

Jon Niermann, *Chairman*  
Emily Lindley, *Commissioner*  
Bobby Janecka, *Commissioner*  
Erin E. Chancellor, *Interim Executive Director*



## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Protecting Texas by Reducing and Preventing Pollution*

June 8, 2023

TO: Persons on the attached mailing list.

RE: Exxon Mobil Corporation  
TCEQ Docket No. 2023-0649-AIR  
Air Quality Permit No. 102982

Enclosed is a copy of the Executive Director's Response to Public Comment regarding the above-referenced matter.

Should you have any questions, please contact Ellie Guerra of the Texas Commission on Environmental Quality's Office of the Chief Clerk (MC 105) at (512) 239-3300.

Sincerely,

A handwritten signature in cursive script that reads "Laurie Gharis".

Laurie Gharis  
Chief Clerk

LG/erg

Enclosure

Jon Niermann, *Presidente*  
Emily Lindley, *Comisionada*  
Bobby Janecka, *Comisario*  
Erin E. Chancellor, *Director Ejecutivo interino*



## COMISIÓN DE CALIDAD AMBIENTAL DE TEXAS

*Protegiendo a Texas reduciendo y previniendo la contaminación*

8 de junio 2023

TO: Personas en la lista de correo adjunta.

RE: Exxon Mobil Corporation  
TCEQ Número de Expediente 2023-0649-AIR  
Número de Permiso de Calidad del Aire 102982

Se adjunta una copia de la respuesta del Director Ejecutivo al Comentario Público sobre el asunto mencionado anteriormente.

Si tiene alguna pregunta, comuníquese con Ellie Guerra de la Oficina del Secretario Oficial de la Comisión de Calidad Ambiental de Texas (MC 105) at (512) 239-3300.

Atentamente,

A handwritten signature in cursive script that reads "Laurie Gharis".

Laurie Gharis  
Secretaria Oficial

LG/erg

Recinto

MAILING LIST

for

Exxon Mobil Corporation

TCEQ Docket No. 2023-0649-AIR / TCEQ Número de Expediente 2023-0649-AIR

Air Quality Permit No. 102982 / Número de Permiso de Calidad del Aire 102982

FOR THE APPLICANT /  
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INTERESTED PERSONS /  
PERSONAS INTERESADAS:

See attached list.  
Ver lista adjunta.

FOR THE EXECUTIVE DIRECTOR /  
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FOR THE CHIEF CLERK /  
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## TCEQ AIR QUALITY PERMIT NUMBER 102982

APPLICATION BY	§	BEFORE THE
EXXON MOBIL CORPORATION	§	TEXAS COMMISSION ON
EXXON MOBIL CHEMICAL BAYTOWN	§	ENVIRONMENTAL QUALITY
OLEFINS PLANT	§	
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](http://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<sub>x</sub>, VOC, CO, PM, SO<sub>2</sub>, H<sub>2</sub>SO<sub>4</sub>, 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<sub>x</sub> 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.<sup>1</sup> 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<sub>2</sub>), ozone (O<sub>3</sub>), sulfur dioxide (SO<sub>2</sub>), particulate matter less than or equal to 10 microns in aerodynamic diameter (PM<sub>10</sub>), and PM less than or equal to 2.5 microns in aerodynamic diameter (PM<sub>2.5</sub>).

The Applicant conducted a NAAQS analysis for NO<sub>2</sub>, CO, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>. 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<sub>max</sub><sup>2</sup>) 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 <sub>max</sub> (µg/m <sup>3</sup> )	De Minimis (µg/m <sup>3</sup> )
NO <sub>2</sub>	1-hr	7.3	7.5
NO <sub>2</sub>	Annual	0.2	1
CO	1-hr	9	2000
CO	8-hr	6	500
PM <sub>10</sub>	24-hr	1	5
PM <sub>2.5</sub>	24-hr	0.72 <sup>a</sup> 0.85 <sup>b</sup>	1.2

<sup>1</sup> 40 CFR § 50.2.

