

TCEQ AIR QUALITY PERMIT NO. 80693

APPLICATION BY	§	BEFORE THE
CITGO REFINING AND CHEMICALS	§	
COMPANY L.P.	§	
CITGO CORPUS CHRISTI	§	TEXAS COMMISSION ON
REFINERY EAST PLANT	§	
STORAGE TANKS	§	
CORPUS CHRISTI, NUECES COUNTY	§	ENVIRONMENTAL QUALITY

EXECUTIVE DIRECTOR'S RESPONSE TO HEARING REQUESTS

The Executive Director (ED) of the Texas Commission on Environmental Quality (Commission or TCEQ) files this response (Response) to the request for a contested case hearing submitted by persons listed herein. The Texas Clean Air Act (TCAA) § 382.056(n) requires the commission to consider hearing requests in accordance with the procedures provided in Tex. Water Code § 5.556.1 This statute is implemented through the rules in 30 Texas Administrative Code (TAC) Chapter 55, Subchapter F.

A current compliance history report, technical review summary, modeling audits, toxicology report, and draft permit prepared by the ED's staff, as well as the ED's Response to Public Comments (RTC), are attached for the commission's consideration (Attachment A). The RTC has also been mailed by the chief clerk to all persons on the mailing list on file with the chief clerk.

I. Application Request and Background Information

CITGO Refining and Chemicals Company L.P. has applied to the TCEQ for a New Source Review Authorization under Texas Clean Air Act (TCAA) § 382.0518. This permit will authorize routine planned maintenance, startup, and shutdown (MSS) emissions from 117 existing storage tanks associated with the CITGO Corpus Christi Refinery East Plant. These tanks are currently authorized under eleven different permits (Permit Nos. 2695A, 2697A, 3119A, 3857A, 5418A, 6722A, 8653A, 9604A and PSD-TX-653, 20156, 46640, and 46641); PBR Registration Nos. 76880, 77050, 77680, 78195, and 78851; and several unregistered PBRs. The facility is located at 1801 Nueces Bay Blvd, Corpus Christi, Nueces County. Contaminants authorized under this permit include organic compounds (VOC), hydrogen sulfide (H₂S), ammonia (NH₃), nitrogen oxides (NO_x), carbon monoxide (CO), and sulfur dioxide (SO₂). The TCEQ Enforcement Database was searched and no enforcement activities were found that are inconsistent with the compliance history.

The permit application was received on December 22, 2006, and declared administratively complete on February 12, 2007. The Notice of Receipt and Intent to Obtain an Air Quality Permit (public notice) for this permit application was published in the Corpus Christi Caller Times on March 12, 2007. The initial notice was for a flexible permit application with a concurrent Prevention of Significant Deterioration (PSD) application. Subsequently, the applicant decided to pursue the project as a conventional Subchapter B construction permit instead of a flexible permit. Also,

¹ Statutes cited in this response may be viewed online at www.capitol.state.tx.us/statutes/statutes.html. Relevant statutes are found primarily in the Texas Health and Safety Code and the Texas Water Code. The rules in the Texas Administrative Code may be viewed online at www.sos.state.tx.us/tac/index.shtml, or follow the "Rules, Policy & Legislation" link on the TCEQ website at www.tceq.state.tx.us.

during the technical review it was determined that a PSD review was not required. On July 30, 2009, an amended Notice of Receipt and Intent to Obtain an Air Quality Permit (public notice) was published in the Corpus Christi Caller Times. The Notice of Application and Preliminary Decision for an Air Quality Permit was published on May 9, 2013, in the Corpus Christi Caller Times. The comment period ended June 10, 2013.

The ED's RTC was mailed on September 26, 2013 to all interested persons, including those who asked to be placed on the mailing list for this application and those who submitted comment or requests for contested case hearing. The cover letter attached to the RTC included information about making requests for contested case hearing or for reconsideration of the ED's decision.² The letter also explained hearing requesters should specify any of the ED's responses to comments they dispute and the factual basis of the dispute, in addition to listing any disputed issues of law or policy.

The TCEQ received a timely hearing request during the public comment period from Mr. Enrique Valdivia on behalf of the Citizens for Environmental Justice, Refinery Reform Campaign, and South Texas Colonias Initiative.

