TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

December 2, 2022

TO: Persons on the attached mailing list.

RE: Valero Refining-Texas, L.P.
Air Quality Permit Nos. 38754, PSDTX324M15, and GHGPSDTX211

Decision of the Executive Director.

The executive director has made a decision that the above-referenced permit application meets the requirements of applicable law. **This decision does not authorize construction or operation of any proposed facilities.** This decision will be considered by the commissioners at a regularly scheduled public meeting before any action is taken on this application unless all requests for contested case hearing or reconsideration have been withdrawn before that meeting.

Enclosed with this letter is a copy of the Executive Director's Response to Public Comment. A copy of the complete application, draft permit and related documents, including public comments, are available for review at the TCEQ Central Office. The permit application, executive director's preliminary decision, draft permit, and the executive director's preliminary determination summary and executive director's air quality analysis, will be available for viewing and copying at the TCEQ Central Office, the TCEQ Corpus Christi Regional Office, and at the Owen R. Hopkins Public Library, 3202 McKinzie Road, Corpus Christi, Nueces County, Texas. The facility's compliance file, if any exists, is available for public review at the TCEQ Corpus Christi Regional Office, 500 North Shoreline Boulevard, Suite 500, Corpus Christi, Texas.

If you disagree with the executive director's decision, and you believe you are an "affected person" as defined below, you may request a contested case hearing. In addition, anyone may request reconsideration of the executive director's decision. The procedures for the commission's evaluation of hearing requests/requests for reconsideration are located in 30 Texas Administrative Code Chapter 55, Subchapter F. A brief description of the procedures for these two types of requests follows.

How to Request a Contested Case Hearing.

It is important that your request include all the information that supports your right to a contested case hearing. You must demonstrate that you meet the applicable legal requirements to have your hearing request granted. The commission's consideration of your request will be based on the information you provide.

The request must include the following:

(1) Your name, address, daytime telephone number, and, if possible, a fax number.

(2) If the request is made by a group or association, the request must identify:

(A) one person by name, address, daytime telephone number, and, if possible, the fax number, of the person who will be responsible for receiving all communications and documents for the group;

(B) the comments on the application submitted by the group that are the basis of the hearing request; and

(C) by name and physical address one or more members of the group that would otherwise have standing to request a hearing in their own right. The interests the group seeks to protect must relate to the organization's purpose. Neither the claim asserted nor the relief requested must require the participation of the individual members in the case.

(3) The name of the applicant, the permit number and other numbers listed above so that your request may be processed properly.

(4) A statement clearly expressing that you are requesting a contested case hearing. For example, the following statement would be sufficient: "I request a contested case hearing."

Your request must demonstrate that you are an **"affected person."** An affected person is one who has a personal justiciable interest related to a legal right, duty, privilege, power, or economic interest affected by the application. Your request must describe how and why you would be adversely affected by the proposed facility or activity in a manner not common to the general public. For example, to the extent your request is based on these concerns, you should describe the likely impact on your health, safety, or uses of your property which may be adversely affected by the proposed facility or activities. To demonstrate that you have a personal justiciable interest, you must state, as specifically as you are able, your location and the distance between your location and the proposed facility or activities. A person who may be affected by emissions of air contaminants from the facility is entitled to request a contested case hearing.

Your request must raise disputed issues of fact that are relevant and material to the commission's decision on this application that were raised **by you** during the public comment period. The request cannot be based solely on issues raised in comments that you have withdrawn.

To facilitate the commission's determination of the number and scope of issues to be referred to hearing, you should: 1) specify any of the executive director's responses to **your** comments that you dispute; 2) the factual basis of the dispute; and 3) list any disputed issues of law.

How to Request Reconsideration of the Executive Director's Decision.

Unlike a request for a contested case hearing, anyone may request reconsideration of the executive director's decision. A request for reconsideration should contain your name, address, daytime phone number, and, if possible, your fax number. The request must state that you are requesting reconsideration of the executive director's decision, and must explain why you believe the decision should be reconsidered.

Deadline for Submitting Requests.

A request for a contested case hearing or reconsideration of the executive director's decision must be **received by** the Chief Clerk's office no later than **30 calendar days** after the date of this letter. You may submit your request electronically at www.tceq.texas.gov/agency/decisions/cc/comments.html or by mail to the following address:

Laurie Gharis, Chief Clerk
TCEQ, MC-105
P.O. Box 13087
Austin, Texas 78711-3087

Processing of Requests.

Timely requests for a contested case hearing or for reconsideration of the executive director's decision will be referred to the TCEQ's Alternative Dispute Resolution Program and set on the agenda of one of the commission's regularly scheduled meetings. Additional instructions explaining these procedures will be sent to the attached mailing list when this meeting has been scheduled.

How to Obtain Additional Information.

If you have any questions or need additional information about the procedures described in this letter, please call the Public Participation and Education Program, toll free, at 1-800-687-4040.

Sincerely,

Laurie Gharis
Chief Clerk

LG/erg

Enclosure

MAILING LIST
for
Valero Refining-Texas, L.P.
Air Quality Permit Nos. 38754, PSDTX324M15, and GHGPSDTX211

FOR THE APPLICANT:

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Meagan Marquard, Superintendent Environmental
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INTERESTED PERSONS:

See attached list.

FOR THE EXECUTIVE DIRECTOR
via electronic mail:

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TCEQ AIR QUALITY PERMIT NUMBERS 38754, PSDTX324M15, and GHGPSDTX211

APPLICATION BY	**§**	**BEFORE THE**
VALERO REFINING-TEXAS, L.P.	**§**	**TEXAS COMMISSION ON**
VALERO CORPUS CHRISTI REFINERY	**§**	
WEST PLANT	**§**	**ENVIRONMENTAL QUALITY**
CORPUS CHRISTI, NUECES 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: Aimee Wilson (on behalf of the Environmental Protection Agency, hereinafter "EPA"), Colin Cox (on behalf of the Environmental Integrity Project, Hillcrest Residents Association, and Citizens for Environmental Justice, hereinafter "EIP"), Elida Castillo, Lamont C. Taylor (on behalf of the Hillcrest Residents Association and Citizens Alliance for Fairness and Progress), John LaRue (on behalf of the Corpus Christi Chamber of Commerce), Mike Culbertson (on behalf of the Corpus Christi Regional Economic Development Corporation), Maricela Cuevas (on behalf of the Corpus Christi Community Advisory Council), Bea Hanson (on behalf of the Coastal Bend Food Bank), Eduardo Canales, Gretchen Arnold. 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

Valero Refining-Texas, L.P. (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 will authorize the Applicant to modify the Valero Corpus Christi Refinery West Plant. The plant is located at 5900 Up River Road, Corpus Christi, Nueces County. Contaminants authorized under this permit amendment include 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, ammonia, and hydrogen sulfide. The proposed plant will also emit greenhouses gas.

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 38754, PSDTX324M15, and GHGPSDTX211.

The permit application was received on September 30, 2021 and declared administratively complete on October 5, 2021. 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 14, 2021, in the *Caller Times*, and in Spanish on October 15, 2021 in *Tejano Y Grupero News*. The Notice of Application and Preliminary Decision for an Air Quality Permit (second public notice) was published on June 1, 2022, in English in the *Caller Times* and in Spanish on June 01, 2022, in *Tejano Y Grupero News*. A public meeting was held on July 11, 2022 at the Atrium Hotel & Convention Center, 5549 Leopard Street, Corpus Christi, Texas 78408. The public comment period ended on July 11, 2022. 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: 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. Elida Castillo expressed concern that the proposed project would cause negative health effects, including heart disease, cardiovascular and renal disease, and birth defects. Commenters are concerned that the proposed project would cause or contribute to exceedances of NAAQS, threatening the health and safety of nearby residents. Commenters questioned whether cumulative impacts were considered, and question if the Air Quality Analysis (AQA) was conducted correctly. Commenters stated the facility emits foul odors. EIP expressed concerns about the quantity of emissions that will result from the project, specifically questioning whether the proposed emissions will exceed the allowable Prevention of Significant Deterioration (PSD) increments thresholds. Eduardo Canales expressed concerns over the release of greenhouse gases.

(EIP, Elida Castillo, Lamont Taylor, Eduardo Canales)

RESPONSE 1: The Applicant is modifying its existing permit to add new refining units to change the type if crude oil it can receive and process. 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 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}, $PM_{2.5}$, and SO_2. The first step of the NAAQS analysis is to compare the proposed modeled emissions against the established de minimis level. Predicted concentrations (GLCmax[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 PSD De Minimis Analysis

Pollutant	Averaging Time	GLCmax (µg/m³)	De Minimis (µg/m³)
NO_2	1-hr	30.2	7.5
NO_2	Annual	2	1
CO	1-hr	362	2000
CO	8-hr	319	500
PM_{10}	24-hr	4.8	5
PM_{10}	Annual	0.9	1
$PM_{2.5}$ (NAAQS)	24-hr	4	1.2
$PM_{2.5}$ (NAAQS)	Annual	0.8	0.2
$PM_{2.5}$ (Increment)	24-hr	4.7	1.2
$PM_{2.5}$ (Increment)	Annual	0.9	0.2
SO_2	1-hr	20	7.8
SO_2	3-hr	20	25
SO_2	24-hr	16	5
SO_2	Annual	2	1

1 40 CFR 50.2
2 The GLCmax is the maximum ground level concentration predicted by the modeling.

The pollutants below the de minimis level should not cause or contribute to an exceedance of the NAAQS and are protective of human health and the environment.