<sup>2</sup> The GLC<sub>max</sub> is the maximum ground level concentration predicted by the modeling.

PM <sub>2.5</sub>	Annual	0.12 <sup>a</sup> 0.13 <sup>b</sup>	0.2
SO <sub>2</sub>	1-hr	3.3	7.8
SO <sub>2</sub>	3-hr	3	25

<sup>a</sup> Excluding secondary PM<sub>2.5</sub> impacts.

<sup>b</sup> Including secondary PM<sub>2.5</sub> 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.<sup>3</sup> 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.

<sup>3</sup> See APDG 5874 guidance document.

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

Pollutant & CAS#	Averaging Time	GLC <sub>max</sub> µg/m <sup>3</sup>	ESL µg/m <sup>3</sup>	MERA in Which Pollutant Fall Out
Ammonia 7664-41-7	1-hr	3.41	180	Step 3 - GLC <sub>max</sub> < 10% ESL
	annual	0.39	92	Step 3 - GLC <sub>max</sub> < 10% ESL
Distillates (petroleum), light catalytic cracked 64741-59-9	1-hr	304.4	3500	Step 3 - GLC <sub>max</sub> < 10% ESL
	annual	12.74	350	Step 3 - GLC <sub>max</sub> < 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<sub>2</sub> and H<sub>2</sub>SO<sub>4</sub>, 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 <sub>max</sub> (µg/m <sup>3</sup> )	De Minimis (µg/m <sup>3</sup> )
SO <sub>2</sub>	1-hr	3.3	14.3
H <sub>2</sub> SO <sub>4</sub>	1-hr	0.30	1
H <sub>2</sub> SO <sub>4</sub>	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<sub>x</sub> 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<sub>x</sub>, CO, PM, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, and H<sub>2</sub>SO<sub>4</sub> 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<sub>x</sub> (an ozone precursor) modeling is required for minor projects. NO<sub>x</sub> is modeled as its conversion to NO<sub>2</sub> 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).<sup>4</sup>

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<sup>4</sup> *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<sub>x</sub> 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<sub>x</sub> 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	<p>Selective catalytic reduction (SCR) will be used to meet a maximum short-term (24-hour average) NO<sub>x</sub> 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<sub>x</sub> emission factor of 0.010 lb/MMBtu during routine operations. These proposed NO<sub>x</sub> 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<sub>x</sub> emission factor of 0.01 lb/MMBtu. The company proposed continuous emissions monitoring systems (CEMS) that will ensure the NO<sub>x</sub> emission factors are met.</p> <p>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<sub>x</sub> 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<sub>x</sub> CEMS will be employed, which will ensure compliance with the represented emission factors.</p> <p>The CO emission basis was proposed as 50 parts per million volume dry</p>

Source(s)	Best Available Control Technology Description
	<p>(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.</p> <p>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.</p> <p>Combustion of low sulfur fuel gas is proposed as BACT for SO<sub>2</sub> and H<sub>2</sub>SO<sub>4</sub>. The SO<sub>2</sub> 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<sub>2</sub>SO<sub>4</sub> emissions were estimated assuming a 6% molar conversion of SO<sub>2</sub> to H<sub>2</sub>SO<sub>4</sub>. This control satisfies BACT.</p> <p>The proposed annual emission rate of the NH<sub>3</sub> is based on 10 ppmvd at 3% O<sub>2</sub> on a 12-month rolling basis and 15 ppmvd at 3% O<sub>2</sub> on a short term hourly basis to allow for short-term operational variations.</p>
XXI Furnace MSS (SCR down for planned MSS)	<p>For MSS operations when the SCR is down for planned maintenance, a NO<sub>x</sub> emission factor of 0.066 lb/MMBtu at up to 100 hours/year was proposed to satisfy BACT. The Applicant justified the NO<sub>x</sub> MSS emission factor by citing Permit No. 149177 issued January 11, 2019, for the ExxonMobil Baytown Chemical Plant (BTCP). This project represented a NO<sub>x</sub> emission factor of 0.06 lb/MMBtu (HHV) during planned MSS operations at up to 168 hours/year. While the proposed NO<sub>x</sub> 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<sub>x</sub> emission rate is 1.93 tpy. Given the difference in proposed annual hours per year and relatively low annual NO<sub>x</sub> emission rate, the proposed NO<sub>x</sub> emissions during SCR planned MSS downtime is considered acceptable.</p>
Cooling Tower	<p>The cooling tower is a non-contact design with monthly monitoring of VOC in the water according to TCEQ Sampling Procedures Manual, Appendix P<sup>5</sup>, with leaks repaired as soon as possible. The maximum hourly and rolling 12-month total VOC emission rates were based on</p>

