Publish and Submit Proof of Publication

You must meet all publication requirements. **If you fail to publish the notice or submit proof of publication *on time,*** the TCEQ may suspend further processing on your application or take other actions.

Sign Posting

It is recommended that the signs that were put in place prior to publication of the first notice remain in place and be legible and visible until 30 days after publication of the *Notice of Application and Preliminary Decision* (either English or alternative language notice, whichever is later).

Application in a Public Place

- You must provide a copy of the complete application (including any subsequent revisions) and the executive director's preliminary decision (including the draft permit), at a public place for review and copying by the public. This place must be in the county in which the facility is located or proposed to be located.

- A public place is one that is publicly owned or operated (ex: libraries, county courthouses, or city halls.)

- This copy must be accessible to the public for review and copying. The copy must be available beginning on the first day of newspaper publication and remain in place until the commission has taken action on the application or the commission refers issues to the State Office of Administrative Hearings.

- If the application is submitted to the TCEQ with information marked as "CONFIDENTIAL," you are required to indicate which specific portions of the application are not being made available to the public. These portions of the application must be accompanied with the following statement: "Any request for portions of this application that are marked as confidential must be submitted in writing, pursuant to the Public Information Act, to the Texas Commission on Environmental Quality, Public Information Coordinator, MC-197, P.O. Box 13087, Austin, Texas 78711-3087."

- You must submit verification of file availability using the ***Public Notice Verification Form (Form TCEQ-20244)*** within **10 business days** after end of the publications' designated comment period. Do not submit the form verifying that the application was in a public place until after the comment period is complete. If a public meeting is held or second notice is required causing the public comment period to be extended, at a later date you will be required to verify that the application was in a public place during the entire public comment period. **This form is available at www.tceq.texas.gov/permitting/air/nav/air_publicnotice.html.**

General Information

When contacting the Commission regarding this application, please refer to the permit number at the top of the *Notice of Application and Preliminary Decision*.

If you have questions or need assistance regarding publication requirements, please contact the Office of the Chief Clerk at (512) 239-3300 or the project reviewer listed in the cover letter.

TCEQ-Office of the Chief Clerk
MC-105 Attn: Notice Team
P.O. Box 13087
Austin, Texas 78711-3087

Applicant Name: Exxon Mobil Corporation
Permit No.: 102982
Application Received Date: September 21, 2022

AFFIDAVIT OF PUBLICATION FOR AIR PERMITTING

STATE OF TEXAS §
COUNTY OF _____ §

BEFORE ME, the undersigned authority, on this day personally appeared

_____, who being by me duly sworn, deposes and says that (s)he is *(Name of Person Representing Newspaper)*

the _____ of the _____
(Title of Person Representing Newspaper) *(Name of the Newspaper)*

that said newspaper is generally circulated in _____, Texas;
(The municipality or nearest municipality to the location of the facility or the proposed facility)

that the enclosed notice was published in said newspaper on the following date(s):

_____

_____
(Newspaper Representative's Signature)

Subscribed and sworn to before me this the _____ day of _____, 20_____
to certify which witness my hand and seal of office.

_____
Notary Public in and for the State of Texas

[Affix Seal]

_____
Print or Type Name of Notary Public

_____
My Commission Expires

TCEQ-Office of the Chief Clerk
MC-105 Attn: Notice Team
P.O. Box 13087
Austin, Texas 78711-3087

Applicant Name: Exxon Mobil Corporation
Permit No.: 102982
Application Received Date: September 21, 2022

ALTERNATIVE LANGUAGE AFFIDAVIT OF PUBLICATION FOR AIR PERMITTING

STATE OF TEXAS §
COUNTY OF _____ §

BEFORE ME, the undersigned authority, on this day personally appeared

_____, who being by me duly sworn, deposes and says that (s)he is (*Name of Person Representing Newspaper)*

the _____ of the _____;
(Title of Person Representing Newspaper) *(Name of the Newspaper)*

that said newspaper is generally circulated in _____, Texas;
*(The **municipality or county** in which the facility or proposed facility is located)*

that the enclosed notice was published in said newspaper on the following date(s):

_____

_____
(Newspaper Representative's Signature)

Subscribe and sworn to before me this the _____ day of _____, 20_____
to certify which witness my hand and seal of office.

_____
Notary Public in and for the State of Texas

[Affix Seal]

_____
Print or Type Name of Notary Public

_____
My Commission Expires

Notification List

It is the responsibility of the applicant to furnish the following offices with copies of the notices published, the *Affidavit of Publication for Air Permitting, the Alternative Language Affidavit of Publication for Air Permitting (if applicable)*, and a completed copy of the *Public Notice Verification Form (Form TCEQ-20244)*. Acceptable proof of publication and any affidavits and Form TCEQ-20244 should be emailed to PROOFS@tceq.texas.gov or mailed to the Texas Commission on Environmental Quality, Office of the Chief Clerk, MC-105, AIR Expedited Permitting, P.O. Box 13087, Austin, Texas 78711-3087.

Electronic copies should be submitted via email to the U.S. Environmental Protection Agency (EPA), **Region 6** at R6AirPermitsTX@EPA.gov. Please contact Ms. Aimee Wilson (wilson.aimee@epa.gov) at (214) 665-7596 if you have any questions pertaining to electronic submittals to the EPA.

Email copies to Mr. Christopher Loughran, P.E. at Chris.Loughran@tceq.texas.gov

Hard copies should be sent to the following:

Texas Commission on Environmental Quality
Houston Regional Office
5425 Polk St Ste H
Houston, Texas 77023-1452

Director
Harris County
Pollution Control Services
101 South Richey Ste H
Pasadena, Texas 77506-

COMISIÓN DE CALIDAD AMBIENTAL DE TEXAS

State of Texas
County of Travis AUG 21 2023
I hereby certify this is a true and correct copy of a Texas Commission on Environmental Quality (TCEQ) document, which is filed in the Records of the Commission. Given under my hand and the seal of office.

Veronica Barnes, Custodian of Records
Texas Commission on Environmental Quality

EJEMPLO A

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

NÚMERO DE PERMISO: 102982

SOLICITUD Y DECISIÓN PRELIMINAR. Exxon Mobil Corporation, ha solicitado a la Comisión de Calidad Ambiental de Texas (TCEQ, por sus siglas en inglés) una enmienda al Número de Permiso de Calidad del Aire 102982, que autorizaría la modificación del Unidad 2X ubicado en 3525 Decker Drive, Baytown, Condado de Harris, Texas 77520.. Esta solicitud se presentó a la TCEQ el 21 de Septiembre de 2022. La instalación propuesta emitirá los siguientes contaminantes: monóxido de carbono, óxidos de nitrógeno, compuestos orgánicos, contaminantes peligrosos del aire, materia en partículas incluyendo materia en partículas con diámetros de 10 micrómetros o menores y 2.5 micrómetros o menores, dióxido de azufre, ácido sulfúrico, y amoníaco.

El director ejecutivo ha completado la revisión técnica de la solicitud y ha preparado un proyecto de permiso que, de ser aprobado, establecería las condiciones en las que la instalación debe operar. El director ejecutivo ha tomado una decisión preliminar de emitir el permiso porque cumple con todas las reglas y regulaciones. La solicitud de permiso, la decisión preliminar del director ejecutivo y el bosquejo del permiso estarán disponibles para su visualización y copia en la oficina central de la TCEQ, la oficina regional de la TCEQ en Houston y en la biblioteca Sterling Municipal, 1 Mary Elizabeth Wilbanks Avenue, Baytown, Condado de Harris, Texas a partir del primer día de publicación de este aviso. El archivo de cumplimiento de la instalación, si existe alguno, está disponible para su revisión pública en la oficina regional de la TCEQ en Houston.