II. Applicable Law

The commission must assess the timeliness and form of the hearing requests, as discussed above. The form requirements are set forth in 30 TAC § 55.201(d):

- (d) A hearing request must substantially comply with the following:
- (1) give the name, address, daytime telephone number, and, where possible, fax number of the person who files the request. If the request is made by a group or association, the request must identify one person by name, address, daytime telephone number, and, where possible, fax number, who shall be responsible for receiving all official communications and documents for the group;
 - (2) identify the person's personal justiciable interest affected by the application, including a brief, but specific, written statement explaining in plain language the requester's location and distance relative to the proposed facility or activity that is the subject of the application and how and why the requester believes he or she will be adversely affected by the proposed facility or activity in a manner not common to members of the general public;
 - (3) request a contested case hearing;
 - (4) list all relevant and material disputed issues of fact that were raised during the public comment period and that are the basis of the hearing request. To facilitate the commission's determination of the number and scope of issues to be referred to hearing, the requester should, to the extent possible, specify any of the executive director's responses to comments that the requester disputes and the factual basis of the dispute and list any disputed issues of law or policy; and
 - (5) provide any other information specified in the public notice of application.

² See TCEQ rules at Chapter 55, Subchapter F of Title 30 of the Texas Administrative Code. Procedural rules for public input to the permit process are found primarily in Chapters 39, 50, 55 and 80 of Title 30 of the Code.

When a contested case hearing is requested by a group or association, the request must meet the requirements of 30 TAC § 55.205. The following factors must be considered:

- (a) A group or association may request a contested case hearing only if the group or association meets all of the following requirements:
 - (1) one or more members of the group or association would otherwise have standing to request a hearing in their own right;
 - (2) the interests the group or association seeks to protect are germane to the organization's purpose; and
 - (3) neither the claim asserted nor the relief requested requires the participation of the individual members in the case.
- (b) The executive director, the public interest counsel, or the applicant may request that a group or association provide an explanation of how the group or association meets the requirements of subsection (a) of this section. The request and reply shall be filed according to the procedure in §55.209 of this title (relating to Processing Requests for Reconsideration and Contested Case Hearing).

Under § 55.205, one of the primary considerations is whether at least one member of the group or association would have standing to request a hearing in their own right as an affected person. Affected persons are defined by Tex. Water Code § 5.115 and implemented in commission rule 30 TAC § 55.203. Under 30 TAC § 55.203, 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. An interest common to members of the general public does not qualify as a personal justiciable interest. Local governments with authority under state law over issues raised by the application receive affected person status under 30 TAC § 55.203(b).

In determining whether a person is affected, 30 TAC § 55.203(c) requires all factors be considered, including, but not limited to, the following:

- (1) whether the interest claimed is one protected by the law under which the application will be considered;
- (2) distance restrictions or other limitations imposed by law on the affected interest;
- (3) whether a reasonable relationship exists between the interest claimed and the activity regulated;
- (4) likely impact of the regulated activity on the health and safety of the person, and on the use of property of the person;
- (5) likely impact of the regulated activity on use of the impacted natural resource by the person; and
- (6) for governmental entities, their statutory authority over or interest in the issues relevant to the application.

If the commission determines a hearing request is timely and fulfills the requirements for proper form and the hearing requester is an affected person, the commission must apply a three-part test to the issues raised in the matter to determine if any of the issues should be referred to the State Office of Administrative Hearings (SOAH) for a contested case hearing. The three-part test in 30 TAC § 50.115(c) is as follows:

- (1) The issue must involve a disputed question of fact;
- (2) The issue must have been raised during the public comment period; and
- (3) The issue must be relevant and material to the decision on the application.

The law applicable to the proposed facility may generally be summarized as follows. A person who owns or operates a facility or facilities that will emit air contaminants is required to obtain authorization from the commission prior to the construction and operation of the facility or facilities.³ Thus, the location and operation of the proposed facility requires authorization under the TCAA. Permit conditions of general applicability must be in rules adopted by the commission.⁴ Those rules are found in 30 TAC Chapter 116. In addition, a person is prohibited from emitting air contaminants or performing any activity that violates the TCAA or any commission rule or order, or that causes or contributes to air pollution.⁵ The relevant rules regarding air emissions are found in 30 TAC Chapters 101 and 111-118. In addition, the commission has the authority to establish and enforce permit conditions consistent with this chapter.⁶ The materials accompanying this response list and reference permit conditions and operational requirements and limitations applicable to this proposed facility.