The Applicant conducted a full NAAQS analysis for those pollutants above de minimis to account for cumulative effects by including an evaluation of all on-property sources, applicable off-property sources, and representative monitored background concentrations. Results of the full NAAQS analysis are presented below in Table 2. The total concentration was determined by adding the GLCmax to the appropriate background concentration. Background concentrations are obtained from ambient air monitors across the state and are added to the modeled concentration (both on-property and off-property sources) to account for sources not explicitly modeled. The ambient air monitors were selected to ensure that they are representative of the proposed site. The total concentration was then compared to the NAAQS to ensure that the concentration is below the standard. For any subsequent projects submitted pertaining to this or any other facility in the area, the air quality analysis for that project will have to include the emissions authorized by this project, as well as other applicable off-property sources, if a full impacts analysis is required.

Table 2. Total Concentrations for PSD NAAQS (Concentrations > De Minimis)

Pollutant	Averaging Time	GLCmax ($\mu g/m^3$)	Background ($\mu g/m^3$)	Total Conc. = [Background + GLCmax] ($\mu g/m^3$)	Standard ($\mu g/m^3$)
NO_2	1-hr	121	34	155	188
NO_2	Annual	23	5	28	100
$PM_{2.5}$	24-hr	15	19	34	35
$PM_{2.5}$	Annual	3.6	7.7	11.3	12
SO_2	1-hr	151	14.5	166	196

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.

PSD Increment Analysis

The PSD program limits the extent to which air quality may be allowed to deteriorate in areas where pollutant concentrations are below the NAAQS (attainment areas). Increases in pollutant concentrations over the background are limited to certain increments, which are values specified by EPA at 40 CFR § 52.21(c). When the de minimis analysis modeling indicates that a criteria pollutant exceeds its respective de minimis concentration, a PSD increment analysis is necessary for those criteria pollutants for which EPA has established an increment.

The De Minimis analysis modeling results indicate 24-hr and annual SO_2, 24-hr and annual $PM_{2.5}$, and annual NO_2 exceed the respective de minimis concentrations and required a PSD increment analysis to be conducted. The results of the PSD Increment Analysis are shown in Table 3 below.

Table 3. Results for PSD Increment Analysis

Pollutant	Averaging Time	GLCmax ($\mu g/m^3$)	Increment ($\mu g/m^3$)
NO_2	Annual	23	25
$PM_{2.5}$	24-hr	8.9	9
$PM_{2.5}$	Annual	2.9	4
SO_2	24-hr	68	91
SO_2	Annual	11	20

Ozone Analysis

The Applicant performed an ozone (O_3) analysis as part of the PSD Air Quality Analysis (AQA). The Applicant evaluated project emissions of O_3 precursor emissions (NO_x and VOC). The results of the ozone analysis are below De Minimis levels, as shown in Table 4 below.

Table 4. Modeling Results for Ozone PSD De Minimis Analysis in Parts per Billion (ppb)

Pollutant	Averaging Time	GLCmax (ppb)	De Minimis (ppb)
O_3	8-hr	0.42	1

Additional Impact Analysis

The Applicant performed an Additional Impacts Analysis as part of the PSD AQA. The applicant conducted a growth analysis and determined that population will not significantly increase as a result of the proposed project. The Applicant conducted a soils and vegetation analysis and determined that all evaluated criteria pollutant concentrations are below their respective secondary NAAQS. The Applicant meets the Class II visibility analysis requirement by complying with the opacity requirements of 30 TAC Chapter 111. The Additional Impacts Analyses are reasonable, and possible adverse impacts from this project are not expected.

Health Effects Analysis

ESLs are specific guideline concentrations used in TCEQ's evaluation of certain pollutants. These guidelines 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, 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. All pollutants, with the exception of ammonia and petroleum distillates satisfy the MERA criteria and therefore are not expected to cause adverse health effects. The following pollutants did not meet the "fall out" criteria of the MERA guidance document and required further analysis. Site-wide modeling was performed and demonstrated that the predicted concentrations will not exceed 10 % of the ESL (Table 5 below).

Table 5. Project-Related Modeling Results for State Property Line

Pollutant	CAS #	Averaging Time	GLCmax (µg/m^3)	10% ESL (µg/m^3)
Ammonia	7664-41-7	1-hr	5	18
Distillates (petroleum), light catalytic cracked	64741-59-9	1-hr	195	350

The potential for odor nuisance is reviewed through the use of ESLs. The short-term ESL for 1,3-butadiene is odor-based. As described above, the Applicant performed a health effects analysis and the short-term GLCmax was less than the short-term ESL for 1,3-butadiene. Therefore, no further analysis was required based on MERA guidance and the 1,3-butadiene emissions would not be expected to cause an odor nuisance.

[3] See APDG 5874 guidance document.

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 sulfur dioxide (SO_2), hydrogen sulfide (H_2S), and sulfuric acid (H_2SO_4), as applicable. This analysis demonstrated that resulting air concentrations will not exceed the applicable state standard, as shown in Tables 6 and 7 below.

Table 6. Project-Related Modeling Results for State Property Line

Pollutant	Averaging Time	GLCmax (µg/m³)	De Minimis (µg/m³)
H_2S	1-hr	0.38	2.16

Table 7. Site-wide Modeling Results for State Property Line

Pollutant	Averaging Time	GLCmax (µg/m³)	Standard (µg/m³)
SO_2	1-hr	18	1,021
H_2SO_4	1-hr	9	50
H_2SO_4	24-hr	3	15

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. Please see Response 3 for additional information regarding BACT, and Response 4 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.

Greenhouse Gases

EPA has stated that unlike the criteria pollutants for which EPA has historically issued PSD permits, there is no NAAQS or PSD increment for GHGs. The EPA Administrator has recognized that human-induced climate change has the potential to be far-reaching and multi-dimensional. *See* Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 75 Fed. Reg. 66496, 66497 (Dec. 15, 2009). Climate change modeling and evaluations of risks and impacts are typically conducted for changes in emissions that are orders of magnitude larger than the emissions from individual projects that might be analyzed in permit reviews. Quantifying the exact impacts attributable to a specific GHG source obtaining a permit in specific places and points would not be possible with current climate change modeling.[4] Thus, EPA has concluded it would not be meaningful to evaluate impacts of GHG emissions on a local community in the context of a single permit.

The TCEQ has determined that an air quality analysis for GHG emissions would provide no meaningful data and has not required the Applicant to perform one. As stated in the preamble to the TCEQ's adoption of the GHG PSD program, the impacts review for individual air contaminants will continue to be addressed, as applicable, in the state's traditional minor and major NSR permits program per 30 TAC Chapter 116 and 30 Tex. Reg. 2629, 2904 (April 11, 2014).

COMMENT 2: Environmental Concerns

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

RESPONSE 2: 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 this facility should not cause an exceedance of the NAAQS, air emissions from this facility 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. Please see Response 1 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 3: BACT / LAER

Commenters questioned the control technology proposed in the application, as well as questioned whether Best Available Control Technology (BACT) or Lowest Achievable Emission Rate (LAER) requirements have been met.

[4] EPA's PSD and Title V Permitting Guidance for Greenhouse Gases, March 2011 at p. 48. https://www.epa.gov/sites/production/files/2015-12/documents/ghgpermittingguidance.pdf

Heavy Oil Cracker – PM

EIP expressed concern that the Applicant failed to analyze or require BACT for particulate matter from the Heavy Oil Cracker (HOC), further stating that adequate supporting information for represented PM emissions reductions was not included in the application.

Heavy Oil Cracker - NOx

EIP expressed concern that the BACT analysis for control of NOx from the heavy oil cracker is deficient, specifically that the cost-effectiveness of and control efficiency of LoTOx was improperly calculated, and that the analysis dismisses selective catalytic reduction (SCR). EIP commented that the Applicant failed to analyze the cost of SCR.

EIP expressed concern that the cost analysis for the LoTOx was improperly calculated by assuming a 46 percent reduction rather than an 80-90 percent reduction that was represented in the emission reduction options portion of the Tier III evaluation. EIP commented that the Applicant should invest in protecting the community by updating its pollution controls and that the Applicant was more concerned about cost then implementing the best control technology.

(EIP, Elida Castillo, Eduardo Canales)

RESPONSE 3: TCEQ does not compare pollution controls between individual facilities (which can vary depending on plant configuration, scale of the plant, and production rates), rather it reviews each permit application in terms of meeting best available control technology, air quality standards, and all relevant and applicable rules and regulations within its jurisdiction. During the course of the technical review of a permit application, the permit reviewer evaluates air pollution control requirements and confirms that the applicant has proposed the appropriate air pollution controls and properly determined off-site impacts for the project facilities and associated sources. The Applicant's air pollution control review, along with the permit reviewer's air pollution control evaluation and final recommendation provide a record that demonstrates that the operation of a proposed facility will not cause or contribute to a condition of air pollution and will comply with all applicable federal regulations and state rules as well as with the intent of the TCAA. The site is located in Nueces County, which is classified as attainment or unclassifiable for all criteria pollutants. This project is not subject to nonattainment review, and thus LAER does not apply to the new or modified sources proposed in this project.

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 at the proposed facility and assures that the facility will be using the best available control technology (BACT) applicable for the sources and types of contaminants emitted. 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.

The 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 agency guidance. 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 volatile organic compound (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 conducted a Tier I BACT evaluation for all sources of air contaminants from the proposed new and modified facilities. The Applicant determined that Tier I was not appropriate for NO_X emissions from the HOC Unit and conducted a Tier II and Tier III BACT analysis. The use of appropriate control measures will decrease the amount of air contaminants emitted into the atmosphere by this refinery. The permit reviewer reviewed the proposed controls and determined that they met Tier I or Tier III BACT for all sources and facilities, as applicable.

