TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 19, 2022

TO: Persons on the attached mailing list.

RE: Valero Refining-Texas, L.P.
Air Quality Permit Nos. 2937 and PSDTX1023M3

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any action is taken on this application unless all requests for contested case hearing or reconsideration have been withdrawn before that meeting.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 Comments. A copy of the complete application, draft permit and related documents, including public comments, is available for review at the TCEQ Central office. A copy of the complete application, the draft permit, and executive director's preliminary decision are available for viewing and copying at the Owens R. Hopkins Public Library, 3202 McKenzie Road, Corpus Christi, Nueces County, 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. A brief description of the procedures for these two 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; and

(B) 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. The request must be based on issues that were raised during the comment period. The request cannot be based solely on issues raised in comments that have been withdrawn. The enclosed Response to Comments will allow you to determine the issues that were raised during the comment period and whether all comments raising an issue have been withdrawn. The public comments filed for this application are available for review and copying at the Chief Clerk's office at the address below.

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 comments that you dispute; and 2) the factual basis of the dispute. In addition, you should list, to the extent possible, any disputed issues of law or policy.

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 alternative dispute resolution director 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/mt

Enclosure

MAILING LIST
for
Valero Refining-Texas, L.P.
Air Quality Permit Nos. 2937 and PSDTX1023M3

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TCEQ AIR QUALITY PERMIT NUMBER 2937 and PSDTX1023M3

APPLICATION BY	**§**	**BEFORE THE**
VALERO REFINING-TEXAS, L.P.	**§**	
BILL GREEHEY REFINERY EAST	**§**	**TEXAS COMMISSION ON**
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 person: Kelly L. Haragan on behalf of Citizens for Environmental Justice (hereinafter CFEJ). CFEJ members include: Tammy Foster, Connie and Polo Gonzales, Carol Burnside, Joe Musquiz, and Janette and Pat Dunehoo. Additional signatories of Ms. Haragan's comment letter were Amy Johnson and Erin Gaines of Texas RioGrande Legal Aid and Ilan Levin with Environmental Integrity Project. 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) § 382.055 and §382.0518. This will authorize continued operation of an existing facility and the modification of an existing facility that may emit air contaminants.

This permit will authorize the Applicant to continue operation of an existing permitted facility and modify the Bill Greehey Refinery East Plant. Facilities authorized by this permit include storage tanks, boilers and heaters, cooling towers, marine and truck loading, thermal oxidizers at loading points, flares, sulfur recovery units, coke handling, process vents, recovery wells, and wastewater treatment and carbon adsorption canisters. Proposed amendments to the permit include authorizing a flare as an alternate means of VOC control, incorporation of fugitive emissions previously authorized by permit by rule (PBR), authorization for benzene evaporation treatment and carbon adsorption canisters, and revising represented maintenance, startup, and shutdown (MSS) activities. The refinery is located at 1300 Cantwell Lane, Corpus Christi, Nueces County. Contaminants authorized under this permit include ammonia, carbon monoxide, exempt solvents, hazardous air pollutants, hydrogen sulfide, nitrogen oxides, organic compounds, particulate matter including particulate matter with diameters of 10 microns or less and 2.5 microns or less, and sulfur dioxide.

Procedural Background

To continue operating an existing permitted facility, and before work is begun on the modification of an existing facility that may emit air contaminants, the person planning the continued operation and modification must obtain a permit renewal and a permit amendment from the commission. This permit application is for a permit renewal and amendment of Air Quality Permit Number 2937 and PSD Permit Number PSDTX1023M3.

The permit application was received on October 31, 2014 and declared administratively complete on November 6, 2014. The Notice of Receipt and Intent to Obtain an Air Quality Permit (first public notice) for this permit application was published in English on November 20, 2014, in the *Corpus Christi Caller Times*. At the time of the first public notice in 2014, the Applicant affirmed that an alternative language publication could not be found. The Notice of Application and Preliminary Decision for an Air Quality Permit (second public notice) was published on March 15, 2022, in English in the *Corpus Christi Caller Times* and in Spanish on March 15, 2022, in *Tejano y Grupero News*. The public comment period ended on April 14, 2022. Because this application was received before September 1, 2015, it is not subject to the procedural requirements of and rules implementing Senate Bill 709 (84th Legislature, 2015).