III. Analysis of Hearing Requests

A. Were the requests for a contested case hearing in this matter timely and in proper form?

The hearing requests were submitted during the public comment period. However, the ED has determined that the hearing requests do not comply with all of the requirements for form in 30 TAC § 55.201(d).

Mr. Valdivia provided names but not addresses or phone numbers for the individuals named as representatives of the associations he represents, as required by 30 TAC § 55.201(d)(1). These representatives are Suzie Canales, Lionel Lopez, and Denny Larson. Therefore, with available information, it is impossible for the ED to determine the proximity of the representatives relative to the proposed facility, and it is difficult to determine whether air emissions from the proposed facility will impact the representatives in way not common to the general public. According to the letter, Ms. Canales is the only representative who lives in Corpus Christi. A map of the facility and the surrounding area is attached (Attachment B). Mr. Valdivia also failed to state personal justiciable interests of the representatives and how the representatives would be adversely affected by the proposed facility in a manner not common to members of the general public, as required by 30 TAC § 55.201(d)(2).

The ED addressed all public comments in this matter by providing responses in the RTC. The cover letter from the Office of the Chief Clerk attached to the RTC states that requesters should, to the extent possible, specify any of the ED's responses in the RTC that the requesters dispute and the

³ TEXAS HEALTH & SAFETY CODE § 382.0518

⁴ TEXAS HEALTH & SAFETY CODE § 382.0513

⁵ TEXAS HEALTH & SAFETY CODE § 382.085

⁶ TEXAS HEALTH & SAFETY CODE § 382.0513

factual basis of the dispute, and list any disputed issues of law or policy.⁷ In the absence of a response by the hearing requester within the thirty-day period after the RTC was mailed, the ED cannot determine or speculate whether the hearing requester continues to dispute issues of fact, or whether there are any outstanding issues of law or policy. The ED nevertheless evaluated the merits of the request before taking action regarding this application.

B. Are those who requested a contested case hearing in this matter affected persons?

In his letter, Mr. Valdivia commented that the population near the CITGO Refinery East Plant, also known as refinery row, is mostly people of color and low-income, and that health studies indicate that Corpus Christi has higher rates of certain types of cancer and overall birth defects than the rest of the state. He does not claim that anyone from the groups he represents live in "refinery row," or that the higher rates of health problems he describes are confined to this area, as opposed to being present throughout Corpus Christi. Thus, he does not demonstrate that any member of the groups he represents is an affected person based on this comment.

Mr. Valdivia also comments that CITGO Refinery East Plant has been convicted of federal criminal violations of the Clean Air Act, and that the fence-line community of Hillcrest, which includes Citizens for Environmental Justice members, has been directly impacted by these criminal acts and would be directly impacted by the issuance of this permit. Again, Mr. Valdivia fails to identify by name or to give an address for any members of the group who live in this neighborhood.

In his comments, Mr. Valdivia questions whether the database from which the emission factors were derived is current and whether it includes data collected over recent years at facility in question. The commenter also asks which measured emissions at the facility demonstrate that the emission factors reasonably estimate VOC tank emissions during tank filling. The commenter also requests the reason that CITGO does not propose to clean the tanks before opening them to the atmosphere. The commenter states that the residue in the emptied tanks will volatilize and discharge to the air if the tanks are opened, adding more carcinogens to the community.

The ED addressed all public comments in this matter by providing responses in the RTC. The cover letter from the Office of the Chief Clerk attached to the RTC states that requesters should, to the extent possible, specify any of the ED's responses in the RTC that the requesters dispute and the factual basis of the dispute, and list any disputed issues of law or policy.⁸ In the absence of a response by the hearing requester within the thirty-day period after the RTC was mailed, the ED cannot determine or speculate whether the hearing requester continues to dispute issues of fact, or whether there are any outstanding issues of law or policy. The ED nevertheless has evaluated the merits of the request before action is taken regarding this application.

Mr. Valdivia also requested a hearing. He has not, however, demonstrated that any member of the groups he represents is an "affected person" as defined in 30 TAC § 55.203. The threshold test of affected person status is whether the requestor has a personal justiciable interest affected by the

⁷ See 30 TAC § 55.201(d)(4).