COMENTARIO PÚBLICO/REUNIÓN PÚBLICA. Puede enviar comentarios públicos o solicitar una reunión pública sobre esta solicitud. El propósito de una reunión pública es para brindar la oportunidad de enviar comentarios o hacer preguntas sobre la solicitud. La TCEQ convocará una reunión pública si el director ejecutivo determina que existe un grado significativo de interés público en la solicitud o si lo solicita un legislador local. Una reunión pública no es una audiencia de caso impugnado. **Puede enviar comentarios públicos adicionales por escrito dentro de los 30 días posteriores a la fecha de publicación de este aviso en el periódico de la manera establecida en el párrafo CONTACTOS E INFORMACIÓN DE LA AGENCIA a continuación.**

Después de la fecha límite para los comentarios públicos, el director ejecutivo considerará los comentarios y preparará una respuesta a todos los comentarios públicos relevantes y materiales o significativos. **La respuesta a los comentarios, junto con la decisión del director ejecutivo sobre la solicitud, se enviará por correo a todos los que enviaron comentarios públicos o están en una lista de correo para esta solicitud.**

OPORTUNIDAD PARA UNA AUDIENCIA DE CASO IMPUGNADO. Una audiencia de caso impugnado es un procedimiento legal similar a un juicio civil en un tribunal de distrito estatal. Una persona que pueda verse afectada por las emisiones de contaminantes atmosféricos de la instalación tiene derecho a solicitar una audiencia. Una solicitud de audiencia de caso impugnado debe incluir lo siguiente: (1) su nombre (o para un grupo o asociación, un representante oficial), dirección postal, número de teléfono diurno (2) nombre y número de permiso del solicitante; (3) la declaración "Yo/nosotros solicito/solicitamos una audiencia de caso impugnado;" (4) una descripción específica de cómo se vería afectado negativamente por la aplicación y las emisiones atmosféricas de la instalación de una manera no común para el público en general; (5) la ubicación y distancia de su propiedad en relación con la instalación; y (6) una descripción de cómo usa la propiedad que puede verse afectada por la instalación. Si la solicitud es hecha por un grupo o asociación, uno o más miembros que tienen capacidad para solicitar una audiencia y los intereses que el grupo o asociación busca proteger también deben ser identificados. También puede presentar los ajustes propuestos a la solicitud / permiso que satisfagan sus inquietudes. Las solicitudes de una audiencia de caso impugnado deben presentarse por escrito dentro de los 30 días siguientes a este aviso a la Oficina del Secretario Oficial, en la dirección proporcionada en la sección de información a continuación.

Sólo se concederá una audiencia de caso impugnado sobre la base de cuestiones de hecho de asuntos en disputa que sean relevantes y materiales para las decisiones de la Comisión sobre la solicitud. Además, la Comisión solo concederá una audiencia sobre cuestiones presentadas por usted u otros durante el periodo de comentarios públicos y que no hayan sido retiradas. Los asuntos que no se presentan en comentarios públicos no pueden ser considerados durante una audiencia.

ACCIÓN DEL DIRECTOR EJECUTIVO. La TCEQ ha recibido una solicitud de audiencia oportuna. Sin embargo, si se han retirado todas las solicitudes de audiencia de casos impugnados oportunamente y no se reciben comentarios adicionales, el director ejecutivo puede emitir la aprobación final de la solicitud. La respuesta a los comentarios, junto con la decisión del director ejecutivo sobre la solicitud, se enviará por correo a todos los que hayan presentado comentarios públicos o estén en una lista de correo para esta solicitud, y se publicará electrónicamente en la Base de Datos Integrada de los Comisionados (CID, por sus siglas en inglés). Si no se retiran todas las solicitudes de audiencia oportunas, el director ejecutivo no emitirá la aprobación final del permiso y enviará la solicitud y las solicitudes a los Comisionados para su consideración en una reunión programada de la comisión.

INFORMACIÓN DISPONIBLE EN LÍNEA. Cuando estén disponibles, la respuesta del director ejecutivo a los comentarios y la decisión final sobre esta solicitud podrán consultarse a través del sitio Web de la Comisión en www.tceq.texas.gov/goto/cid. 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. 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://tceq.maps.arcgis.com/apps/webappviewer/index.html?id=db5bac44afbc468bbddd360f8168250f&marker=-96.853763%2C32.632475&level=12.

LISTA DE CORREO. Puede solicitar ser colocado en una lista de correo para obtener información adicional sobre esta solicitud enviando una solicitud a la Oficina del Secretario Oficial a la dirección a continuación.

CONTACTOS E INFORMACIÓN DE LA AGENCIA. Los comentarios y solicitudes públicas deben enviarse electrónicamente a www14.tceq.texas.gov/epic/eComment/, o por escrito a la Texas Commission on Environmental Quality, Office of the Chief Clerk, MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Si se comunica con la TCEQ electrónicamente, tenga en cuenta que su dirección de correo electrónico, al igual que su dirección postal física, se convertirá en parte del registro público de la agencia. Para obtener más información sobre esta solicitud de permiso o el proceso de permisos, llame al Programa de Educación Pública al número gratuito 1-800-687-4040. Si desea información en español, puede llamar al 1-800-687-4040.

También se puede obtener más información de la Exxon Mobil Corporation en la dirección indicada anteriormente o llamando a Mr. Thomas Wauhob, NSR Permitting Team Lead, al 254-545-3541.

Fecha de Emisión del Aviso: 13 de diciembre de 2022

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

MS KIM MUNKSGAARD
ENVIRONMENTAL SECTION SUPERVISOR
EXXON MOBIL CORPORATION
PO BOX 4004
BAYTOWN TX 77522-4004

Re: Permit Amendment
Permit Number: 102982
Exxon Mobil Corporation
Exxon Mobil Chemical Baytown Olefins Plant
Baytown, Harris County
Regulated Entity Number: RN102212925
Customer Reference Number: CN600123939

Dear Ms. Munksgaard:

This is in response to your Form PI-1 General Application concerning the proposed amendment to Permit Number 102982. We understand that you propose to authorize a project that will increase production at the 2X Unit which primarily affects emissions by the addition of a new furnace..

In accordance with Title 30 Texas Administrative Code § 116.116(b) [30 TAC § 116.116(b)], and based on our review, Permit Number 102982 is hereby amended. This information will be incorporated into the existing permit file. Enclosed are revised general conditions, special conditions pages, and a maximum allowable emission rates table (MAERT). We appreciate your careful review of the permit and assuring that all requirements are consistently met. In addition, the construction and operation of the facilities must be as represented in the application.

This amendment will be automatically void upon the occurrence of any of the following, as indicated in 30 TAC § 116.120(a):

1. Failure to begin construction of the changes authorized by this amendment within 18 months from the date of this authorization.

2. Discontinuance of construction of the changes authorized by this amendment for a period of 18 consecutive months or more.

3. Failure to complete the changes authorized by this amendment within a reasonable time.

Upon request, the executive director may grant extensions as allowed in 30 TAC § 116.120(b).

Re: Permit Number: 102982

If you need further information or have any questions, please contact Mr. Christopher Loughran, P.E. at (512) 239-0838 or write to the Texas Commission on Environmental Quality, Office of Air, Air Permits Division, MC-163, P.O. Box 13087, Austin, Texas 78711-3087.

Sincerely,

Jon Niermann, Chairman
For the Texas Commission on Environmental Quality

Enclosure

cc: Randy Parmley, P.E., Executive Advisor, Trinity Consultants, Houston
Director, Harris County, Pollution Control Services, Pasadena
Air Section Manager, Region 12 - Houston

Project Number: 102982

TCEQ Commissioners' Integrated Database - All Activity Actions

Back **Back to Report Result 1 - 1**

Activity Action List:

Date	Document Type	Action
09/28/2023	SOAH HEARING	SCHEDULED
08/14/2023	NOTICE OF SOAH HEARING	MAILED
06/08/2023	RESPONSE TO COMMENTS	MAILED
06/01/2023	RESPONSE TO COMMENTS	RECEIVED
05/18/2023	TCEQ DOCKET NUMBER	REQUESTED
05/18/2023	TCEQ DOCKET NUMBER	ISSUED
02/14/2023	DIRECT REFERRAL - APPLIC	RECEIVED
01/27/2023	ALTERNATIVE LANGUAGE VERIFICATION FORM	RECEIVED
01/27/2023	AVAILABILITY VERIFICATIO	RECEIVED
01/23/2023	COMMENT PERIOD	END
12/28/2022	ALTERNATIVE LANGUAGE TEARSHEET	RECEIVED
12/28/2022	ALTERNATIVE LANGUAGE AFFIDAVIT	RECEIVED
12/28/2022	NEWSPAPER TEARSHEET	RECEIVED
12/28/2022	AFFIDAVIT - NAPD	RECEIVED
12/22/2022	NOTICE - PRELIM DECISION	PUBLISHED
12/22/2022	ALTERNATIVE LANGUAGE NOTICE	PUBLISHED
12/13/2022	NOTICE - PRELIM DECISION	RECEIVED
12/13/2022	NOTICE - PRELIM DECISION	MAILED
12/08/2022	AVAILABILITY VERIFICATIO	RECEIVED
12/08/2022	ALTERNATIVE LANGUAGE VERIFICATION FORM	RECEIVED
11/21/2022	COMMENT PERIOD	END
10/26/2022	NEWSPAPER TEARSHEET	RECEIVED
10/26/2022	ALTERNATIVE LANGUAGE AFFIDAVIT	RECEIVED
10/26/2022	ALTERNATIVE LANGUAGE TEARSHEET	RECEIVED
10/26/2022	AFFIDAVIT - NORI	RECEIVED
10/20/2022	NOTICE OF RECEIPT/INTENT	PUBLISHED
10/20/2022	ALTERNATIVE LANGUAGE NOTICE	PUBLISHED
10/04/2022	LETTER	SENT TO
09/29/2022	NOTICE OF RECEIPT/INTENT	MAILED
09/27/2022	ADMIN REVIEW	COMPLETE

09/27/2022	NOTICE OF RECEIPT/INTENT	RECEIVED
09/21/2022	APPLICATION	RECEIVED

Related Links:

Central Registry

Public Notice

Commissioners Agenda

Comment on Pending Applications

Executive Director's Agenda

File documents

Commission Issued Orders

Public Meetings

State Office of Administrative Hearings

Last Modified 2023-05-17 - Production v3.2.1

TCEQ AIR QUALITY PERMIT NUMBER 102982

APPLICATION BY	§	BEFORE THE
EXXON MOBIL CORPORATION	§	
EXXON MOBIL CHEMICAL BAYTOWN	§	TEXAS COMMISSION ON
OLEFINS PLANT	§	ENVIRONMENTAL QUALITY
BAYTOWN, HARRIS COUNTY		

EXECUTIVE DIRECTOR'S RESPONSE TO PUBLIC COMMENT

The Executive Director of the Texas Commission on Environmental Quality (the commission or TCEQ) files this Response to Public Comment (Response) on the New Source Review Authorization application and Executive Director's preliminary decision.