COMMENTS AND RESPONSES

COMMENT 1: PERMIT CHANGES

CFEJ raised concerns regarding proposed changes under the permit renewal. Specifically, CFEJ asks for more information on the operational changes, emission changes, and any new equipment. CFEJ also raised concerns about inconstancies in the permit application.

(CFEJ)

RESPONSE 1: The original renewal application for this refinery was received on October 31, 2014. A new, amended renewal application (hereinafter "Application") was received on January 20, 2016, which addressed deficiencies and inconsistencies in the original renewal application. The Application proposed some emission increases, in addition to new operating procedures and equipment changes, which will be laid out in more detail in this Response. The amended Application proposes removing overall emission caps for the entire refinery and assigning individual emissions limits for each emission point number (EPN) associated with each emission point. The Application also updates the NO_x emission concentration limits for EPNs Q10-H-1 and QL-10 heaters to accurately reflect the emission amount for NO_x. Additionally, for heater EPN Q11-H-301, the emission estimates were recalculated in the Application to reflect the maximum fuel capacity of the heater. The Application also proposes authorizing ammonia (NH_3) emissions from boilers and heaters, flaring as a VOC control option, emissions for the coker drum, and utilizing heaters as a secondary control device for VOC. The Application included an updated wastewater benzene (VOC) capture system

which will route the captured benzene for flaring and wastewater to a carbon adsorption system. The Application proposes an increase of 24 tons per year for VOC, an increase in PM, decrease in PM_{10}, and decrease in $PM_{2.5}$. The Application also removed emission points that are no longer operational. Heaters that were authorized under the original permit for the refinery are now authorized under permit 135622 in addition to some tanks, some refinery fugitives, and associated Maintenance, Startup, and Shutdown (MSS) activities.

COMMENT 2: HEALTH EFFECTS AND AIR QUALITY

CFEJ is concerned about the effect of the emissions from the proposed project on the air quality and health of people. CEFJ members believe emissions of air pollutants, including VOC and particulate matter, from the refinery are adversely affecting their health. CFEJ states that the application fails to adequately demonstrate protectiveness of public health and welfare. CFEJ raises concerns regarding cumulative effects due to the expansion in the Corpus Christi area.

(CFEJ)

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

NAAQS

The 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 (PM) 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 ($PM_{2.5}$).

1 40 CFR 50.2

The Applicant conducted a NAAQS analysis for CO, O_3, SO_2, PM_{10}, $PM_{2.5}$, and NO_2. The first step of the NAAQS analysis is to compare the proposed modeled emissions against the established de minimis level. Predicted concentrations of maximum ground level concentrations (GLC_{max}) 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 De Minimis Review

Pollutant	Averaging Time	GLC_{max} (µg/m³)	De Minimis (µg/m³)
NO_2	1-hr	18	7.5
NO_2	Annual	4.5	1
CO	1-hr	240	2000
CO	8-hr	221	500
PM_{10}	24-hr	5.4	5
$PM_{2.5}$	24-hr	3.1	1.2
$PM_{2.5}$	Annual	0.6	0.2
SO_2	1-hr	17	7.8
SO_2	3-hr	246	25

Pollutant	Averaging Time	GLCmax (ppb)	De Minimis (ppb)
O_3	8-hr	0.18	1

The pollutants below the de minimis level should not cause or contribute to a violation 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 NAAQS analysis are presented below in Table 2. The total concentration was determined by adding the GLC_{max} 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. Background concentrations for SO_2 were obtained from the EPA AIRS monitor 483550025 at 902 Airport Blvd, Corpus Christi, Nueces County. Background concentrations for NO_2 were obtained from the EPA AIRS monitor 482011050 at 4522 Park Rd, Seabrook, Harris County. Background concentrations for PM_{10} and $PM_{2.5}$ were obtained from the EPA AIRS monitor 483550034 at 5707 Up River Rd., Corpus Christi, Nueces County, supplemented by data from EPA AIRS monitor 483550032 at 3810 Huisache Street, Corpus Christi, Nueces County.