<sup>5</sup> See <https://www.tceq.texas.gov/downloads/compliance/investigations/assistance/samplingapp.pdf>.

Source(s)	Best Available Control Technology Description
	<p>VOC concentration in the water of 0.8 ppmw and 0.08 ppmw, respectively. To minimize PM/PM<sub>10</sub>/PM<sub>2.5</sub> 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<sub>10</sub>/PM<sub>2.5</sub> emission rates were calculated based on the maximum cooling tower recirculation rate and the maximum total dissolved solids (TDS) concentration.</p>
<p>BOP-XX            Furnace            Decoke Cap            (furnace            decoking            operations,            decoking            drum)</p>	<p>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<sub>10</sub>/PM<sub>2.5</sub>. 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<sub>x</sub>. 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.</p> <p>Decoking vents NO<sub>x</sub> 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:</p> <ul style="list-style-type: none"> <li>• Continuously monitor the CO<sub>2</sub> concentration.</li> <li>• Continuously monitor the temperature at the radiant tube(s) outlet.</li> <li>• Verify that decoke air is no longer being added after decoking and before back to normal.</li> <li>• Inject materials into the steam or feed to reduce coke formation inside the radiant tube(s).</li> </ul> <p>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.</p>

Source(s)	Best Available Control Technology Description
	<p>For PM/PM<sub>10</sub>/PM<sub>2.5</sub> emissions, minimizing coke formation will reduce PM/PM<sub>10</sub>/PM<sub>2.5</sub> 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.</p> <p>The above proposed practices also satisfy BACT from the decoking vents based on a review of recent BACT determinations.</p> <p>No add-on control devices were proposed for VOC, CO, and NO<sub>x</sub> 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: <i>"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 &gt;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,</i></p>

Source(s)	Best Available Control Technology Description
	<p><i>as measurements that are not "technologically practicable" within the meaning of CAA section 112(h)."</i></p> <p>The Applicant represented that the firebox in decoke mode would oxidize more CO to CO<sub>2</sub>, but would provide no reduction in NO<sub>x</sub>, as the NO<sub>x</sub> 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<sub>10</sub>/PM<sub>2.5</sub>. 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.</p>
Piping Fugitive Components	<p>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<sub>3</sub> 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.</p>

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.<sup>6</sup> 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.

<sup>6</sup> 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<sub>x</sub> 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<sub>x</sub> 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.

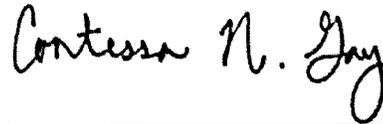
Respectfully submitted,

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

NSR  
129581

**Debbie Zachary**

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**From:** PUBCOMMENT-OCC  
**Sent:** Monday, November 21, 2022 2:20 PM  
**To:** PUBCOMMENT-APD; PUBCOMMENT-ELD; PUBCOMMENT-OCC2; PUBCOMMENT-OPIC  
**Subject:** FW: Public comment on Permit Number 102982

PM  
H

**From:** terri.blackovich@gmail.com <terri.blackovich@gmail.com>  
**Sent:** Monday, November 21, 2022 2:07 PM  
**To:** PUBCOMMENT-OCC <PUBCOMMENT-OCC@tceq.texas.gov>  
**Subject:** Public comment on Permit Number 102982