⁸ See 30 TAC § 55.201(d)(4).

application, and that this interest is different from that of the general public.⁹ Mr. Valdivia did not include addresses for anyone on whose behalf he has requested the contested case hearing; therefore it is difficult to determine whether air emissions from the proposed facility will impact them in a way not common to the general public. Furthermore, Mr. Valdivia failed to identify any issues within his request for a hearing that would affect members of the groups he represents in a manner not common to the general public. Thus, the requestor has not identified a personal justiciable interest in this matter. In the absence of a personal justiciable interest for any member of the group, the group does not have standing to request a contested case hearing under 30 TAC § 55.201.

C. Which issues in this matter should be referred to SOAH for hearing?

If the commission determines any of the hearing requests in this matter are timely and in proper form, and some or all of the hearing requesters are affected persons, the commission must apply the three-part test discussed in Section II to the issues raised in this matter to determine if any of the issues should be referred to SOAH for a contested case hearing. However, Mr. Valdivia failed to articulate a personal justiciable interest of any individual member of the groups or associations he represents, and therefore has not shown that any of them meet the requirements of an affected person. Thus, there are no hearing requests that meet the necessary requirements for the commission to consider for referral to SOAH.

⁹ *United Copper Industries and TNRCC v. Joe Grissom*, 17 S.W.3d 797 (Tex. App.-Austin, 2000)

IV. Executive Director's Recommendation

The Executive Director respectfully recommends that the commission deny the request for a contested case hearing.

Respectfully submitted,

Texas Commission on Environmental Quality
Richard A. Hyde, P.E., Executive Director

Caroline Sweeney, Deputy Director
Office of Legal Services

Robert Martinez, Director
Environmental Law Division



Becky Petty, Staff Attorney
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REPRESENTING THE
EXECUTIVE DIRECTOR OF THE
TEXAS COMMISSION ON
ENVIRONMENTAL QUALITY

CERTIFICATE OF SERVICE

On the 17th day of March, 2014, a true and correct copy of the foregoing instrument was served on all persons on the attached mailing list by the undersigned via deposit into the U.S. Mail, inter-agency mail, facsimile, or hand delivery.

A handwritten signature in cursive script that reads "PW Petty". The signature is written in black ink and is positioned above a horizontal line.

Becky Petty

MAILING LIST
CITGO REFINING AND CHEMICALS COMPANY, LP
DOCKET NO. 2013-2078-AIR; PERMIT NO. 80693

FOR THE APPLICANT:

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David Dear

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REQUESTER(S)

**Enrique Valdivia
Texas Rio Grande Legal Aid, Inc.
1111 North Main Avenue
San Antonio, Texas 78212**

INTERESTED PERSON(S)

**Samuel Loyd Neal Jr.,
Nueces County Judge
901 Leopard Street, Room 303
Corpus Christi, Texas 78401**

ATTACHMENT A

The TCEQ is committed to accessibility.
To request a more accessible version of this report, please contact the TCEQ Help Desk at (512) 239-4357.



Compliance History Report

PUBLISHED Compliance History Report for CN600127922, RN102555166, Rating Year 2013 which includes Compliance History (CH) components from September 1, 2008, through August 31, 2013.

Customer, Respondent, or Owner/Operator:	CN600127922, CITGO Refining and Chemicals Company L.P.	Classification: SATISFACTORY	Rating: 9.05
Regulated Entity:	RN102555166, CITGO CORPUS CHRISTI REFINERY EAST PLANT	Classification: SATISFACTORY	Rating: 16.66
Complexity Points:	36	Repeat Violator: NO	
CH Group:	02 - Oil and Petroleum Refineries		
Location:	1801 NUECES BAY BLVD CORPUS CHRISTI, TX 78407-2221, NUECES COUNTY		
TCEQ Region:	REGION 14 - CORPUS CHRISTI		

ID Number(s):