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

Pollutant	Averaging Time	GLC_{max} ($\mu g/m^3$)	Background ($\mu g/m^3$)	Total Conc. = [Background + GLC_{max}] ($\mu g/m^3$)	Standard ($\mu g/m^3$)
NO_2	1-hr	63	57	120	188
NO_2	Annual	6	8	14	100
PM_{10}	24-hr	8	79	87	150
$PM_{2.5}$	24-hr	11.3	23	34.3	35
$PM_{2.5}$	Annual	1	8	9	12
SO_2	1-hr	127	15	142	196
SO_2	3-hr	264	25	289	1300

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

Effects Screening Levels (ESLs)

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.[2] 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 satisfy the MERA criteria and therefore are not expected to cause adverse health effects.

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.

Table 3. Site-wide Modeling Results for State Property Line

Pollutant	Averaging Time	GLCmax (µg/m³)	Standard (µg/m³)
SO_2	1-hr	289	715
H_2S	1-hr	30	108

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 the proposed emission rates associated with this project.

2 *See* TCEQ Air Permits Division Guidance document 5874.

COMMENT 3: POTENTIAL OZONE NONATTAINMENT

CFEJ is concerned that the emissions from this project could cause Nueces County or San Patricio County to be designated as nonattainment for ozone. CFEJ is concerned about the cumulative effects of industrial growth in the Corpus area and in San Patricio County and requested that TCEQ ensure the accuracy of baseline ozone concentrations used in the air quality modeling.

(CFEJ)

RESPONSE 3: Nueces County and San Patricio County are currently designated as being in attainment or unclassifiable for all pollutants. An impacts analysis was conducted for this project and demonstrates that the facility will not cause or contribute to an exceedance of the NAAQS; therefore, the project is not expected to cause Nueces County or San Patricio County to be designated as nonattainment.

The NAAQS analysis results for ozone, as shown in **Response 2** above, are below its de minimis level and did not require consideration of the baseline ozone concentrations in this attainment or unclassifiable area.

COMMENT 4: BEST AVAILABLE CONTROL TECHNOLOGY (BACT)

CFEJ questioned the control technology proposed in the application. CFEJ stated that the application did not address BACT requirements for every unit that should be subject to BACT review, and that the BACT recommendations do not contain sufficient information. CFEJ stated that inadequate BACT analyses were provided and that the controls selected did not reflect BACT, specifically calling out the proposed BACT for the delayed coker, fugitive leaks, flares, tanks storing higher Reid Vapor Pressure (RVP) product, and heaters and boilers. CFEJ requested additional BACT controls.

(CFEJ)

RESPONSE 4: Best Available Control Technology (BACT) is an air pollution control method for a new or modified facility, that through experience and research, has proven to be operational, obtainable, and capable of reducing or eliminating emissions from the facility, and is considered technically practical and economically reasonable for the facility. BACT may be numerical limitations, the use of an add-on control technology, design considerations, the implementation of work practices, or operational limitations. The Applicant has represented in the permit application that BACT will be used for the proposed new and modified sources.

The contaminants authorized by this proposed permit are ammonia, carbon monoxide, exempt solvents, hazardous air pollutants, hydrogen sulfide, nitrogen oxides, organic compounds, particulate matter including particulate matter with diameters of 10 microns or less and 2.5 microns or less, and sulfur dioxide. BACT was addressed for modified units only. For a renewal of an existing air permit (unmodified units), the commission may not impose conditions more stringent than the existing permit unless more stringent conditions are necessary to avoid a condition of air pollution or to ensure compliance with other state and federal air quality control requirements.

The primary control measures applied to this refinery include: internal floating roofs with seals for storage tanks, external floating roofs with seals for storage tanks, or fixed roofs for low vapor pressure products for storage tanks; thermal oxidizers for loading sources; flares for refinery process sources and MSS activities; sulfur recovery incinerators for refinery process; 90% VOC control of wastewater through pre-treatment, collection, biological treatment, and carbon adsorption canisters; controlled depressurization of process units for MSS with purging then flaring and operational limits on MSS activities; low NO_x burners, selective catalytic reduction, and good combustion practices for heaters and boilers. The permit reviewer evaluated the proposed BACT and confirmed it to be acceptable.