As required by Title 30 Texas Administrative Code (TAC) § 55.156, before an application is approved, the Executive Director prepares a response to all timely, relevant and material, or significant comments. The Office of Chief Clerk received timely comments from the following persons: Colin Cox and Gabriel Clark-Leach on behalf of Environment Texas and the Environmental Integrity Project (EIP) and Terri E. Blackwood. This Response addresses all timely public comments received, whether or not withdrawn. If you need more information about this permit application or the permitting process, please call the TCEQ Public Education Program at 1-800-687-4040. General information about the TCEQ can be found at our website at www.tceq.texas.gov.

BACKGROUND

Description of Facility

Exxon Mobil Corporation (Applicant) has applied to the TCEQ for a New Source Review Authorization under Texas Clean Air Act (TCAA) § 382.0518. This will authorize the modification of an existing facility that may emit air contaminants.

This permit, if issued, will authorize the Applicant to authorize a project that will increase production at the 2X Unit at the Exxon Mobil Chemical Baytown Olefins Plant. The plant is located at 3525 Decker Drive, Baytown, Harris County. Contaminants authorized under this permit include carbon monoxide, nitrogen oxides, sulfuric acid, organic compounds, particulate matter including particulate matter with diameters of 10 microns or less and 2.5 microns or less, sulfur dioxide, and ammonia.

Procedural Background

Before work is begun on the modification of an existing facility that may emit air contaminants, the person planning the modification must obtain a permit amendment from the commission. This permit application is for a permit amendment of Air Quality Permit Number 102982.

The Applicant proposes to amend Permit No. 102982 to authorize a project that will increase production at the plant's 2X Unit. This project will include the addition of a new furnace to be known as the XXI Furnace (EPN XXIF01-ST). In addition to the new furnace, the project includes addition of a new decoke pot for the furnace, piping and

equipment changes to distillation, compression, and recovery equipment, and increases to the cooling water capacity of the existing cooling tower by adding new cells. Additionally, PBR Registration Nos. 166596, 168286, and 168893 will be incorporated by consolidation and PBR Registration No. 146579 will be partially incorporated by consolidation with this amendment project.

The permit application was received on September 21, 2022, and declared administratively complete on September 27, 2022. The Notice of Receipt and Intent to Obtain an Air Quality Permit (first public notice) for this permit application was published in English on October 20, 2022, in *The Baytown Sun* and in Spanish on October 20, 2022, in *El Perico.* The Notice of Application and Preliminary Decision for an Air Quality Permit (second public notice) was published on December 22, 2022, in English in *The Baytown Sun* and in Spanish on December 22, 2022, in *El Perico*. Because this application was received after September 1, 2015, it is subject to the procedural requirements of and rules implementing Senate Bill 709 (84th Legislature, 2015).

COMMENTS AND RESPONSES

COMMENT 1: Public Notice

Colin Cox asked if TCEQ supplied the public with adequate information to verify the bases for Exxon's claims and for TCEQ's decision to issue the permit.

(Colin Cox)

RESPONSE 1: The Executive Director instructs applicants to provide public notice, as required by TCEQ rules in Chapter 39 (Public Notice), in accordance with statutory requirements. TCAA § 382.056 requires that an applicant publish a "notice of application" to obtain a permit (public notice). This notice must be published in a newspaper of general circulation in the municipality in which the plant is proposed to be located. If the proposed plant is not located within a municipality, the newspaper should be of general circulation in the municipality nearest to the location or proposed location. As such, individual notice of nearby residents is not required by the statute or TCEQ rules.

30 TAC § 39.603 also prescribes the content required in the public notice. The notice must include a description of the facility, information on how an affected person may request a public hearing, pollutants the facility will emit, and any other information the TCEQ requires by rule. The content of the public notice also informs the public of its opportunity to make comments and request a public meeting or contested case hearing. The required newspaper notice also invites citizens to request mailed notice on matters of interest by submitting their contact information to the Office of the Chief Clerk. The Chief Clerk is required to mail notice to persons on mailing lists maintained by the Office of the Chief Clerk. In addition, 30 TAC § 39.405(g) requires that applicants make a copy of the administratively complete application available for review at a public place in the county in which the plant is proposed to be located. To demonstrate compliance with TCEQ rules, applicants are required to provide the Office of the Chief Clerk with copies of the published notice and a publisher's affidavit verifying facts related to the publication.

As stated in the Procedural Background section of this Response above, the Applicant published The Notice of Receipt and Intent to Obtain an Air Quality Permit (first public notice) for this permit application in English on October 20, 2022, in *The Baytown Sun* and in Spanish on October 20, 2022, in *El Perico*. The Notice of Application and Preliminary Decision for an Air Quality Permit (second public notice) was published on December 22, 2022, in English in *The Baytown Sun* and in Spanish on December 22, 2022, in *El Perico*. The public comment period ended on January 23, 2023.

Additionally, the Applicant represented notice was published in accordance with TCEQ rules and that the application was available for review at a public place in the county in which the plant is proposed to be located. The Applicant represented that the application was made available at the Sterling Municipal Library, 1 Mary Elizabeth Wilbanks Avenue, Baytown, Harris County, Texas. In addition, a copy of the application was also available at the TCEQ Houston Regional Office and the TCEQ Central Office.

The Applicant also provided corresponding signed affidavits and verification forms to the commission. The Executive Director reviewed the newspaper tearsheets to verify the information was correctly published. Because the Applicant complied with the public notice requirements in accordance with TCEQ rules, the Executive Director does not believe that an additional public comment period is necessary. Further, the Executive Director reviewed the zip code listed in the public notice and determined it is correct.

This Response is the written response to all formal comments received during the comment period for the application. A copy of this Response will be sent to each person who submitted a formal comment or who requested to be on the mailing list for this permit application and provided a mailing address. All timely formal comments received are included in this Response and are considered before a final decision is reached on the permit application. Changes to the draft permit may be made based on comments received.

COMMENT 2: Health Effects / Air Quality / Cumulative Effects

Commenters expressed concern about the effect of the emissions from the proposed project on the air quality and health of people, particularly sensitive populations such as the elderly, children, and people with existing medical conditions. Commenters are concerned that the proposed project would cause or contribute to exceedances of NAAQS, threatening the health and safety of nearby residents. Colin Cox questioned whether cumulative impacts were considered and questioned if the Air Quality Analysis (AQA) was conducted in accordance with TCEQ rules and regulations. Mr. Cox expressed concern regarding whether the proposed project would create nuisance conditions violating 30 TAC § 101.4. Mr. Cox also explained that members of Environment Texas have experienced odor nuisance and sticky residue on their vehicles. Mr. Cox questioned whether the proposed emissions would exceed the allowable Prevention of Significant Deterioration (PSD) increments thresholds. Gabriel Clark-Leach questioned whether the proposed emissions increase of NO_x, VOC, CO, PM, SO_2, H_2SO_4, ozone pollutants, and Hazardous Air Pollutants (HAPs) are protective of public health. Mr. Clark-Leach expressed concern that the proposed increases of ozone-forming pollutants are "significant", stating the Applicant should be required to conduct ozone impacts modeling and offset significant increases with reductions at a ratio of greater than 1:1. Mr. Clark-Leach expressed concern that the Applicant did not demonstrate compliance with the 1-hour NAAQS standard for NO_x and should be required to perform detailed modeling to address this standard. Mr. Clark-Leach expressed concern that the air quality analysis excluded 'significant quantities of unauthorized pollution' since the initial issuance of the permit, stating that the unauthorized emissions continue to occur and therefore should be included in the modeling demonstration. Terri E. Blackwood also expressed concerns about the increase in pollution in her neighborhood. Ms. Blackwood stated that chemicals from the complex often affect her and her neighbors, including causing teary-eyes, clogged throats, and irritated noses.