A heavy oil cracker is a type of FCCU (fluid catalytic cracking unit) where a heavy hydrocarbon feed is catalytically cracked to lighter products by contacting the feed with a fluidized catalytic cracking catalyst. The cracking process deposits carbonaceous hydrocarbons, or coke, on the catalyst. A catalyst regenerator burns coke from the catalyst to reactivate the catalyst. Combustion of coke generates particulate

matter, carbon monoxide, nitrogen oxides, and hydrocarbon emissions, and the organic sulfur and nitrogen that were present in the FCC feed may also be converted to sulfur dioxide, nitrogen oxides, and hydrogen cyanide. Tier I BACT for PM for the heavy oil cracker is 1 lb/100 lb coke burn off and a maximum opacity of 15-20% (6-minute averaging time). The Applicant proposed a 1 lb/100 lb coke burn off and a maximum opacity of 15-20% (6-minute averaging time). BACT is not the lowest achievable limit, but rather control technology that considers technical practicability and economic reasonableness of reducing or eliminating emissions from the facility. The permit reviewer evaluated the proposed BACT and confirmed it to be acceptable.

The Applicant provided a detailed analysis demonstrating that there were compelling technical differences between its FCC unit and other FCC units which have met the Tier I BACT level of control for the NO_X emissions, and it proceeded to a Tier II BACT evaluation. The Applicant then demonstrated that there were no other industries where applicable controls could be applied and determined that a Tier III BACT evaluation was necessitated.

The Applicant therefore provided a Tier III technical and quantitative economic analysis for NOx emissions from the HOC Unit. The permit reviewer evaluated this information, including the emission reduction options available for the process/industry. While technical practicability is established through the demonstrated success of an emission reduction option based on previous use and/or an engineering evaluation of a new technology, economic reasonableness is determined by the cost-effectiveness of controlling emissions (expressed as dollars per ton of pollutant reduced) and does not consider the effect of emission reduction costs on corporate economics.

A separate cost analysis for selective catalytic reduction (SCR) was not conducted because the Applicant represented and provided documentation that capital costs for SCR are similar to low temperature oxidation (LoTOx).[5] Therefore a cost analysis was performed on LoTOx due to better data being available for LoTOx costs on full burn units. Based on this analysis, no additional controls are required for the HOC Unit. The permit reviewer evaluated the proposed BACT and confirmed it to be acceptable. The LoTOx cost analysis was not based on a percent recovery, but rather it was based on the difference between the resulting emission rate using LoTOx to reduce the NOx emissions to 20 ppmv and the emission rate using the current control technology.

COMMENT 4: Emission Rates and Calculations

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

(EIP, EPA)

5 Sadeghbeigi, A. *Fluid Catalytic Cracking Handbook*. Elsevier, 2011. At § 15.6.7

RESPONSE 4: Accepted emission factors and methodologies are utilized to calculate emissions. These factors were determined to be correct and applicable by TCEQ staff during the technical review based on standard industry permitting practices.

The TCEQ ensures the conservative nature of these calculations by evaluating each emission point. The permit Special Conditions will require stack testing under worst case conditions. The stack tests that are required for this amendment are to determine compliance with the emission rates and limits, and to certify the Continuous Emissions Monitoring System (CEMS) when CEMS is required. The stack tests do not verify anything directly related to the calculations for this project. 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 Maximum Allowable Emissions Rate Table (MAERT). Typically, MAERTs for air permits list pollutants in their general categories rather than as individual constituents.

Specifically, emissions for the heavy oil cracker regenerator are calculated by multiplying the maximum stack flow rate (on a dry, standard basis, corrected to 0% O_2) by the permitted emission limit for NO_X, CO, SO_2 and VOC. Particulate, HCN, and H_2SO_4 emissions are determined by multiplying the maximum coke burn rate by the applicable emission factor. Emissions of NO_X, particulate, and VOC from the boiler were calculated by multiplying the maximum fired duty of the boiler (HHV basis) by the appropriate emission factor (expressed in units of lb/MMBtu), based on the BACT analysis (NO_X) or AP-42 (Particulate, VOC). CO and NH_3 emissions were calculated based on the concentration in the stack gas (dry basis, corrected to 3% O_2). SO_2 was calculated based on the sulfur content of the fuel gas. Fugitive emissions from piping components were calculated in accordance with TCEQ APDG 6422 Guidance. The cooling tower VOC emissions were calculated using AP-42, Chapter 5.1. Particulate emissions are based on the drift rate, the total dissolved solids (TDS) of the circulating water, and the applicable particle size distribution for particulate fractions using the droplet distribution found in, "Calculating Realistic PM10 Emissions from Cooling Towers, Joel Reisman and Gordon Frisbie, 2002". Emissions calculations for the Merox Unit were calculated using a destruction efficiency of 99%. Emissions from the carbon absorption system (CAS) for the lift station were calculated based on the maximum vapor flow rates, and maximum benzene and VOC breakthrough concentrations.

COMMENT 5: Monitoring and Reporting Requirements

EIP questions whether the permit monitoring and reporting requirements contained in the permit Special Conditions are adequate to ensure compliance with the Clean Air Act and protect local residents.

Lamont Taylor questioned the reporting requirements contained in the draft permit.

(EIP, Lamont Taylor)

RESPONSE 5: The Special Conditions of the draft permit contains detailed monitoring requirements. In addition, the draft permit specifies applicable recordkeeping and reporting 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 monitoring and reporting requirements were reviewed and found to be protective of human health and the environment.

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. 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 Corpus Christi Regional Office at 361-881-6900 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).

COMMENT 6: Air Monitors

Elida Castillo expressed concern that that there are only two EPA monitors in the area and none in San Patricio County.

RESPONSE 6: Due to cost and logistical constraints, the placement of air monitors is prioritized to provide data on regional air quality in areas frequented by the public. The existing air monitoring network is the result of a strategic balance of matching federal monitoring requirements with state and local needs. Consistent with federal air monitoring requirements, the TCEQ evaluates the placement of air quality monitors within the air monitoring network using trends in population, reported emissions inventory data, and existing air monitoring data for a given area. In addition, the TCEQ may prioritize monitor placement in areas with potential regional air quality issues, such as those related to increased oil and gas activity in the Barnett Shale and Eagle Ford Shale areas.

The TCEQ annually evaluates the number and location of air monitors within its network to assess compliance with federal monitoring requirements and the adequacy of monitoring coverage for identified monitoring objectives as a part of the Annual Monitoring Network Plan provided to EPA on July 1 of each year. This plan is made available on the TCEQ's website for public review and comment for 30 days beginning in mid-May. Requests for additional monitoring or the identification of additional monitoring needs may be made during this public comment period and will be considered along with other monitoring priorities across the state. To receive email announcements related to the ambient air monitoring network, including the availability of the Annual Monitoring Network Plan for public review and comment, please visit the following link https://service.govdelivery.com/accounts/TXTCEQ/subscriber/new and select "Air Monitoring Network Announcements."

Stationary air monitors are sited to measure air quality that is representative of a broader area or region. Therefore, monitors are not typically placed to measure the impacts from specific industrial facilities.

COMMENT 7: Cooling Tower Drift Eliminators

EIP expressed concern that the Applicant did not provide publicly available proof that the drift eliminators are capable of meeting a performance level of 0.001%.

RESPONSE 7: The Applicant provided manufacturer's data on December 17, 2021 showing that the drift eliminators are designed to meet 0.001% drift or less, which is located in the public file.

COMMENT 8: Nuisance Conditions

EIP expressed concern regarding whether the proposed project would create nuisance conditions violating 30 Texas Administrative Code Chapter 101.4 (30 TAC § 101.4). EIP stated that its members have found black powder on their property.

RESPONSE 8: While nuisance conditions are not expected if the plant is operated in compliance with the terms of the permit, operators must also comply with 30 TAC § 101.4, which prohibits nuisance conditions.

The proposed permit contains the required control processes to minimize particulate matter. Special Condition No. 25 contains limitations on the pressure and monitoring of the pressure and pressure drop for the Caustic Scrubber Stack (EPN 121). Special Condition No. 30 requires that the cooling tower drift eliminators be maintained. 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 Corpus Christi Regional Office at (361) 825-3100 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).

COMMENT 9: Public Participation / Public Meetings

Elida Castillo commented that there was not a way for the community who has been impacted by Covid to submit comments online or participate in the public meeting virtually. Elida Castillo expressed concern regarding the scheduling of public meetings for other permits during the same week, specifically stating that "holding three meetings is overwhelming for the community when they are held in the same week".

RESPONSE 9: The TCEQ welcomes public participation in the permitting process. TCAA § 382.056 requires that an applicant publish notice. Notice must be published in a newspaper of general circulation in the municipality in which the proposed facility is located or proposed to be located. 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 commission also requires that notice be published in an alternative language if the elementary or middle school nearest the proposed facility offers a bilingual education program as required by Texas Education Code Chapter 29, Subchapter B. The TCEQ adopted rules for these public notice requirements in 30 TAC § 39.603, Public Notice of Air Quality Applications, Newspaper Notice.

To demonstrate compliance with public notice requirements, 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, including that the newspaper is a paper of general circulation in the municipality in which the proposed facility is located or proposed to be located.

As stated above, the Notice of Receipt and Intent to Obtain an Air Quality Permit (first public notice [NORI]) for this permit application was published in English on October 14, 2021, in the *Caller Times*, and in Spanish on October 14, 2021 in *Tejano Y Grupero News*. The Notice of Application and Preliminary Decision for an Air Quality Permit (second public notice [NAPD]) was published on June 01, 2022, in English in the *Caller Times* and in Spanish on June 01, 2022, in *Tejano Y Grupero News*.