Additional information was provided by the Applicant within the course of the technical review addressing BACT requirements for every modified unit, including those without physical changes. The Applicant provided a detailed technical and quantitative analysis for physical facilities at the refinery that require additional existing facilities emission rate corrections under the Application, however, these facilities are not being physically modified.

Delayed Coker

Regarding the delayed coker drum BACT, the draft special condition No. 22B does require that the coke drums not be depressurized into the atmosphere until the average drum pressure is reduced to 2 pounds per square inch gage (psig) or less. Therefore, the Applicant must have the pressure in the coker drum below 2 psig before the drum is opened.

Fugitive Leaks

Fugitive leaks are subject to systematic and objective leak detection and repair programs, 28MID, 28VHP, 28CNTQ, or 28AVO, as detailed in Special Condition Nos. 25-29.[3] Leakless equipment is not required and is not considered BACT. Numerical emission limits for fugitive leaks are based off the emission limits as laid out in the Maximum Allowable Emission Rate Table (MAERT), which contains the emission limits authorized by the permit, for VOC. BACT requires control measures such as operational procedures, occasion testing, and a leak detection and repair program. These control measures are required in the permit's Special Conditions.

Flares

Regarding flares, the Applicant, in reference to federal rules,[4] must meet the minimum heating value and maximum tip velocity in order to have 98% control efficiency of VOC destruction removal.

3 See https://www.tceq.texas.gov/permitting/air/guidance/newsourcereview/fugitives/nsr_fac_eqfug.html

4 *See* 40 CFR 63 Subpart CC; *See* 40 CFR 60 Subpart Ja

Tanks

Tanks storing higher Reid Vapor Pressure (RVP) product, which are now authorized by Permit No. 135622, are limited to storing materials with a maximum RVP of 10.5 pounds per square inch absolute (psia), are painted white, and have external floating roofs with a primary mechanical shoe seal and secondary rim-mounted seal, which meets BACT for tanks storing these types of products. Geodesic domes are not considered BACT.

Heaters/Boilers

For the boiler being incorporated from a standard permit, low NO_x burners and selective catalytic reduction (SCR) meeting a NO_x limit of 0.015 pounds per million British thermal units (lb/MMBtu), CO meeting 50 parts per million by volume dry (ppmvd) at 3% O_2 average annual, low sulfur fuel (≤ 60 ppmvd H_2S average annual), and monitoring of NO_x and CO emissions with Continuous Emissions Monitoring Systems (CEMS) are present and meet BACT for this 334 million British thermal units per hour (MMBtu/hr) boiler. A heater of 34 MMBtu/hr has low NO_x burners meeting 0.1 lb/MMBtu, low sulfur refinery fuel (≤ 60 ppmvd H_2S average annual), and good combustion practices with CO meeting 50 ppmvd at 3% O_2 average annual, which meets BACT with additional justification from the Applicant.

The project also included emission rate corrections for physically unmodified heaters and boilers. As specified in the TCEQ's BACT guidance document, APDG 6110v2 dated January 2011, "Applications for projects subject to air pollution control evaluations are those with new and modified facilities or sources of emissions of air contaminants." These facilities are not new and are not being physically modified with this project. However, these sources are proposed to have allowable emission rates increases to correct representations in the permit. Therefore, the previous BACT evaluations were reviewed to ensure that the original BACT determinations would not have been different if the correct emission rates had been known at the time that they were originally evaluated for BACT. None of the allowable emission rate changes would have changed the BACT determinations. Heaters QL-10 added ammonia emissions. QH-135 is not a heater, however, heater QH-125 added NO_x emissions. Finally, SMR-2 (130-H-01) was added as a secondary control device for VOC, however, this did not result in an emission increase for VOC. Additionally, some heaters previously authorized by this permit are now permitted under permit number 135622.