(Terri E. Blackwood, Colin Cox, Gabriel Clark-Leach)

RESPONSE 2: The Executive Director is required to review permit applications to ensure they will be protective of human health and the environment. For this type of air permit application, potential impacts to human health and welfare or the environment are determined by comparing the Applicant's proposed air emissions to appropriate state and federal standards and guidelines. These standards and guidelines include the National Ambient Air Quality Standards (NAAQS), TCEQ Effects Screening Levels (ESLs), and TCEQ rules. As described in detail below, the Executive Director determined that the emissions authorized by this permit are protective of both human health and welfare and the environment.

NAAQS

The United States (U.S.) Environmental Protection Agency (EPA) created and continues to evaluate the NAAQS, which include both primary and secondary standards, for pollutants considered harmful to public health and the environment.[1] Primary standards protect public health, including sensitive members of the population such as children, the elderly, and those individuals with preexisting health conditions. Secondary NAAQS protect public welfare and the environment, including animals, crops, vegetation, visibility, and buildings, from any known or anticipated adverse effects from air contaminants. The EPA has set NAAQS for criteria pollutants, which include carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), sulfur dioxide (SO_2), particulate matter less than or equal to 10 microns in aerodynamic diameter (PM_{10}), and PM less than or equal to 2.5 microns in aerodynamic diameter ($PM_{2.5}$).

The Applicant conducted a NAAQS analysis for NO_2, CO, PM_{10}, $PM_{2.5}$, SO_2. The first step of the NAAQS analysis is to compare the proposed modeled emissions against the established Significant Impact Level (SIL), also known as a de minimis level. Predicted concentrations (GLC_{max}[2]) below the de minimis level are considered to be so low that they do not require further NAAQS analysis. Table 1 contains the results of the de minimis analysis.

Table 1. Modeling Results for Minor De Minimis Analysis

Pollutant	Averaging Time	GLC_{max} ($\mu g/m^3$)	De Minimis ($\mu g/m^3$)
NO_2	1-hr	7.3	7.5
NO_2	Annual	0.2	1
CO	1-hr	9	2000
CO	8-hr	6	500
PM_{10}	24-hr	1	5
$PM_{2.5}$	24-hr	0.72[a] 0.85[b]	1.2

[1] 40 CFR § 50.2.
[2] The GLC_{max} is the maximum ground level concentration predicted by the modeling.

$PM_{2.5}$	Annual	0.12[a] 0.13[b]	0.2
SO_2	1-hr	3.3	7.8
SO_2	3-hr	3	25

[a] Excluding secondary $PM_{2.5}$ impacts.

[b] Including secondary $PM_{2.5}$ impacts.

The NAAQS analysis results are below the standard for each pollutant, should not cause or contribute to violation of the NAAQS and are protective of human health and the environment.

Effects Screening Levels

ESLs are specific guideline concentrations used in TCEQ's evaluation of certain pollutants, including Volatile Organic Compounds (VOCs). Emissions of HAPs are typically represented in the permit application as part of the total VOC emission limits. The ESLs are derived by the TCEQ's Toxicology Division and are based on a pollutant's potential to cause adverse health effects, odor nuisances, and effects on vegetation. Health-based ESLs are set below levels reported to produce adverse health effects, and are set to protect the general public, including sensitive subgroups such as children, the elderly, or people with existing respiratory conditions. The TCEQ's Toxicology Division specifically considers the possibility of cumulative and aggregate exposure when developing the ESL values that are used in air permitting, creating an additional margin of safety that accounts for potential cumulative and aggregate impacts. Adverse health or welfare effects are not expected to occur if the air concentration of a pollutant is below its respective ESL. If an air concentration of a pollutant is above the screening level, it is not necessarily indicative that an adverse effect will occur, but rather that further evaluation is warranted.

The Applicant conducted a health effects analysis using the Modeling and Effects Review Applicability (MERA) guidance.[3] The MERA is a tool to evaluate impacts of non-criteria pollutants. It is a step-by-step process, evaluated on a chemical species by chemical species basis, in which the potential health effects are evaluated against the ESL for the chemical species. The initial steps are simple and conservative, and as the review progresses through the process, the steps require more detail and result in a more refined (less conservative) analysis. If the contaminant meets the criteria of a step, meaning it is found to be protective of human health and the environment, the review of human health and welfare effects for that chemical species is complete and is said to "fall out" of the MERA process at that step because it is protective of human health and welfare.

[3] *See* APDG 5874 guidance document.

Table 2. Health Effects Review – Minor New Source Review (NSR) MERA Results

Pollutant & CAS#	Averaging Time	GLC_{max} µg/m^3	ESL µg/m^3	MERA in Which Pollutant Fall Out
Ammonia 7664-41-7	1-hr	3.41	180	Step 3 - GLC_{max} < 10% ESL
	annual	0.39	92	Step 3 - GLC_{max} < 10% ESL
Distillates (petroleum), light catalytic cracked 64741-59-9	1-hr	304.4	3500	Step 3 - GLC_{max} < 10% ESL
	annual	12.74	350	Step 3 - GLC_{max} < 10% ESL

As shown in Table 2 above, all pollutants satisfy the MERA criteria and therefore are not expected to cause adverse health effects, and therefore are found to be protective of human health and the environment.

State Property Line Analysis (30 TAC Chapter 112)

Because this application has sulfur emissions, the Applicant conducted a state property line analysis to demonstrate compliance with TCEQ rules for net ground-level concentrations for SO_2 and H_2SO_4, as applicable. This analysis demonstrated that resulting air concentrations will not exceed the applicable state standard, as shown in Table 3 below.

Table 3. Project-Related Modeling Results for State Property Line

Pollutant	Averaging Time	GLC_{max} (µg/m^3)	De Minimis (µg/m^3)
SO_2	1-hr	3.3	14.3
H_2SO_4	1-hr	0.30	1
H_2SO_4	24-hr	0.12	0.3

The proposed emissions increases have been adequately represented and included in the impact analysis. Additionally, TCEQ staff and the Air Dispersion Modeling Team (ADMT) have reviewed the proposed emissions from sources, represented source parameters and locations, point and area source representations, and background concentrations. Based on the data and representations, TCEQ staff and ADMT determined that the modeling analysis was acceptable. *See* Response 7 for additional information regarding BACT, and Response 5 for additional information regarding emissions sources and calculations used to support the application.

In summary, based on the Executive Director's staff review, it is not expected that existing health conditions will worsen, or that there will be adverse health effects on the general public, sensitive subgroups, or the public welfare and the environment as a result of proposed emission rates associated with this project.

Prevention of Significant Deterioration Increment and Ozone Analysis

For Prevention of Significant Deterioration (PSD) applications, if a project will emit 100 tons per year or more of VOC or NO_X emissions, an ozone impact analysis to demonstrate predicted compliance with the 8-hour ozone standard is required, including the gathering of ambient air quality data. The proposed project does not trigger PSD or nonattainment new source review permitting because the site currently has a Plant-wide Applicability Limit (PAL) permit for VOC, NO_X, CO, PM, PM_{10}, $PM_{2.5}$, SO_2, and H_2SO_4 authorized in Permit No. PAL6, initially issued August 24, 2005, reopened June 16, 2014, revised May 6, 2021, and renewed on December 23, 2022. The Applicant did not request an increase in a PAL for any of these criteria pollutants with the proposed project; therefore, a federal permitting applicability review, including a PSD increment and ozone impact analysis, is not required in accordance with 30 TAC § 116.190.

However, NO_X (an ozone precursor) modeling is required for minor projects. NO_X is modeled as its conversion to NO_2 which in turn can react in the atmosphere with sunlight to form ozone. As shown above in Table 1, the modeled results for each criteria pollutant are below the significant impact level (SIL) or de minimis level for each pollutant, and therefore should not cause or contribute to violation of the NAAQS and are protective of human health and the environment. *See* Response 6 for additional information regarding the PAL6 Permit and Federal Applicability.

Accordingly, the draft permit's MAERT lists the only emissions authorized to be emitted from the proposed project.

In summary, based on the Executive Director's staff review, it is not expected that existing health conditions will worsen, or that there will be adverse health effects on the general public, sensitive subgroups, or the public welfare and the environment as a result of proposed emission rates associated with this project.

COMMENT 3: Environmental Concerns

Colin Cox questioned whether the proposed project would be protective of wildlife and the environment.

(Colin Cox)

RESPONSE 3: The secondary NAAQS are those the EPA Administrator determines are necessary to protect public welfare and the environment, including animals, crops, vegetation, visibility, and structures, from any known or anticipated adverse effects associated with the presence of a contaminant in the ambient air. Because the emissions from the proposed project should not cause an exceedance of the NAAQS, air emissions are not expected to adversely impact land, livestock, wildlife, crops, or visibility, nor should emissions interfere with the use and enjoyment of surrounding land or water. *See* Response 2 for an evaluation of this project's impacts in relation to the NAAQS. In addition, 30 TAC § 101.4 prohibits the discharge of contaminants which may be injurious to, or adversely affect, animal life.