INDUSTRIAL AND HAZARDOUS WASTE PERMIT 50160

INDUSTRIAL AND HAZARDOUS WASTE SOLID WASTE REGISTRATION # (SWR) 30532

- AIR NEW SOURCE PERMITS PERMIT 2697A
- AIR NEW SOURCE PERMITS PERMIT 2700A
- AIR NEW SOURCE PERMITS PERMIT 2704A
- AIR NEW SOURCE PERMITS PERMIT 2706A
- AIR NEW SOURCE PERMITS PERMIT 3119A
- AIR NEW SOURCE PERMITS PERMIT 3390A
- AIR NEW SOURCE PERMITS PERMIT 5418A
- AIR NEW SOURCE PERMITS PERMIT 8653A
- AIR NEW SOURCE PERMITS REGISTRATION 10733A
- AIR NEW SOURCE PERMITS PERMIT 2709A
- AIR NEW SOURCE PERMITS PERMIT 19044
- AIR NEW SOURCE PERMITS PERMIT 21303
- AIR NEW SOURCE PERMITS PERMIT 21706
- AIR NEW SOURCE PERMITS REGISTRATION 22418
- AIR NEW SOURCE PERMITS REGISTRATION 28092
- AIR NEW SOURCE PERMITS REGISTRATION 42533
- AIR NEW SOURCE PERMITS PERMIT 46641
- AIR NEW SOURCE PERMITS PERMIT 46642
- AIR NEW SOURCE PERMITS ACCOUNT NUMBER NE0027V
- AIR NEW SOURCE PERMITS REGISTRATION 10309
- AIR NEW SOURCE PERMITS AFS NUM 4835500003
- AIR NEW SOURCE PERMITS REGISTRATION 53921
- AIR NEW SOURCE PERMITS EPA PERMIT PSDTX653M1
- AIR NEW SOURCE PERMITS REGISTRATION 74376
- AIR NEW SOURCE PERMITS EPA PERMIT PSDTX831
- AIR NEW SOURCE PERMITS REGISTRATION 76737
- AIR NEW SOURCE PERMITS REGISTRATION 76880
- AIR NEW SOURCE PERMITS REGISTRATION 77066
- AIR NEW SOURCE PERMITS REGISTRATION 77094
- AIR NEW SOURCE PERMITS REGISTRATION 78541
- AIR NEW SOURCE PERMITS REGISTRATION 78851
- AIR NEW SOURCE PERMITS REGISTRATION 79760
- AIR NEW SOURCE PERMITS PERMIT 80693
- AIR NEW SOURCE PERMITS PERMIT 80801
- AIR NEW SOURCE PERMITS REGISTRATION 83016
- AIR NEW SOURCE PERMITS REGISTRATION 83913
- AIR NEW SOURCE PERMITS PERMIT 103666
- AIR NEW SOURCE PERMITS REGISTRATION 111397

INDUSTRIAL AND HAZARDOUS WASTE EPA ID TXD051161990

AIR NEW SOURCE PERMITS PERMIT 2695A

- AIR NEW SOURCE PERMITS PERMIT 2699A
- AIR NEW SOURCE PERMITS PERMIT 2703A
- AIR NEW SOURCE PERMITS PERMIT 2705A
- AIR NEW SOURCE PERMITS PERMIT 2708A
- AIR NEW SOURCE PERMITS PERMIT 3123A
- AIR NEW SOURCE PERMITS PERMIT 3857A
- AIR NEW SOURCE PERMITS PERMIT 6722A
- AIR NEW SOURCE PERMITS PERMIT 9604A
- AIR NEW SOURCE PERMITS REGISTRATION 12005A
- AIR NEW SOURCE PERMITS PERMIT 4979A
- AIR NEW SOURCE PERMITS PERMIT 20156
- AIR NEW SOURCE PERMITS PERMIT 21358
- AIR NEW SOURCE PERMITS PERMIT 22312
- AIR NEW SOURCE PERMITS REGISTRATION 23834
- AIR NEW SOURCE PERMITS REGISTRATION 30099
- AIR NEW SOURCE PERMITS PERMIT 46637
- AIR NEW SOURCE PERMITS PERMIT 46640
- AIR NEW SOURCE PERMITS REGISTRATION 49265
- AIR NEW SOURCE PERMITS PERMIT 6748
- AIR NEW SOURCE PERMITS REGISTRATION 56720
- AIR NEW SOURCE PERMITS REGISTRATION 90292
- AIR NEW SOURCE PERMITS REGISTRATION 54775
- AIR NEW SOURCE PERMITS PERMIT 72654
- AIR NEW SOURCE PERMITS REGISTRATION 75340
- AIR NEW SOURCE PERMITS REGISTRATION 76930
- AIR NEW SOURCE PERMITS REGISTRATION 76742
- AIR NEW SOURCE PERMITS REGISTRATION 76883
- AIR NEW SOURCE PERMITS REGISTRATION 77680
- AIR NEW SOURCE PERMITS REGISTRATION 77050
- AIR NEW SOURCE PERMITS REGISTRATION 78522
- AIR NEW SOURCE PERMITS REGISTRATION 78195
- AIR NEW SOURCE PERMITS REGISTRATION 80407
- AIR NEW SOURCE PERMITS REGISTRATION 80521
- AIR NEW SOURCE PERMITS REGISTRATION 83336
- AIR NEW SOURCE PERMITS REGISTRATION 83882
- AIR NEW SOURCE PERMITS REGISTRATION 86253
- AIR NEW SOURCE PERMITS REGISTRATION 111399
- AIR NEW SOURCE PERMITS REGISTRATION 115747