COMMENT 5: PSD REVIEW

CFEJ stated that the application file contained conflicting statements on if a PSD review was triggered by the application. CFEJ noted that the application represented that actual emission increases of CO and VOC exceed the federal PSD major modification threshold and that modification to the PSD permit is required. CFEJ states that there is not enough information to evaluate if the netting analysis is practicably enforceable. CFEJ raised concerns about the BACT analysis for PSD pollutants.

(CFEJ)

RESPONSE 5: A Prevention of Significant Deterioration (PSD) major site is defined as a site emitting over 250 tpy of any one pollutant if it is an unnamed source or 100 tpy of any one pollutant if it is one of twenty-eight sources named in 40 CFR § 52.21(b)(1)(a). Once a site is considered a major source, the project emission increases for each pollutant are compared to the applicable significant emission rate to determine if that pollutant requires PSD review.

This site is a named source and has proposed emission rates greater than 100 tpy of at least one pollutant, making it a major source. In addition, the proposed increases of the following pollutants are above the defined significant emission rates and are subject to PSD permitting: CO and VOC. The proposed increases of all other pollutants with this project are below the significant emission rates and are not subject to PSD permitting. As part of the BACT review process for pollutants subject to PSD, the TCEQ evaluates information from the EPA's Reasonably Available Control Technology (RACT), BACT, Lowest Achievable Emission Rate (LAER), Clearinghouse (RBLC), on-going permitting in Texas and other states, and the TCEQ's continuing review of emissions control developments for pollutants triggering a PSD review. PSD review was triggered for CO and VOC for this Application, and state level review was triggered for all other regulated pollutants.

Project increases with regard to federal applicability and PSD review are determined by comparing baseline actual emissions to the proposed potential to emit. Those differences are determined for each PSD regulated pollutant. If that difference is greater than the significant emission rate for the pollutant, then netting is required. PSD review for this permit renewal was only triggered for VOC and CO. $PM_{2.5}$ project increases were determined by taking the proposed potential to emit minus baseline actual emissions, and that result from all facilities was less than the significant emission rate (PSD Major Modification Threshold) of 10 tpy. When comparing previously authorized emissions to proposed emissions of $PM_{2.5}$, that results in a decrease.

As explained in **Response 1**, a completely new renewal and amendment application for this permit was received on January 20, 2016, replacing the original application received in 2014. The new application clearly addressed and provided detailed information regarding PSD applicability for CO and VOC.

Netting, which is the sum of projected emissions increases and decreases, was required to be considered per 40 CFR § 51.166(a)(7)(iv)(a) and 30 TAC § 116.160(b)(1) regarding PSD applicability because proposed CO and VOC increases were above their respective netting thresholds. Once netting was performed, PSD review was still triggered for these pollutants. The PSD review found the increases to be in compliance with applicable federal standards. Emissions increases in the netting analysis were not used to avoid PSD applicability and are practically enforceable through the draft permit Special Conditions and Maximum Allowable Emission Rate Table (MAERT). Proposed project increases of other pollutants were not above netting thresholds, so netting was not performed for these pollutants. Authorization of emissions increases and limits are federally enforceable with the MAERT and conditions of the permit, though restrictions such as throughput limits, fuel flow monitoring, leak detection and

repair programs, tank operation and maintenance restrictions, vapor collection at loading locations routed to thermal oxidizers or flares, flares meeting Maximum Achievable Control Technology, found in 40 CFR Part 63 Subpart CC, standards, wastewater VOCs routed to control device, and MSS operational restrictions in Special Condition Nos. 44-66.

COMMENT 6: PERMITTING PROCESS & PSD VALIDITY

CFEJ stated that this application is an example of the problems created by TCEQ's permitting program and its failure to require that all changes in the emissions authorized pursuant to a PSD permit be made, at the time they are authorized, to that PSD permit. CFEJ stated TCEQ allows sources to make changes to federal PSDs permit through various mechanisms, some of which are not SIP approved and many of which fail to provide the 30-day notice and comment period required by 40 CFR § 51.161. CFEJ stated that the Applicant should be required to provide information similar to the EPA's deflex audit program so projects can be tracked over time. CFEJ is concerned that changes at the facility since the company's last State Implementation Plan (SIP) approved PSD permit have violated federal or state permitting requirements. CFEJ is concerned about how emissions authorized by Permits By Rule (PBRs) are being rolled into this permit, and whether they are being properly included in estimates of emission increases for the PSD permit, subject to BACT review, and have been incorporated into the air quality analysis. CFEJ stated that this permit action is the consolidation of nineteen permits by rule and standard permits.