COMMENT 4: Confidential Material

Gabriel Clark-Leach expressed concern that the application contained confidential material that was relied upon to develop the draft permit requirements and emission limits, stating as the information is considered enforceable representations, it is not eligible to be considered confidential business information per 42 U.S.C § 7661b(e). Mr. Clark-Leach expressed concern that the publicly accessible portion of the application is limited to a general description of the calculation methodology and a summary of key assumptions and calculation basis data. Mr. Clark-Leach further stated that the failure to make the information public during the public comment period violates public participation requirements in 30 TAC Chapters 39 and 55.

(Gabriel Clark-Leach)

RESPONSE 4: The Air Permits Division and other applicable TCEQ staff have conducted a thorough review of this permit application to ensure it meets the requirements of all applicable state and federal standards. The Applicant is bound by its representations in the application and those representations become an enforceable part of the permit, including production rates, authorized emission rates, and equipment. If the Applicant deviates from the representations made in the application, on which the permit was developed, the Applicant may be subject to enforcement action.

In accordance with 30 TAC § 39.405(g), the public file of the application indicated that there is additional information in a confidential file. The TCAA provides for confidential treatment of information submitted to the commission if it relates to secret processes, production rates, or methods of manufacture or production and is identified as confidential when submitted. *See* TCAA § 382.041(a). TCEQ rules also specify procedures for the handling of information claimed to be confidential. *See* 30 TAC § 1.5(d). An applicant may request that submitted information be designated as confidential. Regardless of whether the Executive Director agrees with an applicant's requested confidential designation, if the agency receives an open records request for the information marked confidential by an applicant, the agency must submit a request to the Texas Attorney General to determine whether the information must be disclosed.

COMMENT 5: Emission Rates and Calculations

Colin Cox questioned the accuracy and methodology for determining the emission rates for the proposed project, specifically questioning whether the calculation methodologies are flawed or outdated.

(Colin Cox)

RESPONSE 5: Emission rates are calculated using the approaches summarized in Section 5 of the application supplement including using engineering estimates, mass balances, TCEQ guidance, and EPA's Compilation of Air Emission Factors (AP-42).[4]

[4] *See* https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors.

These approaches and emission factors were determined to be correct and applicable by TCEQ staff during the technical review based on standard industry air permitting practices. The Applicant represented the appropriate methodologies to control and minimize emissions and utilized corresponding control efficiencies when calculating the emission rates. As provided in 30 TAC § 116.116(a), the Applicant is bound by these representations, including the represented performance characteristics of the control equipment. In addition, the permit holder must operate within the limits of the permit, including the emission limits as listed in the MAERT.

COMMENT 6: PAL6 Permit and Federal Applicability

Gabriel Clark-Leach expressed concern that the Applicant represents they are not subject to federal nonattainment requirements, specifically to offset significant increases with contemporaneous reductions at a ratio of greater than 1:1, or to comply with the Lowest Achievable Emission Rate (LAER) technology requirements to reduce emissions of nonattainment and ozone creating pollutants. Mr. Clark-Leach expressed concern that the Applicant is not able to rely upon the terms of their PAL6 permit, specifically stating that the PAL6 permit does not state whether NO_x and VOC emissions increases would contribute to existing violations of federal ozone standards. Mr. Clark-Leach states that because the emission limits in the PAL6 do not reflect the baseline actual emissions from the plant, they do not provide a basis for determining that proposed increases are insignificant. Mr. Clark-Leach expressed concern that potential emissions shown in the renewal application for the PAL6 exceeded the limits in that permit, stating that while the Applicant contends that actual emissions from the plant have stayed below the PAL6 limits, this conflicts with 'credible evidence' that may establish violations of PAL6. Mr. Clark-Leach states that the Applicant should not be able to rely on the PAL6 to establish that the proposed project does not trigger major NSR permitting requirements, further stating that the Applicant should be required to perform a netting demonstration to determine whether the project triggers major NSR. Mr. Clark-Leach expressed concern that the NO_x and VOC limits in the PAL6 are compared to the 40 tons per year (tpy) threshold, which is the threshold based upon Harris County's marginal nonattainment status at the time the PAL6 was issued. Mr. Clark-Leach states that the TCEQ should require the PAL6 to be compared to the current 25 tpy threshold instead, based upon the recent Harris County redesignation to severe ozone nonattainment. Mr. Clark-Leach expresses further concern regarding PAL6 compliance, specifically when comparing Emissions Inventory submissions.

(Gabriel Clark-Leach)

RESPONSE 6: Concerns regarding representations in the PAL Permit No. PAL6 renewal application are outside the scope of the current project review, as the current application proposes an amendment to NSR Permit No. 102982. The Applicant did not request an increase in a PAL for any criteria pollutants with the proposed project; therefore, a federal permitting applicability review is not required and federal nonattainment new source review requirements, including offsets and LAER, are not applicable in accordance with 30 TAC § 116.190. *See* Response 2 regarding ozone requirements and Response 7 regarding LAER. Sources at the plant are subject to the

monitoring requirements specified in 30 TAC § 116.186(c) and Special Condition No. 19 of PAL6, replacement record requirements specified in Special Condition No. 24 of PAL6, and the recordkeeping and reporting requirements specified in 30 TAC § 116.186(b)(4) and Special Condition Nos. 25 and 26 of PAL6.

COMMENT 7: Best Available Control Technology

Commenters questioned the control technology proposed in the application, specifically whether new and modified sources, as well as greenhouse gas controls, reflect use of Best Available Control Technology (BACT). Gabriel Clark-Leach expressed concern that the proposed new furnace and proposed Leak Detection and Repair fugitive program do not satisfy BACT requirements, further stating that use of optical gas imaging (OGI) should be required in addition to the fugitive LDAR programs. Colin Cox asked whether the Applicant made all demonstrations required by 30 TAC § 116.111. Mr. Cox also raised the issues of visible flames from the facility.

(Colin Cox, Gabriel Clark-Leach)

RESPONSE 7: The TCAA and TCEQ rules require an evaluation of air quality permit applications to determine whether adverse effects to public health, general welfare, or physical property are expected to result from a facility's proposed emissions. As part of the evaluation of applications for new or amended permits, the permit reviewer audits all sources of air contaminants from the proposed project and assures that the proposed project will be using the BACT applicable for the sources and types of contaminants emitted. The BACT is based upon control measures that are designed to minimize the level of emissions from specific sources at a facility. Applying BACT results in requiring technology that best controls air emissions with consideration given to the technical practicability and economic reasonableness of reducing or eliminating emissions. *See* TCAA § 382.0518; 30 TAC § 116.111. BACT may be numerical limitations, the use of an add-on control technology, design considerations, the implementation of work practices, or operational limitations.

TCEQ BACT evaluation is conducted using a "tiered" analysis approach. The evaluation begins at the first tier and continues sequentially through subsequent tiers, only if necessary, as determined by the evaluation process described in this document. In each tier, BACT is evaluated on a case-by-case basis for technical practicability and economic reasonableness. The three tiers are described in the following paragraphs:

- **Tier I:** Emission reduction performance levels accepted as BACT in recent permit reviews for the same process and/or industry continue to be acceptable.
- **Tier II:** Tier II BACT evaluation involves consideration of controls that have been accepted as BACT in recent permits for similar air emission streams in a different process or industry. For example, an applicant may propose to control VOC emissions in one industry using technology already in use in another industry. A Tier II evaluation includes issues relating to stream comparison and possible differences in overall performance of a particular emission reduction option. In addition, the Tier II evaluation considers technical differences between the processes or industries in question. To demonstrate technical

practicability, detailed technical analysis may be required to assess the cross-applicability of emission reduction options. In Tier II, economic reasonableness is established by historical and current practice.

- **Tier III:** A Tier III BACT evaluation is a detailed technical and quantitative economic analysis of all emission reduction options available for the process under review and is similar to EPA's top-down approach. Technical practicability is established through demonstrated success of an emission reduction option based on previous use, and/or engineering evaluation of a new technology. Economic reasonableness is determined solely by the cost-effectiveness of controlling emissions (dollars per ton of pollutant reduced) and does not consider the effect of emission reduction costs on corporate economics.

The Applicant has represented in the permit application that BACT will be used for the proposed new and modified sources, described in the table below. Greenhouse gas (GHG) controls are not within the scope of review of the proposed project because the proposed project did not trigger PSD for GHG emissions according to 30 TAC § 116.164(a)(2) because PSD review was not triggered for any non-GHG pollutants.