**REGULATED ENTY NAME** EXXON MOBIL CHEMICAL BAYTOWN OLEFINS PLANT

**RN NUMBER:** RN102212925

**PERMIT NUMBER:** 102982

**DOCKET NUMBER:**

**COUNTY:** HARRIS

**PRINCIPAL NAME:** EXXON MOBIL CORPORATION

**CN NUMBER:** CN600123939

**FROM**

**NAME:** MS Terri E Blackwood

**EMAIL:** [terri.blackovich@gmail.com](mailto:terri.blackovich@gmail.com)

**COMPANY:**

**ADDRESS:** 113 CROW RD  
BAYTOWN TX 77520-1809

**PHONE:** 8328776455

**FAX:**

**COMMENTS:** As a neighbor to the Exxon Baytown complex, I am deeply concerned about a permit that would allow MORE pollution to our neighborhood. There are already substantial issues from pollution released from the complex, whether permitted or not. Chemicals from the complex often make us teary-eyed, clog our throats, irritate our noses. It

has come to my attention that I can request a Contested Case Hearing AND a Public Meeting. As such, I am doing so -  
REQUESTING BOTH!!

**Debbie Zachary**

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**From:** PUBCOMMENT-OCC  
**Sent:** Monday, November 21, 2022 4:57 PM  
**To:** PUBCOMMENT-APD; PUBCOMMENT-ELD; PUBCOMMENT-OCC2; PUBCOMMENT-OPIC  
**Subject:** FW: Public comment on Permit Number 102982  
**Attachments:** Exxon Baytown Hearing Request 11.21.pdf

PM  
H

**From:** colincox@environmentalintegrity.org <colincox@environmentalintegrity.org>  
**Sent:** Monday, November 21, 2022 3:34 PM  
**To:** PUBCOMMENT-OCC <PUBCOMMENT-OCC@tceq.texas.gov>  
**Subject:** Public comment on Permit Number 102982

**REGULATED ENTY NAME** EXXON MOBIL CHEMICAL BAYTOWN OLEFINS PLANT

**RN NUMBER:** RN102212925

**PERMIT NUMBER:** 102982

**DOCKET NUMBER:**

**COUNTY:** HARRIS

**PRINCIPAL NAME:** EXXON MOBIL CORPORATION

**CN NUMBER:** CN600123939

**FROM**

**NAME:** Colin Cox

**EMAIL:** [colincox@environmentalintegrity.org](mailto:colincox@environmentalintegrity.org)

**COMPANY:** Environmental Integrity Project

**ADDRESS:** 1206 SAN ANTONIO ST  
AUSTIN TX 78701-1834

**PHONE:** 8323160580

**FAX:**

**COMMENTS:** Please see the attached contested case hearing request and public meeting request from Environment Texas.



1206 San Antonio St.  
Austin, Texas 78701  
[www.environmentalintegrity.org](http://www.environmentalintegrity.org)

November 21, 2022

Ms. Laurie Gharis  
Chief Clerk, MC-105  
Texas Commission on Environmental Quality  
P.O. Box 13087  
Austin, Texas 78711-3087

*Via Electronic Filing*

**Re: Contested Case Hearing Request and Public Meeting Request on the Application to Amend Air Quality Permit No. 102982 to Increase Emissions at the Exxon Mobil Chemical Baytown Olefins Plant**

Dear Ms. Gharis,

Exxon Mobil Corporation ("Exxon") has applied to the Texas Commission on Environmental Quality ("TCEQ") for an amendment to Air Quality Permit No. 102982 (the "Amendment") to authorize additional air pollution from the Exxon Mobil Chemical Baytown Olefins Plant (the "Plant") at 3525 Decker Drive, Baytown, Harris County, Texas 77520.