(CFEJ)

RESPONSE 6: The Texas Clean Air Act[5] has allowed for the issuance of permits by rule (PBRs) for certain types of facilities that will not significantly contribute air contaminants to the atmosphere. The TCAA also provides for consolidation of permits, including standard permits or PBRs into a single permit[6]. Additionally, the Texas Administrative Code (TAC), requires any changes authorized by a PBR to be incorporated in the permit at amendment or renewal.[7] PBRs may be used to authorize only certain types of facilities or changes within facilities which do not make a significant contribution of air contaminants to the atmosphere.[8] Further, additional requirements must be met in order to claim a PBR: facilities may not emit more than 250 tpy CO or NO_x, 25 tpy VOC, SO2, or PM_{10}, or 25 tpy of any other air contaminant. Further, PBRs cannot be used to authorize a major source; must meet applicable requirements of NSPS, NESHAP, and TCEQ rules; and maintain registration and recordkeeping to show compliance with emission limits and conditions of the PBR.

PBRs must be adopted or revised through rulemaking into applicable Subchapters under 30 TAC Chapter 106. Such new and revised PBRs must undergo public notice and a 30-day comment period, and TCEQ must address all comments received from

5 *See* TCAA §§ 382.051(a)(4); 382.05196; 30 TAC § 106.1
6 *See* TCAA § 382.0511
7 *See* 30 TAC § 116.116(d)(2)
8 *See* 30 TAC Chapter 106, Subchapter A

the public before finalizing its action to issue or revise a PBR. In addition, as part of the current permit renewal and amendment, affected facilities currently authorized by PBRs are now subject to public notice and comment. The SIP must include procedures[9] that enable the TCEQ to determine whether the construction or modification will result in a violation of applicable portions of the control strategy or interfere with attainment or maintenance of a national ambient air quality standard.

After EPA disapproved TCEQ's flexible permitting program, applicants went through the "deflex" program to obtain an New Source Review (NSR) permit in order to maintain their operations. The EPA created a Deflex Audit Program to monitor these permit changes. The Applicant previously submitted a deflex application which was processed as a permit alteration. The Applicant's representations in the deflex alteration application were considered as potential modifications in the current permit application and had to undergo a BACT and health effects review.

The last federal modification (PSD review, PSDTX1023M2) at the refinery was approved and issued August 19, 2010. Changes affecting facilities authorized by NSR Permit 2937 / PSDTX1023M2 since that review included thirteen alterations and seven amendments, which were reviewed and approved subject to 30 TAC § 116.116 and applicable federal regulations. Sixteen PBRs were issued in that time frame for this facility, which were reviewed and approved subject to 30 TAC Chapter 106, Subchapter A and rules in 30 TAC Chapter 106.

When incorporating PBRs by consolidation into an NSR permit, facilities being consolidated must undergo an impacts review and BACT review. Facilities previously authorized by PBRs that are being consolidated with this action are additional fugitives, additional liquefied petroleum gas truck loading, crude tank water draws and oil/water separator, wastewater treatment plant, and a replacement heater. The NSR permit was amended to account for these changes by ensuring fugitive BACT language is present, updating loading throughput, adding wastewater treatment plant conditions that constitute acceptable BACT and monitoring, and adding emission limits; and proposed limits were included within the air quality analysis. Additionally, some facilities authorized under the original permit were removed and are now authorized by other permits.

COMMENT 7: EMISSION RATES AND CALCULATIONS

CFEJ questioned the accuracy and methodology for determining the emission rates for the proposed project. CFEJ further asks if there will be an increase in emissions. CFEJ also raised concerns that some of the emissions calculations may be underestimated and expressed particular concern about the $PM_{2.5}$ project increase being very close to the significance level.