Source(s)	Best Available Control Technology Description
XXI Furnace	Selective catalytic reduction (SCR) will be used to meet a maximum short-term (24-hour average) NO_X emission factor of 0.015 pound of a pollutant per million British thermal units of heat input (lb/MMBtu) during routine operations and an annual 12-month rolling NO_X emission factor of 0.010 lb/MMBtu during routine operations. These proposed NO_X emission factors during routine operations are consistent with the limits for Furnaces XXA through XXH, as specified in Special Condition (SC) No. 7.C. TCEQ Tier 1 guideline for furnaces greater than 40 MMBtu/hours is a NO_X emission factor of 0.01 lb/MMBtu. The company proposed continuous emissions monitoring systems (CEMS) that will ensure the NO_X emission factors are met. During transient MSS modes of operation that include decoke mode, hot steam standby, start-up, shutdown, feed in, and feed out operations as defined in the permit, a higher NO_X emission rate of 18.00 lb/hour at up to 600 hours/year was proposed as BACT. During furnace transient operations, the flue gas flow rate (which measures the distance that the gas travels per unit of time) and temperature are changing and the SCR reactions are no longer in a steady state. The Applicant represented that a lb/MMBtu emission factor is not practical to assign when the SCR is not in a steady state and the oxygen concentration is high. However, MSS modes will comply with the lb/hr rate for the furnace, which includes a lower demand on the furnace. As noted earlier, the Applicant represented that a NO_X CEMS will be employed, which will ensure compliance with the represented emission factors. The CO emission basis was proposed as 50 parts per million volume dry

Source(s)	Best Available Control Technology Description
	(ppmvd) at 3% oxygen for the hourly and annual basis through the use of good design and combustion practices, which meets the TCEQ Tier 1 guideline of 50 ppmvd at 3% oxygen for furnaces greater than 40 MMBtu/hour. The Applicant proposed CEMS that will ensure the annual CO emission factor is met. Good design and combustion practices and gaseous fuel firing was proposed BACT for VOC and particulate matter from the furnace. These emission factors were taken from Table 1.4-2 of AP-42, as explained in Response 5. Combustion of low sulfur fuel gas is proposed as BACT for SO_2 and H_2SO_4. The SO_2 emissions are based on a fuel sulfur content of 5 grains total sulfur/100 scf specified in Special Condition No. 7.A. The furnace will fire imported natural gas or blended fuel gas that consists of imported natural gas and tail gas. H_2SO_4emissions were estimated assuming a 6% molar conversion of SO_2 to H_2SO_4. This control satisfies BACT. The proposed annual emission rate of the NH_3 is based on 10 ppmvd at 3% O_2 on a 12-month rolling basis and 15 ppmvd at 3% O_2 on a short term hourly basis to allow for short-term operational variations.
XXI Furnace MSS (SCR down for planned MSS)	For MSS operations when the SCR is down for planned maintenance, a NO_X emission factor of 0.066 lb/MMBtu at up to 100 hours/year was proposed to satisfy BACT. The Applicant justified the NO_X MSS emission factor by citing Permit No. 149177 issued January 11, 2019, for the ExxonMobil Baytown Chemical Plant (BTCP). This project represented a NO_X emission factor of 0.06 lb/MMBtu (HHV) during planned MSS operations at up to 168 hours/year. While the proposed NO_x emission factor is 10% higher than that provided in Permit No. 149177, the proposed MSS annual operation is 100 hours/year compared to 168 hours/year in Permit No. 149177 (40% less annual hours of MSS activities), and the proposed annual NO_X emission rate is 1.93 tpy. Given the difference in proposed annual hours per year and relatively low annual NO_X emission rate, the proposed NO_X emissions during SCR planned MSS downtime is considered acceptable.
Cooling Tower	The cooling tower is a non-contact design with monthly monitoring of VOC in the water according to TCEQ Sampling Procedures Manual, Appendix P[5], with leaks repaired as soon as possible. The maximum hourly and rolling 12-month total VOC emission rates were based on

5 *See* https://www.tceq.texas.gov/downloads/compliance/investigations/assistance/samplingappp.pdf.

Source(s)	Best Available Control Technology Description
	VOC concentration in the water of 0.8 ppmw and 0.08 ppmw, respectively. To minimize PM/PM_{10}/$PM_{2.5}$ from the cooling tower, drift eliminators are employed which have a drift loss of 0.0005%, which is less than the TCEQ Tier I BACT guideline of 0.001%. The proposed PM/PM_{10}/$PM_{2.5}$ emission rates were calculated based on the maximum cooling tower recirculation rate and the maximum total dissolved solids (TDS) concentration.
BOP-XX Furnace Decoke Cap (furnace decoking operations, decoking drum)	Emissions from the decoking activities result from combustion of the coke build-up on the coils of the new furnace, which is emitted to the atmosphere through the decoke drum vent. The spalling off and oxidation of the coke from the addition of oxygen and steam inside the furnace's radiant tubes after stopping the fuel flow and feed stock forms large particulate matter and small particulate matter, PM_{10}/$PM_{2.5}$. The oxidation of the coke also forms VOC and CO, which are emitted from the decoke stack. The combustion also causes thermal conversion of nitrogen in makeup air forming NO_X. For decoking CO emissions, minimizing coke formation will reduce CO emissions since the combustion of coke during decoking will be minimized to a minimum amount of coke. Coke formation is minimized through good combustion and maintenance practices of the furnaces. The company represented that this method of control is standard industry practice and because of the infrequency of decoking and the resulting low annual emissions, proposed no further controls. Therefore, good combustion and maintenance practices were proposed as BACT for CO from decoking of the proposed furnace. Decoking vents NO_X and VOC emissions, as well as CO emissions, will be minimized by meeting the work practices specified in the Ethylene MACT rule, specifically 40 CFR 63.1103(e)(7), which requires complying with two of the following four work practices: • Continuously monitor the CO_2 concentration. • Continuously monitor the temperature at the radiant tube(s) outlet. • Verify that decoke air is no longer being added after decoking and before back to normal. • Inject materials into the steam or feed to reduce coke formation inside the radiant tube(s). The work practices listed above ensure good combustion of coke buildup inside the pyrolysis tubes during decoke and limits them within the proposed allowable emission rates.

Source(s)	Best Available Control Technology Description
	For $PM/PM_{10}/PM_{2.5}$ emissions, minimizing coke formation will reduce $PM/PM_{10}/PM_{2.5}$ emissions since the combustion of coke during decoking will be minimized to a minimum amount of coke. Good combustion and maintenance practices were proposed as BACT for decoking of the proposed furnace. Additionally, the proposed project will meet BACT through control of particulate matter generated during decoking operations with cyclonic separation in the decoke drum to remove coke fines from the effluent. The cyclone scrubber was represented as controlling particulate matter by at least 95%. Additionally, the steam flow target and monitoring specified in Special Condition No. 8 of the current permit ensures that the represented cyclone control is met since the cyclonic decoke pot uses steam to provide motive force, which allows separation of fine particulate matter. The above proposed practices also satisfy BACT from the decoking vents based on a review of recent BACT determinations. No add-on control devices were proposed for VOC, CO, and NO_x by the Applicant. The Applicant noted that another combustion device such as a catalytic thermal oxidizer could in theory be used in series with the decoke pot to control VOC in the low concentration / high volume stream. However, the Applicant stated that catalytic thermal oxidizers typically do not receive high CO loads. Instead, the furnace firebox itself could be used as a thermal oxidizer for VOC in the effluent from the decoke pot when it is in decoke mode, but the Applicant noted that EPA's review of organic HAP sampling has found virtually no difference between concentrations of organics that were sampled from decokes that had been routed to decoke pot versus routed to firebox according to the preamble discussion for Ethylene MACT, 84 Fed. Reg. 54307 (Oct. 9, 2019), which states: *"The emissions stream generated from decoking operations (i.e., the combination of coke combustion constituents, air, and steam from the radiant tube(s)) is very dilute with a high moisture content (e.g., generally >95 percent water). As part of our CAA section 114 request, we required companies to perform testing for HAP from this emissions source at certain ethylene cracking furnaces (see section II.C of this preamble for details about our CAA section 114 request). A minimum of three decoking cycles were required to be tested; and emissions data were obtained for three test runs spaced over the entire duration of each decoking cycle. The test data collected from industry confirm that HAP emissions, such as non-PAH organic HAP, occur during decoking operations. However, the majority (i.e., 88 percent) of non-PAH organic HAP were found to be below detection levels (BDL)." We regard situations where, as here, the majority of measurements are below detection limits,*

Source(s)	Best Available Control Technology Description
	as measurements that are not "technologically practicable" within the meaning of CAA section 112(h)." The Applicant represented that the firebox in decoke mode would oxidize more CO to CO_2, but would provide no reduction in NO_X, as the NO_X emissions would be expected to be higher due to the need for burners with hotter flames that can tolerate the expansion of decoke steam. The Applicant expects no control effect on particulate matter and a nominal reduction in small particulate matter, $PM_{10}/PM_{2.5}$. For the XXI Furnace, decoke to firebox is not technically practicable without introducing safety risks associated with the expansion of decoke steam as well as a fouling risk of the SCR by the remaining uncontrolled fraction of large particulate matter from the decoke pot.
Piping Fugitive Components	The company proposed utilization of the 28VHP Leak Detection and Repair (LDAR) program for fugitive components in VOC and CO service associated with the project, along with the 28CNTQ program which requires quarterly monitoring of connectors/flanges at the same leak definition as valves, 500 ppmv. Additionally, the company will utilize the 28AVO LDAR program for components in NH_3 service associated with the SCR system. Audio, visual, and olfactory (AVO) checks will be conducted once per shift to check for leaks. Use of the TCEQ fugitive LDAR programs are accepted as BACT.