**I. Contested Case Hearing Request**

Environment Texas requests a contested case hearing on this Amendment. Environment America, Inc., a Colorado non-profit corporation that in Texas does business as Environment Texas, advocates for clean air, clean water, and the preservation of Texas' natural resources. In pursuit of these goals, Environment Texas researches and distributes analytical reports on environmental issues, advocates before legislative and administrative bodies, engages in litigation, and conducts public education programs, among other activities. Environment Texas members are harmed by the air pollution from Exxon's Plant.

Mike Szumski is a member of Environment Texas and resides at 5006 Ashwood Drive, Baytown, Texas 77521. He can see the Exxon Plant from his house, including the eight furnaces that he and his neighbors have come to call the "eight dragons" because of the tremendous noises, large flames, and billowing black smoke that they generate. When Exxon fires up the furnaces at the Olefins Plant, the vibrations shake Mr. Szumski's

house. Those vibrations, along with larger explosions, like the explosion in late 2021, have repeatedly damaged his home.

Mr. Szumski likes to spend time in his garage with the door open, listening to music and working on his old cars. Sometimes when he is in his garage, Mr. Szumski will hear thunderous noises from Exxon and strong odors will fill the garage. Exxon's pollution sometimes smells strongly of oil, other times it has a chemical smell. He has witnessed thick black plumes of smoke coming from stacks at the Plant, and seen that smoke engulf his neighborhood at ground level. Mr. Szumski occasionally finds a sticky residue on his car, like an oily film or glaze coating the entire vehicle. He has to clean off of the windshield with cleaning products before he can safely drive. Mr. Szumski is highly concerned by Exxon's proposal to build a ninth furnace next to the existing eight and further increase pollution from the Plant.

Sharon Rogers is a member of Environment Texas and resides at 4 Bayvilla Drive Baytown, Texas, 77520. This is a statement directly from Ms. Rogers:

I have been a resident of Bay Villa for 49 years. When we purchased our dream home it was on the water with over an acre of land. We were so glad to be able to buy our home and raise our children there: we had woods across the street from our subdivision and had many small animal visitors like ducks, raccoons, rabbits, armadillos, possums, some foxes, and deer. Over the years, Exxon expanded in our direction and now Exxon is all around us and we hear the constant roar from the plants, the trains and trucks and other traffic that allow it to operate 24 hours a day, 365 days a year. Exxon has said we homeowners could be eligible for a buyout, but the only thing we've gotten from Exxon is more air pollution and more noise. On December 23, 2021, at 12:52 AM I was thrown out of my bed by an explosion across the street at Exxon. Please tell me how they can still call themselves "good neighbors"? They are terrible and now want to add more pollution to our already untenable situation. Their favorite time to burn off is between 12:30 and 3:00 AM. I certainly ask the TCEQ to deny their request to increase their pollution.

Mr. Szumski and Ms. Rogers each have standing in their own right to request a contested case hearing. The interests that Environment Texas seeks to protect, including the health and safety its members and the local community, as well as the area's natural beauty and resources, are germane to the organization's purpose. And neither the claim asserted, nor the relief requested requires the participation of the individual members in this case.

## II. Disputed Issues of Fact

Environment Texas provides the following list of disputed issues that are relevant and material to the Commission's decision on this application, for consideration as part of the requested contested case hearing:

- Whether the proposed emissions will threaten the health and safety of nearby residents.
- Whether the proposed emissions will cause or contribute to exceedances of National Ambient Air Quality Standards.
- Whether the proposed emissions will exceed allowable Prevention of Significant Deterioration Increments.
- Whether the proposed emissions will cause nuisance conditions violating 30 Tex. Admin. Code § 101.4.
- Whether Draft Permit conditions are adequate to protect the public from cumulative risks in accordance with Tex. Water Code § 5.130.
- Whether the expanded plant will be protective of welfare, including wildlife and the environment in the surrounding area.
- Whether Exxon's air quality analysis complies with TCEQ's rules and guidance.
- Whether the new and modified sources will utilize Best Available Control Technology.
- Whether greenhouse gas controls reflect the use of Best Available Control Technology.
- Whether the emissions calculation methodologies used in the application are flawed or outdated.
- Whether proposed air monitoring and reporting requirements are adequate to ensure compliance with the Clean Air Act and protect local residents.
- Whether Exxon and TCEQ adequately considered the environmental justice impacts of the proposed pollution increases.
- Whether Exxon and TCEQ supplied the public with adequate information to verify the bases for the Exxon's claims and for TCEQ's decision to issue the permits.
- Whether Exxon has made all demonstrations required by 30 Tex. Admin. Code 116.111.