(CFEJ)

9 *See* 40 CFR § 51.160(a)

RESPONSE 7: The proposed net emission increases for this Application are for ammonia, particulate matter, volatile organic compounds, carbon monoxide, hydrogen sulfide, and sulfur dioxide. However, particular emission points may have short or long term increases or decreases of additional pollutants, such as PM_{10}, $PM_{2.5}$, nitrogen oxides, or hazardous air pollutants.

Emissions from these facilities were determined by using actual stack testing data, manufacturer and vendor data, stack test data from a similar facility, and mathematical formulas calculated according to the EPA's Compilation of Air Pollutant Emission Factors, AP-42 Manual[10]. 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.

PM emissions result from combustion units, sulfur recovery units, coker steam vents, cooling towers, and MSS activities. PM emissions from these units were estimated using factors from Sections 1.1, 1.4, 13.2, and 13.4 of EPA AP-42, stack testing, factors from May 2011 "Emission Estimation Protocol for Petroleum Refineries" by RTI International to EPA Office of Air Quality Planning and Standards study, total dissolved solids and circulation rates, droplet distribution and methodology from 2001 "Calculating Realistic PM_{10} Emissions from Cooling Towers" memo by Reisman and Frisbie, paint usage and paint solids content, and factors from TCEQ Draft RG-169 "Abrasive Blast Cleaning." Emission estimates in pound per hour and ton per year quantities are found in the draft MAERT. EPA AP-42 is regularly utilized as an emission estimation tool.

The TCEQ permit reviewer analyzed the proposed emission factors and the control efficiencies represented in the application for accuracy and applicability and found the factors and corresponding calculations to be acceptable.

COMMENT 8: MAINTENANCE, STARTUP, AND SHUTDOWN EMISSIONS (MSS)

CFEJ stated that MSS emissions were segregated from routine emissions for the same unit and that the unit emissions as a whole should be considered when determining federal applicability and BACT. CFEJ stated that the application should include a demonstration for all MSS emissions and routine emissions showing normal BACT cannot be met from the unit during MSS, the authorized MSS emissions reflect BACT for those emissions, and MSS emissions are properly limited in duration.

(CFEJ)

RESPONSE 8: The draft permit has separate limits for authorized MSS activities within the MAERT and applicable Special Conditions. MSS activities authorized by this permit include: controlled and uncontrolled process vessel purging and degassing, vacuum truck loading, maintenance painting and miscellaneous chemical usage, tank

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

maintenance (cleaning, inspection, and changes of service), SRU maintenance, abrasive blast cleaning, and corrugated plate interceptor maintenance. A BACT and impacts review were required for the MSS emissions. Emissions associated with these activities were estimated using emissions factors and guidance mentioned in **Response 7**, along with the size of the process vessels, flare destruction removal efficiency, composition of gases purged or combusted, loading losses, tanks, roof types, material stored, assumed paint usage, chemical usage, tank landings, combustor characteristics, SRU flue gas characteristics, and expected maintenance durations. Those emissions were included in the air quality analysis and found acceptable. Note that all these periods during which MSS emissions could occur are of short duration and are limited by the restrictions in the Special Conditions and MAERT.

Regarding federal applicability for the current project, PSD review was triggered for VOC and CO due to proposed emissions increases, considering both routine and MSS emissions, of those pollutants.

A BACT review was required by both federal and state rules for all affected facilities. BACT was proposed and reviewed for MSS activities as follows:

Source Name	**Best Available Control Technology Description**
MSS: Process Units and Tanks Shutdown / Depressurize / Drain / Startup	Process vessel purge gases routed to flares. Process vessels containing liquids with vapor pressure > 0.5 pounds per square inch absolute (psia) purged until one of the following (or similar) is met: VOC partial pressure < 0.5 psia, 34,000 parts per million by volume (ppmv) or less, measured as methane, 50% or less of lower explosive limit, and/or 3 times the volume of the vessel has been nitrogen or steam purged. Remaining process fluid reduced through process fluid recovery and flaring, followed by testing with a gas sensor. BACT is met.
MSS: SRU Maintenance Shutdown	Sweep natural gas through SRU to carry residual sulfur compounds to SRU incinerator, which has destruction removal efficiency (DRE) of sulfur compounds of 99.9%. BACT is met.