Leak Detection and Repair

LDAR programs are used to inspect fugitive components to identify leaks either by using instruments, or in limited cases, physical inspections. Leaks identified by the inspections are then repaired within a specified time period, thus reducing the emissions. The 28M, 28RCT, 28VHP, 28MID, and 28LAER programs are the most common LDAR programs. These are differentiated by leak definition, vapor pressure, and directed versus non-directed maintenance.[6] As shown in the table above, the Applicant proposed compliance with the 28VHP and 28CNTQ LDAR programs, and TCEQ staff conducted a technical review which determined these were sufficient to meet TCEQ's BACT requirements for monitoring fugitive emissions for the proposed project. While new OGI options are currently being evaluated and studied by the TCEQ, they are not required to show compliance with BACT. LDAR currently represents BACT for monitoring fugitive VOC emissions in this industry.

[6] *See* Air Permits Division, Air Permit Reviewer Reference Guidance APDG 6422, Air Permit Technical Guidance for Chemical Sources Fugitive Guidance, TCEQ, pages 7–9 (June 2018), https://www.tceq.texas.gov/assets/public/permitting/air/Guidance/NewSourceReview/fugitive-guidance.pdf.

Nonattainment permits must include LAER, as opposed to BACT. LAER is usually more stringent than BACT. For new major sources and major modifications in nonattainment areas, LAER is the most stringent emission limitation derived from either of the following: the most stringent emission limitation contained in the implementation plan of any state for such class or category of source; or the most stringent emission limitation achieved in practice by such class or category of source. As this project is not subject to NNSR or PSD (*see* Response 6 regarding Federal Applicability), LAER is not applicable. The permit reviewer evaluated the proposed BACT and confirmed it to be acceptable.

COMMENT 8: Monitoring and Reporting Requirements

Colin Cox questioned whether the monitoring and reporting requirements contained in the permit Special Conditions are adequate to ensure compliance with the Clean Air Act and protect local residents. Gabriel Clark-Leach questioned whether the monitoring, testing, recordkeeping, and reporting requirements established by the draft permit assure compliance with applicable emission limits and requirements, including compliance with the emission caps in the PAL6 permit. Mr. Clark-Leach further stated that the Applicant's compliance demonstrations for PAL6 must include emissions of PAL pollutants from all equipment at the plant and that the requirements in the draft permit must comply with heightened monitoring requirements in Texas's federally approved PAL program, citing 30 TAC § 116.186(c).

(Colin Cox, Gabriel Clark-Leach)

RESPONSE 8: The Applicant did not request an increase in a PAL for any criteria pollutants with the proposed project; additionally, concerns regarding the PAL6 permit are outside the scope of this project. *See* Response 6 regarding the PAL6 Permit and Response 2 regarding the health effects review for this proposed permit.

The Special Conditions of the draft Permit No. 102982 contain detailed monitoring, recordkeeping, and reporting requirements. The new XXI Furnace (EPN XXIF01-ST) associated with the proposed project has been added to draft revised Special Condition No. 23 that requires NO_x and CO CEMS on the unit, as well as updated draft Special Condition No. 24 that requires ammonia monitoring for the furnace since it will utilize SCR for NO_x control.

In addition, draft Permit No. 102982, specifically draft Special Condition No. 26, specifies applicable recordkeeping requirements to demonstrate compliance with the emissions limitations set forth in the permit. Records must be made available upon request to representatives of the TCEQ, EPA, or any local air pollution control program having jurisdiction. The Regional Office may perform investigations of the plant as required. The investigation may include an inspection of the site including all equipment, control devices, monitors, and a review of all calculations and required recordkeeping.

COMMENT 9: Compliance History

Terrie E. Blackwood expressed concern that there may already be issues from pollution released from the complex, whether permitted or not.

(Terrie E. Blackwood)

RESPONSE 9: During the technical review of the permit application, a compliance history review of both the company and the site is conducted based on the criteria in 30 TAC Chapter 60. These rules may be found at the following website: https://www.tceq.texas.gov/rules/index.html.

The compliance history is reviewed for the five-year period prior to the date the permit application was received and includes multimedia compliance-related components about the site under review. These components include enforcement orders, consent decrees, court judgments, criminal convictions, chronic excessive emissions events, investigations, notices of violations, audits and violations disclosed under the Audit Act, environmental management systems, voluntary on-site compliance assessments, voluntary pollution reduction programs, and early compliance. However, the TCEQ does not have jurisdiction to consider violations outside of the State of Texas.

A company and site may have one of the following classifications and ratings:

- High: rating below 0.10 – complies with environmental regulations extremely well;
- Satisfactory: rating 0.10 – 55.00 – generally complies with environmental regulations;
- Unsatisfactory: rating greater than 55.00 – fails to comply with a significant portion of the relevant environmental regulations.

This site has a rating of 9.26 and a classification of Satisfactory. The company rating has a rating of 5.30 and a classification of Satisfactory. The company rating reflects the average of the ratings for all sites the company owns in Texas.

COMMENT 10: Nuisance

Commenters expressed concerns about nuisance conditions created by the facility.

(Colin Cox, Terry E. Blackwood)

RESPONSE 10: TCEQ has conducted a thorough review of this permit application to ensure it meets the requirements of all applicable state and federal standards. Provided the plant is operated within the terms of the permit, adverse health effects are not expected. Operators must also comply with 30 TAC § 101.4, which prohibits a person from creating or maintaining a condition of nuisance that interferes with a landowner's use and enjoyment of a property. The rule states that "[n]o person shall discharge from any source" air contaminants which are or may "tend to be injurious to or adversely affect human health or welfare, animal life, vegetation, or property, or as to interfere with the normal use and enjoyment of animal life, vegetation, or property."

Air contaminant is defined in the TCAA, § 382.003(2), to include "particulate matter, radioactive material, dust, fumes, gas, mist, smoke, vapor, or odor." If the plant is operated in compliance with the terms of the permit, nuisance conditions are not expected. The TCEQ cannot deny authorization of a facility if a permit application contains a demonstration that all applicable statutes, rules, and regulations will be met.

As stated, comprehensive modeling was completed during the protectiveness review. The modeling applied conservative assumptions, such as assuming all emission sources would operate continuously and simultaneously at their maximum emission rates and assumed the plants would consistently sustain maximum production rates at the site. Therefore, nuisance odor conditions are not expected at the facility, and the permit is found to be protective of human health and the environment.

The TCEQ evaluates all complaints received. If a facility is found to be out of compliance with the terms and conditions of its permit, it will be subject to investigation and possible enforcement action. Individuals are encouraged to report any concerns about nuisance issues or suspected noncompliance with terms of any permit or other environmental regulation by contacting the TCEQ Houston Regional Office at 713-767-3500 or by calling the 24-hour toll-free Environmental Complaints Hotline at 1-888-777-3186. Citizen-collected evidence may be used in such an action. *See* 30 TAC § 70.4, Enforcement Action Using Information Provided by Private Individual, for details on gathering and reporting such evidence. Under the citizen-collected evidence program, individuals can provide information on possible violations of environmental law. The information, if gathered according to agency procedures and guidelines, can be used by the TCEQ to pursue enforcement. In this program, citizens can become involved and may eventually testify at a hearing or trial concerning the violation. For additional information, see the TCEQ publication, "Do You Want to Report an Environmental Problem? Do You Have Information or Evidence?" This booklet is available in English and Spanish from the TCEQ Publications office at 512-239-0028 and may be downloaded from the agency website at http://www.tceq.texas.gov (under Publications, search for document number 278).

Citizen-collected evidence may be used in such an action. *See* 30 TAC § 70.4, Enforcement Action Using Information Provided by Private Individual, for details on gathering and reporting such evidence. Under the citizen-collected evidence program, individuals can provide information on possible violations of environmental law. The information, if gathered according to agency procedures and guidelines, can be used by the TCEQ to pursue enforcement. In this program, citizens can become involved and may eventually testify at a hearing or trial concerning the violation. For additional information, see the TCEQ publication, "Do You Want to Report an Environmental Problem? Do You Have Information or Evidence?" This booklet is available in English and Spanish from the TCEQ Publications office at 512-239-0028 and may be downloaded from the agency website at http://www.tceq.texas.gov (under Publications, search for document number 278).