### III. Public Meeting Request

Environment Texas requests that TCEQ and Exxon hold a public meeting regarding the Amendment to share information about the proposed changes with the surrounding communities and to accept public comment.

### IV. Conclusion

Environment Texas appreciates the opportunity to file these requests for a public meeting and for a contested case hearing. We reserve the right to provide additional information on the matters discussed in this document as allowed by the Clean Air Act, the Texas Clean Air Act, and regulations implementing these statutes.

/s/Colin Cox

ENVIRONMENTAL INTEGRITY PROJECT

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Attorneys for Environment Texas

**Christina Bourque**

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**From:** PUBCOMMENT-OCC  
**Sent:** Thursday, January 19, 2023 2:57 PM  
**To:** PUBCOMMENT-APD; PUBCOMMENT-ELD; PUBCOMMENT-OCC2; PUBCOMMENT-OPIC  
**Subject:** FW: Public comment on Permit Number 102982  
**Attachments:** 20230119 - ExxonBaytown Comments 2nd Notice.pdf

**From:** gclark-leach@environmentalintegrity.org <gclark-leach@environmentalintegrity.org>  
**Sent:** Thursday, January 19, 2023 2:34 PM  
**To:** PUBCOMMENT-OCC <PUBCOMMENT-OCC@tceq.texas.gov>  
**Subject:** Public comment on Permit Number 102982

**REGULATED ENTY NAME** EXXON MOBIL CHEMICAL BAYTOWN OLEFINS PLANT

**RN NUMBER:** RN102212925

**PERMIT NUMBER:** 102982

**DOCKET NUMBER:**

**COUNTY:** HARRIS

**PRINCIPAL NAME:** EXXON MOBIL CORPORATION

**CN NUMBER:** CN600123939

**FROM**

**NAME:** Gabriel Clark-Leach

**EMAIL:** [gclark-leach@environmentalintegrity.org](mailto:gclark-leach@environmentalintegrity.org)

**COMPANY:** Environmental Integrity Project

**ADDRESS:** 1206 SAN ANTONIO ST  
AUSTIN TX 78701-1834

**PHONE:** 4253810673

**FAX:**

**COMMENTS:** Please find attached Environment Texas and Environmental Integrity Project's supplemental comments concerning ExxonMobil's application to amend Permit No. 102982 for its Baytown Olefins Plant.



1206 San Antonio St.  
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[www.environmentalintegrity.org](http://www.environmentalintegrity.org)

January 19, 2023

Ms. Laurie Gharis  
Chief Clerk, MC-105  
Texas Commission on Environmental Quality  
P.O. Box 13087  
Austin, Texas 78711-3087

*Via Electronic Filing*

**Re: Supplemental Comments Concerning Application to Amend Air Quality Permit No. 102982 to Increase Emissions at Exxon Mobil Chemical's Baytown Olefins Plant**

Dear Ms. Gharis,

Exxon Mobil Corporation ("ExxonMobil") has applied to the Texas Commission on Environmental Quality ("TCEQ") for an amendment to Air Quality Permit No. 102982 (the "Amendment") to authorize additional air pollution from the Exxon Mobil Chemical Baytown Olefins Plant (the "Plant") at 3525 Decker Drive, Baytown, Harris County, Texas 77520. On November 21, 2022, Environmental Integrity Project submitted comments on this application and requested a contested case hearing as well as a public hearing on the proposed permit amendment on behalf of Environment Texas. This filing supplements our previous comments and hearing requests.