Construction Permit Source Analysis & Technical Review

Company	Citgo Refining and Chemicals Company L.P.	Permit Number	80693
City	Corpus Christi	Project Number	126508
County	Nueces	Account Number	NE-0027-V
Project Type	Initial	Regulated Entity Number	RN102555166
Project Reviewer	Ms. Teresa Hurley	Customer Reference Number	CN600127922
Site Name	Citgo Corpus Christi Refinery East Plant Storage Tanks		

Project Overview

CITGO Refining and Chemicals currently operates 117 storage tanks associated with the Corpus Christi East Plant under 11 different permits (Permit Nos. 2695A, 2697A, 3119A, 3857A, 5418A, 6722A, 8653A, 9604A and PSD-TX-653, 20156, 46640, and 46641); PBR Registration Nos. 76880, 77050, 77680, 78195, and 78851; and several unregistered PBRs. The company proposes to consolidate all the storage tanks associated with the East Plant into a single permit which will authorize normal operations and planned MSS activities from the storage tanks. MSS emissions from the existing process units at the East Plant are being authorized separately under Permit No. 80801.

The project was originally submitted as a flexible permit application with a concurrent Federal Prevention of Significant Deterioration (PSD) application. The proposed PSD permit number was PSDTX1086. During the public notice comment period for the flexible permit and PSD permit a request for a contested case hearing was received. However, because the EPA had indicated that they were going to disapprove the flexible permit program, the company decided not to pursue a flexible permit. On September 7, 2007, the TCEQ informed the applicant that the existing routine emissions from the storage tanks should not be considered as project increases. Consequently, the project increases associated with the MSS emissions are less than the PSD major modification significance level. On July 13, 2009, RPS JDC submitted a letter on behalf of CITGO requesting withdrawal of the PSD portion of the application and requesting that the project be pursued as a Subchapter B permit. On July 30, 2009, the company published an amended public notice without the references to a flexible permit or PSD permit. No requests for a contested case hearing or comments were received during the amended public notice comment period. On August 7, 2009, a letter was sent to the person who requested the contested case hearing informing him that the company had withdrawn the PSD application, that the pending flexible application was being pursued as a non-flexible permit, and that the company had been directed to publish an amended public notice. The August 7, 2009 letter was returned because it had the incorrect address. On August 14, 2009, the letter was re-sent to the correct address but no response was received.

Compliance History Evaluation - 30 TAC Chapter 60 Rules

A compliance history report was reviewed on:	March 11, 2013
Compliance period:	September 1, 2007 – August 31, 2012
Site rating & classification:	Satisfactory 23.01
Company rating & classification:	Satisfactory 14.55
If the rating is 50 < RATING < 55, what was the outcome, if any, based on the findings in the formal report:	NA
Has the permit changed on the basis of the compliance history or rating?	No

Public Notice Information - 30 TAC Chapter 39 Rules

Rule Citation	Requirement	
39.403	Date Application Received:	December 22, 2006
	Date Administratively Complete:	February 12, 2007
	Small Business Source?	No
	Date Leg Letters mailed:	February 12, 2007
39.603	Date Published:	Flexible permit notice published 03/12/2007 non-Flexible permit notice published 07/30/2009
	Publication Name:	Corpus Christi Caller Times
	Pollutants:	organic compounds, hydrogen sulfide, ammonia, nitrogen oxides, and carbon monoxide

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Regulated Entity No. RN102555166