The public notice contains instructions for submitting comments, getting on the mailing list, requesting a public meeting, and requesting a contested case hearing. An overview of public participation for applications filed after September 1, 2015 is available on the TCEQ website at: https://www.tceq.texas.gov/agency/decisions/participation/permitting-participation/pub_part.html. Regarding the commenter concern that the public was unable to provide comments online, comments or requests to the TCEQ can be submitted online at our website: https://www.tceq.texas.gov/goto/comment. Utilizing online comments and the mailing list allows members of the public to participate in the permitting process even if they are unable to attend in person.

Title 30 TAC § 55.154(c)(2) requires that a public meeting be held if a member of the legislature who represents the general area in which the facility is located requests a public meeting or if the TCEQ Executive Director determines that there is substantial or significant degree of public interest. A public meeting was held on July 11, 2022 at the Atrium Hotel & Convention Center, 5549 Leopard Street, Corpus Christi, Texas, 78408. Public meetings are scheduled based on the availability of the applicant, the Executive Director's staff, and the venue.

COMMENT 10: Environmental Justice

Commenters raised concerns regarding the environmental justice implications of this project.

(EIP, EPA, Elida Castillo, Lamont Taylor)

RESPONSE 10: 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 conducted for the proposed facilities during the permit review and the permit was found to be protective of human health and the environment.

The TCEQ encourages participation in the permitting process. 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 make sure that concerns are considered thoroughly and are handled in a way that is fair to all. You may contact the Office of the Chief Clerk at 512-239-3300 for further information. More information may be found on the TCEQ website: Title VI Compliance at TCEQ - Texas Commission on Environmental Quality - www.tceq.texas.gov.

COMMENT 11: Corporate Profits

Elida Castillo commented on tax abatements and subsidies that the Applicant receives, stating that the community does not get their fair share from what they pay out. Eduardo Canales commented that with all the tax abatements and tax breaks, the Applicant is not putting in their fair share.

(Elida Castillo, Eduardo Canales)

RESPONSE 11: The TCEQ is not authorized to consider a company's financial status nor its profits in determining whether a permit should be issued. TCEQ's review of this company's application included analysis of health impacts and application of best available control technology (BACT), and based on this review, the facility should comply with all applicable health effects guidelines and emission control requirements. Continued compliance with health effects guidelines and BACT requirements is expected if the company operates in compliance with the permit terms and conditions. Individuals are encouraged to report any environmental concerns at the facility by contacting the Corpus Christi Regional Office at 361-881-6900 or by calling the 24-hour toll-free Environmental Complaints Hotline at 1-888-777-3186. The TCEQ evaluates all complaints received. If the facility is found to be out of compliance with the terms and conditions of the permit, it will be subject to possible enforcement action.

COMMENT 12: Local Economy

Eduardo Canales expressed concern that the Applicant has a history of contributing to the economic degradation of the community.

RESPONSE 12: Issues related to the local economy are outside the scope of review of an air quality permit. The Executive Director has reviewed the permit application in accordance with the applicable law, policy, and procedures, in accordance with the agency's mission to protect our state's human and natural resources consistent with sustainable economic development. If an applicant meets the requirements for an air quality permit, the TCEQ must grant the permit.

COMMENT 13: TCEQs Responsibility / Public Opposition and Support

Commenters ask that the TCEQ consider residents and their wishes and choose not to approve the permit registration for the proposed plant. Elida Castillo asks that the TCEQ uphold their mission statement.

(Elida Castillo, Eduardo Canales)

Commenters expressed general support towards the Applicant and the proposed project.

(Maricela Cuevas, Mike Culbertson, John LaRue, Bea Hanson, Gretchen Arnold)

RESPONSE 13: The TCEQ appreciates the comments and interest from the public in environmental matters before the agency and acknowledges the comments in opposition and support of the project. The TCAA establishes the TCEQ's jurisdiction to

regulate air emission in the state of Texas. Accordingly, the Executive Director's staff has reviewed the applications in accordance with the applicable state and federal law, policy and procedures, and the agency's mission to protect the state's human and natural resources consistent with sustainable economic development. 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.

COMMENT 14: Special Condition Number 5

EPA commented that while the permit contains continuous monitoring of the vapor combustor combustion chamber temperature, the application and permit did not indicate how that monitoring ensures compliance with the permit limit of 10 mg VOC per liter of gasoline loaded. EPA further commented that there is no mention of destruction efficiency of the vapor combustor or mention of how emissions are to be calculated per liter of gasoline loaded. EPA asks that TCEQ clarify for the record all monitoring requirements for the vapor combustor that will be used to ensure compliance with the emissions limits stated in the permit.

RESPONSE 14: This condition is outside the scope of the project and was not subject to revision in the draft permit.

COMMENT 15: Special Condition Number 8

EPA asks if the Marine VCU identified in Special Condition No. 8 is Emission Point Number (EPN) MRVUF. EPA further asks if TCEQ can clarify how one Vapor Recovery Unit (VRU) limits the emissions from another VRU, and asks what monitoring is performed to ensure the 5 mg/l VOC limit is met.

RESPONSE 15: This condition is outside the scope of the project and was not subject to amendment in the draft permit.

COMMENT 16: Special Condition Number 11

EPA questioned the condition language using the word "secured" with regard to marine loading, stating that they find the word "secured" to be confusing and requests that TCEQ explain what is intended and consider the use of a more clarifying language in the permit.

RESPONSE 16: While the Condition is outside the scope of the project, the Executive Director has clarified the wording in the Condition to use the term "suspended".

COMMENT 17: Special Condition Number 12.G

EPA requested clarification regarding the Acid Gas Flare, specifically asking under what circumstances the flare is used if not for routine emissions or planned Maintenance, Startup, and Shutdown (MSS) activities.

RESPONSE 17: While outside the scope of the project, the Acid Gas Flare is used for emergencies and process upsets, which are not authorized by the permit. The emissions that are authorized for the Acid Gas Flare are for the operation of the pilots.

COMMENT 18: Special Condition Number 14

EPA commented that while the special condition states no visible emissions are allowed from the heaters, monitoring has not been identified in the permit to ensure compliance with the requirement.

RESPONSE 18: This condition is outside the scope of the project and was not subject to amendment in the draft permit.

COMMENT 19: Special Condition Number 15

EPA asks which heater is subject to the requirements of Special Condition No. 15.

RESPONSE 19: The special condition applies to all heaters with a firing rate greater than 40 MMBtu/hr. While this Condition was outside of the scope of the review, the Executive Director has clarified the Special Condition by adding a list of subject heaters.

COMMENT 20: Special Condition Number 16

EPA commented that more information needs to be included to ensure the Applicant can meet the emission limits represented in the various tables of Special Condition No. 16.

EPA questioned representations in the first table of Special Condition No. 16. EPA asks that for units which show "stack test" as the compliance method, how the stack test data correlates to ongoing compliance with emission limits and how the data would be used to determine compliance with each averaging time. EPA further comments that it is unclear if the stack test is a one-time test or if it should be performed regularly. EPA asks that appropriate monitoring for units that do not have a NOx method listed in the table be identified. EPA asks how stack test results will be used to determine compliance with the emission limits of the permit.

EPA questioned the representations in the second table of Special Condition No. 16, specifically that the table does not include a column to show the CO compliance method. EPA asks that monitoring be identified to ensure compliance with the represented 1-hour block average emission limit. EPA further states that EPN 153 is identified in the table but is not given a CO 1-hour block average emission limit, asking what (if any) short-term CO limit is applicable to this EPN.

EPA questioned the third and final tables of Special Condition No. 16, asking if the represented limits are on an hourly average. EPA asks why a compliance method column is not included in this table, further asking what monitoring is required to ensure compliance with the represented emission limits.

EPA commented that it is unclear which units are equipped with a CO Continuous Emissions Monitoring System (CEMS) and asks that the permit be updated to include this information. Finally, EPA asks how emissions of non-routine operations can be determined for boilers and heaters that are not equipped with CEMS.

RESPONSE 20: In the first table, the units which show "stack test" as the compliance method are outside the scope of the project and are not subject to amendment in the draft permit. Additionally, all units that do not have a NOx method listed in the table are outside the scope of the project and not subject to amendment in the draft permit.

While the second table of Special Condition No. 16 does not include a column to show the CO compliance method, Special Condition No. 40 requires that a CEMS be installed, calibrated, and maintained that will record the in-stack concentration of CO, NOx, and O_2 from the heaters and boilers with firing rates greater than 100 MMBtu/hr.

EPN 153 (Boiler 30-B-05) is the only EPN modified by Special Condition 16. This boiler has a firing rate greater than 100 MMBtu/hr and will therefore have a CEMS. EPN 153 is outside the scope of the project and was not subject to amendment in the draft permit. Boiler 30-B-05 is equipped with CEMS.

For the third and final table, while the averaging times are not specified in the tables, Special Condition No. 42 specifies that the averaging time for those pollutants as follows:

Pollutant	Averaging Period
SO_2	1.0 hour
CO	1.0 hour
H_2S	1.0 hour
Opacity	6.0 minutes
NO_x	1.0 hour

Stack test results for Boiler 30-B-05 are used to certify the CEMS as required in Special Condition No. 40.C(1).

COMMENT 21: Special Condition Number 19.D

EPA asks what quality assured data Special Condition No. 19.D is referring to.

RESPONSE 21: While outside the scope of this project, the quality assured data Special Condition No. 19.D is referring to is the data generated from the fuel flow meter to measure the gas fuel usage for the desalter heater required in Special Condition No. 19.C. The desalter heater is not proposed to be modified, and is therefore outside the scope of this permit amendment.

COMMENT 22: Special Condition Number 22

EPA questioned why Special Condition No. 22 states that the equation relies on the values of the sulfur in the acid gas stream and value of sulfur in the incinerator stack. EPA asks where those numbers came from, asks how they are measured, and asks how they are calculated. EPA asks if the values are obtained from stack testing and if so, asks for justification for using a one-time test to determine ongoing compliance.