**I. Air Quality Impact Issues**

Environmental Integrity Project and Environment Texas ("Commenters") contend that ExxonMobil's application to amend Permit No. 102982 fails to demonstrate that proposed emissions increases of NO<sub>x</sub>, VOC, CO, PM, SO<sub>2</sub>, H<sub>2</sub>SO<sub>4</sub>, and Hazardous Air Pollutants ("HAPs") are protective of public health, as required by 30 Tex. Admin. Code § 116.111. Alleged deficiencies include but are not limited to those discussed below.

**A. ExxonMobil failed to demonstrate that its proposal to significantly increase the amount of ozone-forming pollution emitted from the Baytown Olefins Plant is protective of public health.**

Harris County, the home of ExxonMobil's Baytown Olefins Plant, is a severe ozone nonattainment area. That means air quality surrounding the plant is poor and fails to protect public health. ExxonMobil's application and the Executive Director's draft amendments to Permit No. 102982 propose to increase the amount of NO<sub>x</sub> and VOC pollution ExxonMobil may emit by 31.9 and 31.2 tons per year, respectively. These increases of ozone forming pollutants are "significant"

**B. ExxonMobil failed to demonstrate that the proposed expansion project will not cause or contribute to violations of EPA's 1-hour NO<sub>2</sub> National Ambient Air Quality Standard.**

ExxonMobil has not performed detailed air quality modeling to demonstrate compliance with the 1-hour National Ambient Air Quality Standard for NO<sub>2</sub>. ExxonMobil contends that such modeling is unnecessary because a screening analysis indicates that impacts from emissions that would be authorized by the Draft Permit are below the applicable Significant Impact Level ("SIL"). But ExxonMobil's screening analysis did not properly account for all emissions increases that will result from the expansion project and it still predicts impacts that are 96.9 percent of the SIL. If emissions resulting from proposed increases are properly modeled, predicted impacts will likely exceed the applicable SIL. Accordingly, ExxonMobil should be required to perform detailed modeling to demonstrate that its expansion project will not cause or contribute to violations of the 1-hour National Ambient Air Quality Standard for NO<sub>2</sub>.

**C. ExxonMobil's air quality impacts demonstration excluded significant quantities of air pollution from its Baytown Complex that already jeopardizes public health.**

ExxonMobil has failed to prevent significant quantities of unauthorized pollution from its Baytown Complex since the initial issuance of Permit No. 102982. These emissions were not accounted for in ExxonMobil's previous impacts demonstrations for projects at the complex or in its application for the proposed expansion project. Yet these illegal releases will continue to occur and must be included in ExxonMobil's air quality impacts demonstration.

In 2017, a federal district court judge imposed nearly \$20 million in penalties for more than 16,000 violations at the Baytown Complex. Since this judgment ExxonMobil has continued to report unauthorized emissions at the Baytown Complex. ExxonMobil has reported 50 emissions events at the Baytown Olefins Plant, 73 emissions events at the Baytown Refinery, and nine emission events at the Baytown Chemical Plant since 2017. These illegal pollution releases include several significant mishaps. For example, on December 23, 2021 a fire erupted at the Baytown refinery's hydrodesulfurization unit and burned for eight hours. The fire injured four workers and caused damage to nearby homes. According to the STEERS report for this incident, the fire resulted in the unauthorized release of nearly 53,000 pounds of pollution. This total does not include particulate matter released during the fire.