Source Name	Best Available Control Technology Description
MSS: Atmospheric Tank Cleaning and Refilling	Drain and degas landed volume for floating roof tanks taken out of service. No more than six floating roof tanks taken out of service and drained and degassed per year. For change of service, land roof, drain tank, and begin refill within 24 hours. Only 3 gasoline tanks in service at any one time. Two roof landings per season (March and September) per tank. Maintain fixed roof tanks only when warranted by inspection. BACT is met.
MSS: Vacuum Trucks	Slop oil or wastewater. Static loading or CAS with 95% control efficiency. BACT is met.
MSS: Heater decoking	Limiting the frequency and duration of activities. Water spray to minimize decoking emissions. BACT is satisfied.
MSS: Abrasive blasting	Collection and removal of spent or waste abrasive blast media in such a manner to minimize emissions and placing the waste in covered containers prior to removal from the site. Use of low dusting abrasives with a free silica content < 1%. No visible emissions crossing property line. This meets BACT for this source.
MSS: Complex 8 Corrugated Plate Interceptor (CPI)	These are MSS operations for a process unit. Degassing to the atmosphere will be limited to MACT CC levels (72 lb VOC). Vacuum truck operations will otherwise be used as control, subject to appropriate MSS special conditions for these operations already within the permit. This meets BACT.
MSS: Meter maintenance and purging at a neighboring industrial facility (Enterprise)	Emissions from truck venting, propane loading line clearing and meter maintenance purging performed at the neighboring Enterprise facility will be vented to a flare. Venting to a flare with 98% control efficiency is considered BACT for these MSS activities.

The Executive Director reviewed the proposed BACT and determined it was met.

COMMENT 10: ENVIRONMENTAL JUSTICE

Commenters raised concerns regarding environmental justice.

(CFEJ)

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 previously conducted for the existing emissions authorized by this permit during the initial permit review and the permit was found to be protective of human health and the environment. In addition, as described in **Response 2** a health effects review was conducted for the proposed emissions increases associated with this application.

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

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

COMMENT 11: PERMIT COMPLIANCE

CFEJ asked how emissions will be adequately monitored.

(CFEJ)

RESPONSE 11: Special conditions have been included as part of the draft permit to ensure the Applicant can demonstrate compliance with the emission limitations set forth in the permit. Emissions will be monitored through various methods, including stack sampling, continuous emissions monitoring systems for Sulfur Recovery Unit (SRU) SRU1 and SRU2 incinerators and for larger heaters and boilers, annual inspections of internal floating roofs and seals, hourly pilot flame monitoring on flares, quarterly visible emissions monitoring, quarterly leak detection and repair monitoring, periodic sampling of wastewater carbon adsorber systems, monthly recordkeeping for floating roof tank roof landings, degassing, and change of serves, monthly recordkeeping of VOCs from tanks, loading, and cooling towers, monthly recordkeeping showing compliance with short term and annual emission limits for all facilities authorized with subcaps (fugitives, tanks, flares, wastewater, MSS), quarterly inspections of wastewater treatment water seals, weekly sampling of suspended solids in wastewater treatment plant, flow rates, refinery fuel composition, heating value, H_2S monitoring, temperature monitoring, throughputs, AVO. The permit holder is also required to maintain records to demonstrate compliance, including monitoring. Records must be made available upon request to representatives of the TCEQ, EPA, or any local air pollution control program having jurisdiction. The Regional Office may

perform investigations of the plant as required. The investigation may include an inspection of the site including all equipment, control devices, monitors, and a review of all calculations and required recordkeeping.

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. 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.

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).

CHANGES MADE IN RESPONSE TO COMMENT

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

Respectfully submitted,

Texas Commission on Environmental Quality

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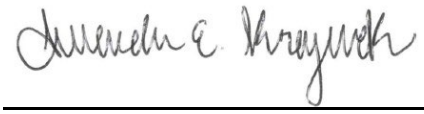

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REPRESENTING THE
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ENVIRONMENTAL QUALITY