RESPONSE 22: Special Condition No. 22 requires that the data used in the calculation be obtained from the incinerator stack sulfur dioxide monitor and sulfur production records. The incinerator sulfur dioxide monitoring requirements are located in Special Condition No. 40. The values for this equation are not obtained from stack testing.

COMMENT 23: Special Condition Number 25

EPA asks at what frequency the opacity observation is performed, and asks if it will be a Method 9 or Method 22 test.

EPA commented that the permit does not appear to have conditions that are specific to the estimated emissions of hydrogen cyanide (HCN) for the Heavy Oil Cracker, further asking what monitoring will be performed to ensure that the unit meets the permitted emission limits as listed in on the Maximum Allowable Emission Rates Table (MAERT).

RESPONSE 23: Opacity is controlled by maintaining the liquid to the filtering modules at a pressure greater than 45 pounds per square inch (psi) and the flue gas pressure drop across the filtering modules and the cyclolabs at no less than 5 inches of water. Special Condition No. 25 of the permit requires that the liquid pressure and pressure drop be continuously recorded and maintained at the plant site for a period of five years. Additionally, provisions for quarterly opacity observations using Method 22 have been added to Special Condition No. 25.

For emissions of HCN from the Heavy Oil Cracker, the emission factor used to calculate the permit limit is applied to the actual calculated coke burn rate. The coke burn is limited by Special Condition No. 20 and calculated using Equation 6 from 40 CFR § 60.104a(d)(4)(iii). Special Condition No. 20 has been revised to specify this equation.

COMMENT 24: Special Condition Number 39.B(2)

EPA asks what the justification is for using the lower of the two testing results to demonstrate compliance, as well as asks TCEQ to clarify what emission limit this is used to determine compliance with.

RESPONSE 24: The special condition has been revised to remove the references to the specific test methods and to require that the appropriate test method be specified by the Region during the pre-stack test meeting. These stack test results are used to demonstrate compliance with the MAERT limits for sulfuric acid.

COMMENT 25: Special Condition Number 73

EPA commented on referenced confidential information within the permit special condition, stating that TCEQ need to be mindful of what information may be claimed as confidential in NSR and Title V permitting, as the NSR permit will be incorporated into the Title V permit. EPA further states that the Clean Air Act limits the types of information that may be treated as confidential in a Title V permit, expressing concern that information might be withheld from the public. EPA commented that TCEQ should assess if the referenced information should be treated as confidential or if it should be made available to the public.

EPA commented that there are "vague references" to permit applications within the draft permit, stating that the lack of a specific permit application makes it impossible to locate the information that is being referenced. EPA commented that the TCEQ should amend the permit to clearly incorporate the monitoring, emission factors, emission calculation methods, and other relevant data necessary to ensure compliance with the permit. EPA commented that they conducted an environmental justice analysis for the area and expressed concern that the lack of clarity in the permit makes it difficult for the local community, which is predominantly low income and people of color, to adequately comment on the "vague" permit conditions.

RESPONSE 25: No confidential material was submitted with this amendment application and none of the conditions relating to new/modified equipment reference confidential information. Therefore, topics related to confidential information are outside the scope of the review of this application. During the permit review process, TCEQ addressed and revised the special conditions modified by the application, however, some issues addressed by the comments from EPA are outside the scope of review of the permit. After completing the technical review, the TCEQ determined that the proposed controls for the permit modifications are protective of human health and the environment.

It is the policy of the state of Texas that each person is entitled, unless otherwise expressly provided by law, at all times to complete information about the affairs of government and the official acts of public officials and employees. TEX. GOV'T CODE § 552.001(a). While public information is available to members of the public at a minimum during the normal business hours of the TCEQ, information that is considered confidential by law is exempt from disclosure requirements. Id. At §§ 552.101 and 552.021.

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 may not release the information without first submitting a

request to the Texas Attorney General. The Attorney General will determine whether the requested information is subject to an exception to disclosure and whether the information must be withheld or disclosed to the requestor.

COMMENT 26: Comments to the Applicant

Elida Castillo asks the Applicant to communicate more with the communities.

(EIP, Elida Castillo)

RESPONSE 26: These comments or concerns are addressed to the Applicant and are therefore included for completeness, but not addressed by the Executive Director.

CHANGES MADE IN RESPONSE TO COMMENT

In response to public comment, the Executive Director has changed Special Conditions Nos. 11, 15, 20, 25, 39.B(2). These changes and the reasons for these changes are more fully described above.

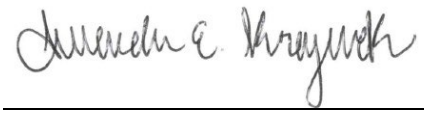
Respectfully submitted,

Texas Commission on Environmental Quality

Toby Baker, Executive Director

Erin E. Chancellor, Director
Office of Legal Services

Charmaine Backens, Deputy Director
Environmental Law Division



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REPRESENTING THE
EXECUTIVE DIRECTOR OF THE
TEXAS COMMISSION ON
ENVIRONMENTAL QUALITY

(7)

TCEQ Registration Form

July 11, 2022

Valero Refining-Texas, L.P.
Proposed Amendments to Permit Nos. 38754, PSDTX324M15, AND GHGPSDTX211

PLEASE PRINT

Name: Elida Castillo

Mailing Address: PO Box 1643

Physical Address (if different): 131 Ledo St.

City/State: Taft, TX **Zip:** 78390

This information is subject to public disclosure under the Texas Public Information Act

Email: ecastillo@lcv.org

Phone Number: (361) 248-8271

- Are you here today representing a municipality, legislator, agency, or group? ☐ Yes ☒ No

  If yes, which one? _____

☐ **Please add me to the mailing list.**

☑ **I wish to provide formal *ORAL COMMENTS* at tonight's public meeting.**

☑ **I wish to provide formal *WRITTEN COMMENTS* at tonight's public meeting.**

(Written comments may be submitted at any time during the meeting)

Please give this form to the person at the information table. Thank you.

Good evening.

My name is Elida Castillo and I reside at 131 Cerdo St. Taft, TX 78390. First, I would like to request a contested case hearing on the permit application. We are in the pattern of pollution from the refineries across the bay. TCEQ does not take into account the cumulative impact of air pollution in the community. To increase NOX, VOC, PM 2.5 and less, SO2, carbon monoxide, hydrogen sulfide, and ammonia. These are all toxins that are detrimental to our health.

There has been a disregard for environmental justice. For the TCEQ to hold 3 meetings for industries seeking to increase air pollution is overwhelming for our community, ~~these~~, especially when they are held during the same week. There is also not a way for the community who has been heavily impacted by covid to submit comments or participate virtually. This is not fair to us and it is not fair to our future generations who will be stuck with the impacts of this pollution. These pollutants, especially after they have built up in our systems cause birth defects, heart disease, cardiovascular disease, and renal disease to name of a few.

I am asking for the benefit of our communities that this permit be denied. Thank you!

EPA COMMENTS TO
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ)
CLEAN AIR ACT (CAA) NSR PERMIT 38754, PSDTX324M15, AND GHGPSDTX211
Valero Refining-Texas LP Valero Corpus Christi Refinery West Plant

While EPA makes the following comments below related to monitoring associated with this NSR permit amendment, we may potentially review the associated title V permit in the future when the terms and conditions of this NSR permit amendment are incorporated by reference to determine if TCEQ has provided adequate monitoring terms and conditions to determine ongoing compliance by the facility. In addition, TCEQ should ensure that it is transparent to the public what monitoring Valero Corpus Christi Refinery West Plant (Valero) is required to perform to demonstrate compliance including any calculation methodologies necessary to determine compliance.

1. The application for this amendment indicates that the Heavy Oil Cracker (HOC) will have emissions of Hydrogen Cyanide (HCN) of approximately 320 tons per year. The permit does not appear to have any conditions that are specific to the estimated emissions. What monitoring will be performed to ensure that the unit (EPN 121) meets the permitted emission limit in lbs per hour and tons per year as listed on the maximum allowable emission rates table (MAERT)?

2. Special Condition 5 states "Emissions resulting from the tank truck loading of gasoline shall be routed to the Vapor Combustor (Emission Point No. [EPN] TRUCKCOMB) for final abatement. The volatile organic compounds (VOC) emissions from EPN TRUCKCOMB shall not exceed 10 milligrams per liter of gasoline loaded". The permit contains continuous monitoring of the combustion chamber temperature at condition 5.C. However, there is nothing in the application or in the permit that indicates how that monitoring ensures compliance with the permit limit of 10 mg VOC per liter of gasoline loaded. For example, there is no mention of the destruction efficiency of this vapor combustor nor how emissions are to be calculated per liter of gasoline loaded. Can TCEQ please clarify for the record all of the monitoring requirements for EPN TRUCKCOMB that will be used to ensure compliance with the emissions limit as stated in the permit?

3. Special Condition 8 states "8. The marine VRU shall limit VOC emissions from EPN VRU to 5 mg/l of liquid loaded". Can TCEQ clarify if the Marine VRU is EPN MRVUF? Further, can TCEQ clarify how one VRU limits the emissions from another VRU? What monitoring is performed to ensure the 5 mg/l VOC limit is met?

4. Special Condition 11 contains the statement "If the reading exceeds this limit, marine loading shall be secured, the Texas Commission on Environmental Quality (TCEQ) Corpus Christi Regional Office notified, and the cause determined and corrected before loading resumes". EPA finds the use of the word "secured" to be confusing and requests that TCEQ explain what is intended and consider the use a more clarifying language.

5. Special Condition 12.G. states "The Acid Gas Flare (EPN 135) is not authorized for routine emissions or for planned maintenance, startup, and shutdown (MSS) emissions". If this flare is not for routine emissions and it's not for planned MSS, can TCEQ explain for the record under what circumstances this flare is used?