Protestants understand that the TCEQ typically does not require applicants to include unauthorized emissions like these in permit air quality impact demonstrations. But the agency's failure to consider regularly recurring emissions is unreasonable, especially for sources located in nonattainment areas. Unauthorized pollution is no less harmful than pollution authorized by a permit. And at sources, like the Baytown Olefins Plant and others at or near ExxonMobil's Baytown Complex, which report multiple emissions events each year, the occurrence of such unauthorized releases is certainly predictable. Accordingly, impacts resulting from unauthorized releases at ExxonMobil's existing facilities as well as from proposed new or modified facilities must be accounted for in ExxonMobil's impacts demonstration. 30 Tex. Admin. Code § 116.111(a)(2)(A)(i).

limits.<sup>1</sup> These same tests demonstrated that existing furnaces are also drastically outperforming emission limits for VOC and SO<sub>2</sub>. ExxonMobil argued that the test results establish that there is little variability in the furnace emissions rates for these pollutants. These same tests indicate that ExxonMobil can comply with limits for VOC and SO<sub>2</sub> lower than its has proposed for its new furnace. Accordingly, the tests indicate that ExxonMobil's new furnace—without additional controls or changes to design—should be able to achieve much lower PM, VOC, and SO<sub>2</sub> limits than ExxonMobil has proposed. Reduced emissions rates that can be achieved with limited or no changes to proposed equipment are technically achievable and economically reasonable and should be required as BACT.

#### **B. ExxonMobil's failed to demonstrate that its proposed LDAR program satisfies BACT.**

VOC emissions from equipment fugitive leaks are a significant source of pollution at chemical plants, like ExxonMobil's Baytown Olefins Plant. Because VOC contributes to ozone formation, it is particularly important for sources in ozone nonattainment areas, like ExxonMobil's Baytown Olefins Plant, to properly control VOC emissions from fugitive leaks. The Draft Permit's limits for fugitive leak emissions were calculated using control factors associated with the TCEQ's 28VHP program. But many similar sources use more rigorous methods to control emissions from fugitive leaks. For example, the TCEQ's 28MID and 28 LAER LDAR packages have lower leak definitions for pumps and compressors than ExxonMobil has proposed. These more stringent LDAR packages also include directed maintenance requirements, where 28VHP does not. ExxonMobil has not demonstrated that these more effective control programs are not technically feasible for this project or that their implementation would be economically unreasonable.

Additionally, similar sources in Texas and elsewhere have supplemented LDAR regimes with optical gas imaging ("OGI") to reduce emissions from fugitive leaks. While the implementation of OGI may result in additional expenses, that fact alone does not establish that the technology is economically unreasonable. A significant portion—or even all—of this additional expense can be offset by reductions in product losses resulting from fugitive leaks. Accordingly, OGI should be required in addition to LDAR as BACT from fugitive leak emissions from ExxonMobil's proposed expansion project.

### **III. Monitoring Requirements**

Monitoring, testing, recordkeeping, and reporting requirements established by the Draft Permit fail to assure compliance with applicable emission limits and requirements. Such applicable requirements include compliance with emission caps in PAL6. While ExxonMobil contends that its proposed expansion project is subject only to minor NSR preconstruction permitting requirements, ExxonMobil's compliance demonstrations for PAL6 must include emissions of PAL pollutants from all equipment at the Baytown Olefins Plant. Draft Permit, Special Condition No. 28. Accordingly, monitoring, testing, and recordkeeping requirements in the Draft Permit must comply with heightened monitoring requirements in Texas's federally-

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<sup>1</sup> The application is available electronically at:

[https://records.tceq.texas.gov/cs/idcplg?IdcService=TCEQ\\_EXTERNAL\\_SEARCH\\_GET\\_FILE&dID=4348988&Rendition=Web](https://records.tceq.texas.gov/cs/idcplg?IdcService=TCEQ_EXTERNAL_SEARCH_GET_FILE&dID=4348988&Rendition=Web)

demonstration to determine whether the project triggers major NSR preconstruction permitting requirements.

## **VI. Conclusion**

Environment Texas and Environmental Integrity Project appreciate the opportunity to file this supplement to their previous comments and hearing requests. We reserve the right to provide additional information on the matters discussed in this document as allowed by the Clean Air Act, the Texas Clean Air Act, and regulations implementing these statutes.

*/s/ Gabriel Clark-Leach*

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