COMMENT 11: Noise / Vibrations

Colin Cox expressed concerns regarding noise at the facility.

(Colin Cox)

RESPONSE 11: Noise and associated vibrations are not within the jurisdiction of the TCEQ. Concerns regarding noise and vibrations should be directed to local officials. The Applicant must comply with the TCAA and all TCEQ rules and regulations, including 30 TAC § 101.4, which prohibits a person from creating or maintaining a condition of nuisance. Individuals are encouraged to report any concerns about nuisance issues by contacting the TCEQ Houston Regional Office at 713-767-3500 or by calling the 24-hour toll-free Environmental Complaints Hotline at 1-888-777-3186.

The TCEQ does not have authority under the TCAA to require or enforce any noise abatement measures or consider light pollution. Noise or light ordinances are normally enacted by cities or counties and enforced by local law enforcement authorities. Commenters should contact their local authorities with questions or complaints about noise or lighting.

COMMENT 12: Truck Traffic/Roads

Colin Cox expressed concern regarding the constant train and truck traffic around the facility.

(Colin Cox)

RESPONSE 12: The Applicant is prohibited by TCEQ rule (30 TAC § 101.5) from discharging air contaminants, uncombined water, or other materials from any source which could cause a traffic hazard or interference with normal road use. If the sources are operated in compliance with the terms and conditions of the permit, nuisance conditions should not occur.

Although TCEQ rules prohibit creation of a nuisance, the TCEQ does not have jurisdiction to consider increased truck or train traffic and congestion when determining whether to approve or deny a permit application. In addition, trucks are considered mobile sources which are not regulated by the TCEQ. The TCEQ is also prohibited from regulating roads per the TCAA § 382.003(6) which excludes roads from the definition of "facility."

Similarly, TCEQ does not have the authority to regulate traffic on public roads, load-bearing restrictions, and public safety, including access, speed limits, and public roadway issues. These concerns are typically the responsibility of local, county, or other state agencies, such as the Texas Department of Transportation (TxDOT) and the Texas Department of Public Safety (DPS). Concerns regarding roads should be addressed to the appropriate state or local officials.

COMMENT 13: Environmental Justice

Colin Cox raised concerns regarding the environmental justice implications of this project, specifically asking if the environmental justice impacts of the proposed emissions increases have been adequately considered.

(Colin Cox)

RESPONSE 13: Air permits evaluated by the TCEQ are reviewed without reference to the socioeconomic or racial status of the surrounding community. The TCEQ is committed to protecting the health of the people of Texas and the environment regardless of location. A health effects review was previously conducted for the existing emissions authorized by this permit during the initial permit review and the permit was found to be protective of human health and the environment. In addition, as described in Response 2 a health effects review was conducted for the proposed emissions increases associated with this application.

The Office of the Chief Clerk works to help the public and neighborhood groups participate in the regulatory process to ensure that agency programs that may affect human health or the environment operate without discrimination and to ensure that concerns are considered thoroughly and handled in a way that is fair to all. You may contact the Office of the Chief Clerk at 512-239-3300.

More information may be found on the TCEQ website: Title VI Compliance at TCEQ - Texas Commission on Environmental Quality - www.tceq.texas.gov.

CHANGES MADE IN RESPONSE TO COMMENT

No changes to the draft permit have been made in response to public comment.

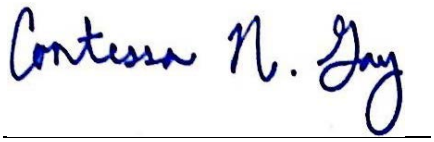
Respectfully submitted,

Texas Commission on Environmental Quality

Erin E. Chancellor, Interim Executive Director

Charmaine Backens, Acting Director
Office of Legal Services

Guy Henry, Acting Deputy Director
Environmental Law Division



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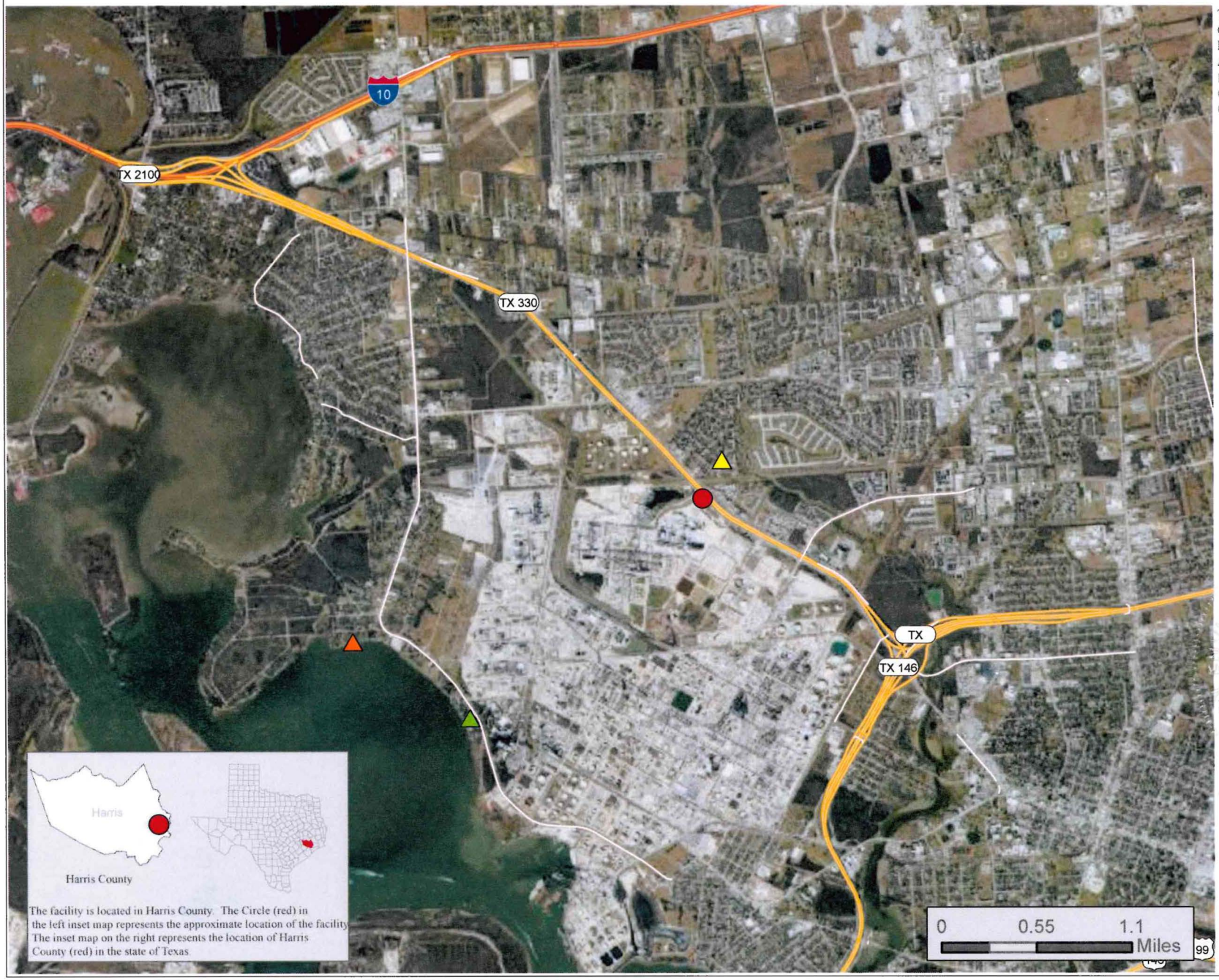
REPRESENTING THE
EXECUTIVE DIRECTOR OF THE
TEXAS COMMISSION ON
ENVIRONMENTAL QUALITY

Exxon Mobil Corporation - Permit No. 102982

Map Requested by TCEQ Office of Legal Services
for Commissioners' Agenda

Protecting Texas by Reducing and Preventing Pollution



Texas Commission on Environmental Quality
GIS Team (Mail Code 197)
P.O. Box 13087
Austin, Texas 78711-3087

Date: 8/24/2023
CRF 0093567
Cartographer: AlOrtiz

N

- Exxon Mobil Chemical Olefins Plant

Requestor

- Mike Szumski
- Sharon Rogers
- Theresa Blackwood
- County Boundary

Distance from Exxon Mobil Chemical Olefins Plant to:

Mike Szumski: 0.25 Miles
Sharon Rogers: 1.85 Miles
Theresa Blackwood: 2.19 Miles

STATE OF TEXAS
COUNTY OF TRAVIS
AUG 24 2023

Source: The location of the facility was provided by the TCEQ Office of Legal Services (OLS). OLS obtained the site location information from the applicant and the requestor information from the requestor.

This map was generated by the Information Resources Division of the Texas Commission on Environmental Quality. This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries. For more information concerning this map, contact the Information Resource Division at (512) 239-0800.