6. Special Condition 14 states "No visible emissions are allowed from the heaters". However, there is not any monitoring identified in the permit to ensure compliance with this permit condition.

7. Special Condition 15 states "The permittee shall operate a continuous hydrogen sulfide (H_2S) monitoring instrument in the fuel feed line header for all fired units with a firing rate greater than 40 MMBtu/hr to continuously monitor a representative sample of fuel gas for H_2S content". Can TCEQ identify which heater this condition applies to for clarity and practical enforceability?

8. Special Condition 16 states "Heater, boiler, and reboiler emissions of ammonia (NH3), carbon monoxide (CO), hydrogen sulfide (H2S), nitrogen oxide (NOx), Particulate matter (PM), PM $\leq$ 10 microns diameter (PM10), PM $\leq$ 2.5 microns diameter (PM2.5), and volatile organic compounds (VOC) shall meet the following specifications:" then is followed by a series of tables. More information needs to be included to ensure Valero can meet the emission limits in the tables of Special Condition 16.

    a. The first table includes NOx emission limits that are 1-hour block averages, 3-hr block averages, daily 365 rolling average and a column that shows NOx compliance methos. For the units that show "stack test" as the compliance method, TCEQ should specify how the stack test data correlates to ongoing compliance with the stated emission limits and how such data would be used to determined compliance with each averaging time. It is unclear if the stack test is a one time test or should be performed regularly. In addition, some units do not have a NOx compliance method listed and are shown to have a 1-hr block average emission limit. Can TCEQ identify the appropriate monitoring for these units (RPNS 116, 119, and 120) and how the stack test results will be used to determine compliance with the stated emission limits?
    b. The second table identifies units with a CO 1-hr block average. However, this table does not have a column to show the CO compliance method. Can TCEQ identify the monitoring for the units in this table that will ensure compliance with the stated 1-hr block average emission limit? In addition, EPN 153 is identified in this table, but is not given a CO 1-hr block average emission limit. Can TCEQ identify what, if any, short term CO limit should be applicable to this EPN?
    c. The third table identified units with a VOC lb/MMBtu and a PM/PM10/PM2.5 lb/MMBtu limit. It is unclear from this table if these limits are an hourly average? This table also does not have a column to indicate the compliance method that is

applicable to these emission limits. Can TCEQ clarify for the record what monitoring is required to ensure compliance with the stated emission limits?

d. The final table in Special Condition 16 includes units which have an H_2S and an NH_3 emission limit in lb/MMBtu. It is unclear from this table if these limits are an hourly average? This table also does not have a column to indicate the compliance method that is applicable to these emission limits. Can TCEQ clarify for the record what monitoring is required to ensure compliance with the stated emission limits?
e. After the tables, Special Condition states "During reduced-load operations for heaters or boilers equipped with CO CEMS, the emission limitations in the above table for CO shall not apply". Since the table with the CO emission limits did not have a column indicating the monitoring method for each unit, it is unclear which of the listed units are equipped with a CO CEMS. Can TCEQ update the permit to include this information?
f. Special Condition also states "Additionally, during each non-routine operation the rates of CO shall be calculated from a boiler or heater's CEMS data to demonstrate that MAERT emission limits are not exceeded". How would emissions of non-routine operation be determined for boilers or heaters that are not equipped with a CEMS?

9. Special Condition 19.D. states "Quality assured (or valid) data must be generated when the desalter heater is operating". Can TCEQ clarify what quality assured data this condition is referring to?

10. Special Condition 22 provides a calculation methodology to determine the sulfur recovery efficiency of the SRU/Sulften and SRU/Scot. The provided equation relies on the values of the sulfur in the acid gas stream and the sulfur in the incinerator stack. Can TCEQ identify where the numbers come from, how they are measured, or how they are calculated? Do these values come from the stack testing described in Special Condition 39.B.(2)? If stack testing results are used, can TCEQ justify the use of what appears to be a one-time test to determine ongoing compliance?

11. Special Condition 25 states "The opacity of emissions from the Caustic Scrubber Stack (EPN 121) shall not exceed 20 percent averaged over a six-minute period as determined by a trained observer". What frequency will this observation be performed? Will this be a Method 9 or Method 22 test?

12. Special Condition 39.B(2) states "The sulfuric acid mist stack sample shall be performed using both TCEQ Method 24 and EPA Method 8. The lower of the two sampling results may be used to demonstrate compliance". Can TCEQ provide a justification for using the lower of the two testing results to demonstrate compliance? And can TCEQ clarify what emission limit this would be used to determine compliance with?

13. Special Condition 73 states "The permit holder shall maintain a copy of the effective permit at the site together with complete copies of all confidential documents that are referenced in the above permit conditions as attachments. The permit and attachments shall be made available to TCEQ personnel at the site upon request". Special Condition 74 then states for Diesel Engines "Emissions calculated based on hours of operation and emission factors listed on Table D-1 in the confidential section of the permit amendment application dated November 16, 2004". TCEQ needs to be mindful of what information may be claimed as confidential in NSR and title V permitting as the NSR permit will be incorporated into the title V permit and the Clean Air Act ("CAA") limits the types of information that may be treated as confidential in a title V permit, and therefore withheld from the public. As a general matter, some information may be protected as a trade secret under section 114(c) of the CAA. 42 U.S.C. § 7414(c). However, the CAA specifically limits this protection: "The contents of a [title V] permit shall not be entitled to [confidential] protection under section [114(c)]." 42 U.S.C. § 7661b(e). Additionally, information which is considered emission data, as well as standards or limitations, are also not entitled to confidential treatment. See CAA § 114(c) ("other than emissions data"); 40 C.F.R. §2.301(f). The emission factors referenced in Special Condition 74 are integral for calculating emissions and therefore do not appear to be subject to confidential treatment. TCEQ should assess if the referenced information should be treated as confidential and if they should be made available to the public.
    There are numerous vague references to permit applications in the draft permit including Special Conditions 30, 50, 54, 56, 57, 59, 64, and 74. The lack of reference to a specific permit application makes it nearly impossible to locate the emission factors or other information that is being referenced. For these emission factors to be properly incorporated into the permit, information necessary to identify their location must be included in the permit. It is important that descriptive information be included so that there is no ambiguity as to which version of a document is being referenced. TCEQ should consider amending the permit to clearly incorporate the monitoring, emission factors, emission calculation methods, or other relevant data necessary to assure compliance with the special conditions of the permit. To the extent TCEQ incorporates such requirements by reference, it must identify the specific document incorporated by reference and the specific location within such document that contains the relevant information. Due to the lack of clarity in the permit it makes it difficult for the local community which is predominately low income and people of color and potentially disparately impacted by industry emissions to adequately comment on these vague permit conditions. EPA conducted an Environmental Justice (EJ) analysis using EPA's EJSCREEN. Of the approximately 8,265 residents within a five-kilometer radius of the facility, of which approximately 85 percent are people of color and 51 percent are low income. In addition, the EPA reviewed the EJSCREEN Environmental Justice Indices, which combine certain demographic indicators with twelve environmental indicators. Five of the twelve EJ indices in this five-kilometer area exceed the 80th percentile in the State of Texas, with four of the twelve EJ indices exceeding the 90th percentile.

ENVIRONMENTAL INTEGRITY PROJECT

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July 11, 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: Comments and Contested Case Hearing Request on the Application to Amend Air Quality Permit Nos. 38754 and PSDTX324M14 to Increase Emissions at the Valero Refining Bill Greehey Refinery in Corpus Christi, Texas

Dear Ms. Gharis,

Valero Refining Texas, LP ("Valero") has applied to the Texas Commission on Environmental Quality ("TCEQ") for an amendment to Air Quality Permit Nos. 38754 and PSDTX324M14 (the "Application") to authorize additional emissions of ammonia, carbon monoxide, hydrogen sulfide, nitrogen oxides, organic compounds, particulate matter, sulfur dioxide, and other pollutants from its Bill Greehey Refinery, West Plant in Nueces County, Texas.

Hillcrest Residents Association and Citizens for Environmental Justice (collectively, "Commenters") appreciates the opportunity to submit these comments and hearing requests on the Application.

I. Contested Case Hearing Request

Hillcrest Residents Association and Citizens for Environmental Justice request a contested case hearing on this Application. Please direct all communication regarding these hearing requests to Colin Cox, Staff Attorney at Environmental Integrity Project, 1206 San Antonio St., Austin, Texas 78701, colincox@environmentalintegrity.org, 832-316-0580.

a. Information supporting Hillcrest Residents Association's request for a contested case hearing.

Hillcrest Residents Association is a 501(c)(3) non-profit organization that was formed for the purpose of protecting public health, safety, the environment, and the quality of life of residents in the Hillcrest neighborhood and the immediately surrounding area, and to combat community deterioration. With this purpose as its focus, Hillcrest Residents Association intends to represent its members by participating in the decision-making processes of local, state, and federal officials on issues related to pollution and protection of natural resources and other quality of life issues. Hillcrest Residents Association will represent its members in government proceedings and in court, if necessary, in pursuit of its stated purpose.

Barbara Major is a member of Hillcrest Residents Association and lives at 1315 Van Loan Avenue, Corpus Christi, Texas, 78407. Mrs. Major has a personal interest in this permit amendment because she lives in close proximity to the West Refinery and the numerous other facilities on Corpus Christi's "Refinery Row." Mrs. Major is no stranger to air pollution, and regularly smells odd, rotten odors outside of her home that are difficult to describe. She frequently experiences respiratory issues, including coughing and post-nasal drainage. These symptoms are worse when she is outdoors, though the pollution sometimes enters her home, as well. She used to spend a significant amount of time in her backyard, working in her garden or just relaxing, but she has had to curtail that time in recent years out of concern for her health. Mrs. Major has gotten more sensitive to air pollution exposure as she has gotten older, and if she spends much time outside the pollution in the air can aggravate her respiratory symptoms. Mrs. Major is worried that additional pollution from Valero, including over 400 additional tons per year of sulfur dioxide, will make being outdoors even less pleasant, and make it even harder for her to enjoy her home and her yard.

Lamont Taylor is a member of Hillcrest Residents Association and owns property in Hillcrest at 1614 Kennedy Street, Corpus Christi, Texas, 78407. Mr. Taylor does not currently reside at this address, but visits regularly to maintain the property. He intends to repair the house at 1614 Kennedy so that he will be able to move back in and make it his primary residence. Mr. Taylor previously suffered from stage 4 cancer, which, after years of treatment, is now in semi-remission. He is worried that exposure to additional air pollution from Valero's refinery will impact his health and increase the risk that his cancer will return. He is also concerned that additional air pollution from Valero's refinery will interfere with his use of his property and his plans to make it his home.

Both Mr. Taylor and Mrs. Major have standing in their own right to request a contested case hearing. The interests that Hillcrest Residents Association seeks to protect by requesting this hearing are germane to its purpose, stated above. And neither

the claim asserted nor the relief requested requires the participation of the individual members in this case.

b. Information supporting Citizens for Environmental Justice's request for a contested case hearing.

Citizens for Environmental Justice (CFEJ) is a grassroots organization based in Corpus Christi, Texas. Since 2001, CFEJ has worked to bring environmental justice to refinery row by advocating for fence-line communities in and around Corpus Christi. Efforts include a landmark bio monitoring study of a fence-line community that found high levels of benzene and other VOCs in the blood, initiating birth defects studies conducted by the Texas State Department Epidemiology and Surveillance Branch which spanned several years that reported many high rates of birth defects in Corpus Christi compared to the rest of the state, and challenging industrial air pollution permits which threaten the health and safety of fence-line residents.

Terry Cox is a member of Citizens for Environmental Justice and lives at 1106 Vernon Drive, Corpus Christi, Texas, 78407. Mr. Cox can see the Valero West Refinery from the end of his street. From his home he can see the sky light up at night when Valero is flaring large quantities of gas. He regularly smells noxious smells similar to the smell of burning trash. Mr. Cox would like to enjoy coffee on his porch, but the poor air quality in his neighborhood makes this difficult. After any length of time outside, his throat begins to feel irritated and raw and his sinuses get plugged up. Because of this, Mr. Cox is often unable to enjoy coffee outside his home, work in his garage, or mow his lawn. While the pollution is less noticeable inside, it sometimes permeates his home, too. Mr. Cox sometimes finds his truck covered in fine black powder. The black powder also accumulates on the siding of his house. Mr. Cox does not want Valero to emit even more pollution around his home, cause even worse air quality, and make his breathing more difficult.

Mr. Cox has standing in his own right to request a contested case hearing. The interests that Citizens for Environmental Justice seeks to protect by requesting this hearing are germane to its purpose, stated above. And neither the claim asserted nor the relief requested requires the participation of the individual members in this case.

II. Application and Draft Permit Issues

a. Valero's Best Available Control Technology analysis for control of nitrogen oxides from the heavy oil cracker is deficient.

Valero has failed to adequately analyze available control technologies for the control of nitrogen oxides (NO_x) from its heavy oil cracker. Valero improperly calculates

the cost-effectiveness of LoTOx and improperly dismisses selective catalytic reduction without adequate analysis.

i. Valero underestimates the control efficiency of LoTOx.

For the heavy oil cracker, Valero uses tier three of TCEQ's three-tier analysis to select Best Available Control Technology for NO_x. According to TCEQ's Air Permit Reviewer Reference Guide, the steps in a tier three analysis are as follows:[1]

1. Identify all emission reduction options.
2. Eliminate technically infeasible options.
3. Rank remaining emission reduction options in terms of total emissions reduced.
4. Perform quantitative cost analysis to determine the cost-effectiveness (dollars per ton of pollutant reduced) of each emission reduction option.
5. Select BACT based on cost-effectiveness and performance.

Here, Valero identifies the following emission reduction options and ranks them by control effectiveness:[2]

Control Technology	Effectiveness (% Reduction)
LoTOx	80–90%
Selective Catalytic Reduction (SCR)	70–90%
Non-Pt Combustion Promoters	30–50%
Control of Excess Oxygen Levels	20–40%

Valero assumes that all control technologies are technically feasible.[3] This leads to step 4 of the analysis, where Valero must "perform quantitative cost analysis to determine the cost-effectiveness (dollars per ton of pollutant reduced) of each emission reduction option."[4]

Valero performs a cost analysis for LoTOx, which shows that LoTOx is not economically reasonable. But Valero's cost analysis underestimates the control effectiveness of LoTOx and makes LoTOx appear more expensive per ton of NO_x removed. While the above table shows that LoTOx is capable of reducing NO_x by 80 to 90%, Valero calculates cost effectiveness by assuming a significantly lower reduction. Valero calculates the cost effectiveness of reducing NO_x from a pre-control concentration

[1] TCEQ Air Permit Reviewer Reference Guide: Air Pollution Control, APDG 6110 at 18.
[2] Valero Application at 6-8 and 6-9.
[3] Valero Application at 6-9 ("Each of the available options identified has been successfully demonstrated at other petroleum refineries and is assumed to be technically feasible.").
[4] TCEQ Air Permit Reviewer Reference Guide: Air Pollution Control, APDG 6110 at 18.

of 37 ppm to a controlled concentration of 20 ppm. This is a 46% reduction in NOx, far lower than the stated effectiveness of 80 to 90%.

If Valero assumes a higher reduction efficiency closer to 80 to 90%, the total amount of NO_x removed goes up and the cost per ton of NO_x removed goes down. By using a lower reduction efficiency, Valero inflates the cost per ton of NOx removed. To accurately determine the cost-effectiveness of LoTOx, Valero must perform the cost analysis using realistic reduction assumptions that reflect the performance of LoTOx.

ii. Valero fails to analyze the cost of Selective Catalytic Reduction.

Valero also improperly dismisses selective catalytic reduction without determining its cost-effectiveness. Because selective catalytic reduction is assumed to be technically feasible and because it is more effective at reducing NOx than Valero's proposed controls, Valero must determine its cost effectiveness pursuant to step 4 of the three-tier analysis. If selective catalytic reduction is found to be cost effective under step 4, it must be selected as best available control technology.

TCEQ's Air Permit Reviewer Reference Guide details the requirements for a cost effectiveness analysis:

> "To develop a cost analysis for each remaining emission reduction option the Tier III review must include a detailed Capital Costs estimate (including: purchased equipment costs, direct installation costs, site preparation, buildings, and indirect installation costs), and a detailed Annual Operating Costs estimate (including: direct annual costs and indirect annual costs)."[5]

And,

> "The applicant must submit all supporting data for the estimated costs that are used to develop the BACT Tier III cost analysis in Step 4. The supporting data should contain sufficient information to corroborate the cost estimates, as well as the subsequent analysis and conclusions."[6]

Instead of determining cost effectiveness of selective catalytic reduction and providing the required information, Valero states that the costs for selective catalytic reduction are similar to LoTOx, and ends its analysis there. The only supporting information Valero provides for this statement is a citation to an outdated version of an industry handbook. Valero's analysis thus falls far short of the detailed capital and annual

[5] TCEQ Air Permit Reviewer Reference Guide: Air Pollution Control, APDG 6110 at 45.
[6] TCEQ Air Permit Reviewer Reference Guide: Air Pollution Control, APDG 6110 at 46.

operating costs required by TCEQ's guidance. Absent this information, Valero cannot dismiss selective catalytic reduction as the best available control technology for NOx.

Valero must complete its tier three analysis by providing detailed cost effectiveness information for selective catalytic reduction. If that information shows that selective catalytic reduction is economically reasonable, it must be selected as best available control technology.

iii. Particulate Matter

Valero has similarly failed to analyze or require best available control technology for particulate matter from the heavy oil cracker. Valero proposes a limit of 1.0 pound of particulate matter per 1000 pounds of coke burn off (1.0 lb/1000 lb). But Valero's own application shows that multiple refineries are achieving more stringent limits for particulate from their cracking units. For example, TOTAL's Port Arthur Refinery has a limit of 0.82 lb/1000 lb, which is 28% less pollution than proposed by Valero. Phillips 66's Sweeney Refinery has a limit of 0.67 lb/1000 lb, 33% less pollution than proposed by Valero. And Lion Oil's El Dorado Refinery in Arkansas has a limit of 0.5 lb/1000 lb, 50% less pollution than proposed by Valero.

If Valero met any of the more stringent limits that have been achieved at these sources, it would prevent hundreds of tons of particulate matter from being emitted in Corpus Christi. But instead of analyzing the control technologies used to achieve these lower limits, Valero dismisses the limits based on a faulty assumption:

> "Particulate matter limits for NSPS Ja are 0.5 lb/1000 lb coke burn off (new units) and 1.0 lb/1000 lb coke burn off (modified and reconstructed units), which may account for some of the variation between the observed PM emission limits. The current permit limits track NSPS Ja."[7]

Valero is referring to New Source Performance Standards section Ja, which applies to cracking units like the heavy oil cracker. But Valero's assumption that the difference between new and modified units accounts for the lower rates achieved at other plants is incorrect. Each of the cracking units at the Total, Phillips 66 and Lion Oil refineries listed above are modified units, like Valero's, and subject to the same NSPS requirement for modified units that Valero is. None of the listed units are new units, and none of them are subject to the NSPS Ja limit for new units.

Further, it is not enough for Valero to end its control technology analysis by complying with NSPS Ja. TCEQ's manual is clear that "[w]hile NSPS and NESHAP provide

[7] Valero Application at 6-6 and 6-7.

minimum requirements that must be met by all affected sources, additional air pollution control requirements must also be considered."[8] These additional requirements include Best Available Control Technology, which Valero has filed to consider.

To determine Best Available Control Technology for particulate matter from the heavy oil cracker, Valero must analyze and consider the control technologies and efficiencies achieved at these sources to determine if they are technically feasible and economically reasonable.

b. The Application fails to include adequate supporting information for claimed particulate matter emissions reductions.

Valero claims that the drift eliminators on its existing cooling tower (emission point number 122) are better performing compared to what was used to establish the current, pre-amendment permit limits. Prior to this amendment, particulate matter permit limits for the cooling tower were based on 0.005% drift. Valero now claims the actual drift is 0.001%. Based on this performance, Valero is proposing to reduce hourly and annual particulate matter limits from the cooling tower by 80%. This includes reductions in total particulate matter (PM), particulate matter with a diameter of 10 microns or less (PM_{10}), and particulate matter with a diameter of 2.5 microns or less ($PM_{2.5}$, the most dangerous kind of particulate). Valero claims the following reductions in particulate limits:

Pollutant	PM Hourly (pounds per hour)	PM Annual (tons per year	PM_{10} Hourly (pounds per hour)	PM_{10} Annual (tons per year	$PM_{2.5}$ Hourly (pounds per hour)	$PM_{2.5}$ Annual (tons per year
Current	17.71	65.86	16.82	62.58	2.63	9.78
Proposed	3.54	13.17	3.36	12.52	0.53	1.96
Change	-14.17	-52.69	-13.46	-50.06	-2.1	-7.82

While Commenters generally encourage Valero to reduce its pollution and pollution limits, this claimed adjustments are problematic. None of the publicly available application materials include any information to support this better performance. While permit limits in RBLC show several facilities with drift eliminators as good as or better than 0.001%, there is no proof that Valero is capable of meeting this level of performance at the West Refinery.

[8] TCEQ APDG 6110 at 5.

This lack of proof is compounded by the fact that there are no monitoring provisions to prove that this performance is being achieved. The monitoring included in the permit is a simple math equation based on solids in the cooling water that *assumes the claimed level of performance of 0.001%*. This circular, self-proving method of calculating emissions is plainly inadequate in the absence of a vendor or manufacturer guarantee of the performance of Valero's drift eliminators.

This newfound cooling tower performance also throws Valero's air quality modeling into doubt. According to Valero, this amendment consumes almost the entire allowable increment for 24-hour $PM_{2.5}$. Valero also narrowly avoided full impacts modeling of 24-hour and annual PM_{10} because modeling emissions did not exceed the significant impacts thresholds. If Valero relied on the claimed emissions reductions from the existing cooling tower to avoid exceeding those thresholds, it must prove that those reductions are legitimate. The current publicly available application materials do not prove that the claimed reductions are legitimate or achievable at the West Refinery.

III. Disputed Issues of Fact

Commenters 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 the TCEQ properly considered cumulative risks of nearby sources of air pollution.
- 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 the Applicant's air quality analysis complies with TCEQ's rules and guidance.

- Whether the new and modified sources will utilize 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 the Applicant and TCEQ adequately considered the environmental justice impacts of the proposed pollution increases.

IV. Conclusion

Commenters appreciate the opportunity to file this request for a contested case hearing and 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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Attorney for Hillcrest Residents Association and Citizens for Environmental Justice

ENVIRONMENTAL INTEGRITY PROJECT

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November 15, 2021

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

Via Electronic Filing

Re: Public Meeting Request and Contested Case Hearing Request on the Application to Amend Air Quality Permit Nos. 38754 and PSDTX324M14 to Increase Emissions at the Valero Refining Bill Greehey Refinery in Corpus Christi, Texas

Dear Ms. Gharis,

Valero Refining Texas, LP ("Valero") has applied to the Texas Commission on Environmental Quality ("TCEQ") for an amendment to Air Quality Permit Nos. 38754 and PSDTX324M14 (the "Application") to authorize additional emissions of ammonia, carbon monoxide, hydrogen sulfide, nitrogen oxides, organic compounds, particulate matter, sulfur dioxide, and other pollutants from its Bill Greehey Refinery, West Plant in Nueces County, Texas.

Hillcrest Residents Association appreciates the opportunity to submit these comments on the Application. We request a public meeting be held regarding the Application and an opportunity be provided to discuss the Application with representatives from Valero and TCEQ.

I. Contested Case Hearing Request

Hillcrest Residents Association requests a contested case hearing on this Application. Please direct all communication regarding this hearing request to Colin Cox, Staff Attorney at Environmental Integrity Project.

a. Information in support of Hillcrest Residents Association's request for a contested case hearing.

Hillcrest Residents Association is a 501(c)(3) non-profit organization that was formed for the purpose of protecting public health, safety, the environment, and the quality of life for residents in the Hillcrest neighborhood and the immediately surrounding area, and to combat community deterioration. With this purpose as the focus, Hillcrest Residents Association intends to represent its members by participating in the decision-making process of local, state, and federal officials on issues related to pollution and protection of natural resources and other quality of life issues. Hillcrest Residents Association will represent its members in government proceedings and in court, if necessary, in pursuit of its stated purpose.

Lamont Taylor is a member of Hillcrest Residents Association and owns property in Hillcrest at 1614 Kennedy Street, Corpus Christi, Texas, 78407. Mr. Taylor does not currently reside at this address, but visits regularly to maintain the property. He intends to repair the house at 1614 Kennedy so that he will be able to move back in and make it his primary residence. Mr. Taylor previously suffered from stage 4 cancer, which, after years of treatment, is now in semi-remission. He is worried that exposure to additional air pollution from Valero's refinery will impact his health and increase the risk that his cancer will return. He is also concerned that additional air pollution from Valero's refinery will interfere with his use of his property and his plans to make it his home.

Mr. Taylor has standing in his own right to request a contested case hearing. The interests that Hillcrest Residents Association seeks to protect by requesting this hearing are germane to its purpose, stated above. And neither the claim asserted nor the relief requested requires the participation of the individual members in this case.

b. Disputed Issues of Fact

Hillcrest Residents Association 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 the TCEQ properly considered cumulative risks of nearby sources of air pollution.
- 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 the Applicant's air quality analysis complies with TCEQ's rules and guidance.
- Whether the new and modified sources will utilize 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.

II. Conclusion

Hillcrest Residents Association appreciates the opportunity to file this request for a public meeting and a contested case hearing and reserves 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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November 15, 2021

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

Via Electronic Filing

Re: Public Meeting Request and Contested Case Hearing Request on the Application to Amend Air Quality Permit Nos. 38754 and PSDTX324M14 to Increase Emissions at the Valero Refining Bill Greehey Refinery in Corpus Christi, Texas

Dear Ms. Gharis,

Valero Refining Texas, LP ("Valero") has applied to the Texas Commission on Environmental Quality ("TCEQ") for an amendment to Air Quality Permit Nos. 38754 and PSDTX324M14 (the "Application") to authorize additional emissions of ammonia, carbon monoxide, hydrogen sulfide, nitrogen oxides, organic compounds, particulate matter, sulfur dioxide, and other pollutants from its Bill Greehey Refinery, West Plant in Nueces County, Texas.

Hillcrest Residents Association appreciates the opportunity to submit these comments on the Application. We request a public meeting be held regarding the Application and an opportunity be provided to discuss the Application with representatives from Valero and TCEQ.

I. Contested Case Hearing Request

Hillcrest Residents Association requests a contested case hearing on this Application. Please direct all communication regarding this hearing request to Colin Cox, Staff Attorney at Environmental Integrity Project.

a. Information in support of Hillcrest Residents Association's request for a contested case hearing.

Hillcrest Residents Association is a 501(c)(3) non-profit organization that was formed for the purpose of protecting public health, safety, the environment, and the quality of life for residents in the Hillcrest neighborhood and the immediately surrounding area, and to combat community deterioration. With this purpose as the focus, Hillcrest Residents Association intends to represent its members by participating in the decision-making process of local, state, and federal officials on issues related to pollution and protection of natural resources and other quality of life issues. Hillcrest Residents Association will represent its members in government proceedings and in court, if necessary, in pursuit of its stated purpose.

Lamont Taylor is a member of Hillcrest Residents Association and owns property in Hillcrest at 1614 Kennedy Street, Corpus Christi, Texas, 78407. Mr. Taylor does not currently reside at this address, but visits regularly to maintain the property. He intends to repair the house at 1614 Kennedy so that he will be able to move back in and make it his primary residence. Mr. Taylor previously suffered from stage 4 cancer, which, after years of treatment, is now in semi-remission. He is worried that exposure to additional air pollution from Valero's refinery will impact his health and increase the risk that his cancer will return. He is also concerned that additional air pollution from Valero's refinery will interfere with his use of his property and his plans to make it his home.

Mr. Taylor has standing in his own right to request a contested case hearing. The interests that Hillcrest Residents Association seeks to protect by requesting this hearing are germane to its purpose, stated above. And neither the claim asserted nor the relief requested requires the participation of the individual members in this case.

b. Disputed Issues of Fact

Hillcrest Residents Association 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 the TCEQ properly considered cumulative risks of nearby sources of air pollution.
- 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 the Applicant's air quality analysis complies with TCEQ's rules and guidance.
- Whether the new and modified sources will utilize 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.

II. Conclusion

Hillcrest Residents Association appreciates the opportunity to file this request for a public meeting and a contested case hearing and reserves 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
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