Rule Citation	Requirement
	Date Affidavits/Copies Received: Flexible permit notice affidavits received 03/28/2007 non-Flexible permit notice affidavits received 08/17/2009
	Is bilingual notice required? Yes
	Language: Spanish
	Date Published: The company certified that they could not find an acceptable publication to publish the alternative language notice.
	Publication Name: N/A
	Date Affidavits/Copies Received: N/A
	Date Certification of Sign Posting / Application Availability Received: Flexible permit notice affidavits received 04/19/2007 non-Flexible permit notice affidavits received 09/02/2009
39.604	Public Comments Received? Yes, during the public notice period for the flexible permit. No, during the public notice for the non-flexible permit.
	Hearing Requested? Yes, during the public notice period for the flexible permit. No, during the public notice for the non-flexible permit.
	Meeting Request? No
	Date Meeting Held: NA
	Date Response to Comments sent to OCC:
	Request(s) withdrawn?
	Date Withdrawn:
	Consideration of Comments: No changes were made to permit in response to comments.
	Is 2nd Public Notice required? Yes
39.419	If no, give reason:
39.413	Date Cnty Judge, Mayor, and COG letters mailed: N/A
	Date Federal Land Manager letter mailed: N/A
39.605	Date affected states letter mailed: N/A
39.603	Date Published: May 9, 2013
	Publication Name: Corpus Christi Caller Times
	Pollutants: organic compounds, hydrogen sulfide, ammonia, nitrogen oxides, and carbon monoxide
	Date Affidavits/Copies Received: May 14, 2013
	Is bilingual notice required? Yes
	Language: Spanish
	Date Published: The company certified that they could not find an acceptable publication to publish the alternative language notice.
	Publication Name:
	Date Affidavits/Copies Received: June 20, 2013
	Date Certification of Sign Posting / Application Availability Received: July 1, 2013
	Public Comments Received? No
	Meeting Request? No
	Date Meeting Held: N/A

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Regulated Entity No. RN102555166

Rule Citation	Requirement	
	Hearing Request?	No
	Date Hearing Held:	N/A
	Request(s) withdrawn?	
	Date Withdrawn:	
	Consideration of Comments:	N/A
39.421	Date RTC, Technical Review & Draft Permit Conditions sent to OCC:	
	Request for Reconsideration Received?	
	Final Action:	
	Are letters Enclosed?	Yes

Construction Permit & Amendment Requirements - 30 TAC Chapter 116 Rules

Rule Citation	Requirement	
116.111(a)(2)(G)	Is the facility expected to perform as represented in the application?	Yes
116.111(a)(2)(A)(i)	Are emissions from this facility expected to comply with all TCEQ air quality Rules & Regulations, and the intent of the Texas Clean Air Act?	Yes
116.111(a)(2)(B)	Emissions will be measured using the following method:	Piping fugitives monitored using gas analyzer; Routine emissions from storage tanks calculated; MSS emissions from storage tanks monitored with a gas analyzer, LEL meter, or stain tubes
	Comments on emission verification:	none
116.111(a)(2)(D)	Subject to NSPS? Subparts A, K, Ka, & Kb	Yes
116.111(a)(2)(E)	Subject to NESHAP? Subparts A & Y	Yes
116.111(a)(2)(F)	Subject to NESHAP (MACT) for source categories? Subparts A, G, & CC	Yes
116.111(a)(2)(H)	Nonattainment review applicability: The CITGO Corpus Christi Refinery East Plant is located in Nueces County, which is not currently classified as nonattainment for any pollutant. Therefore, a Nonattainment review is not applicable	
116.111(a)(2)(I)	PSD review applicability: The existing refinery has the potential to emit more than 100 TPY of several criteria pollutants; therefore, the refinery is a major source subject to a PSD applicability review. According to the PSD analysis for the storage tanks submitted on November 30, 2007 and for the East Plant and the West Plant combined on December 10, 2007, the project increase for each of the criteria pollutants is less than the PSD significance threshold for each pollutant. Therefore, PSD review is not required.	
116.111(a)(2)(L)	Is Mass Emissions Cap and Trade applicable to the new or modified facilities? If yes, did the proposed facility, group of facilities, or account obtain allowances to operate:	No NA
116.140 - 141	Permit Fee: \$ 900	Fee certification: Yes

Title V Applicability - 30 TAC Chapter 122 Rules

Rule Citation	Requirement
122.10(13)	Title V applicability: The existing site operates under Title V Operating Permit No. O-1423.

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22.602	<p>Periodic Monitoring (PM) applicability: Periodic Monitoring of the storage tanks during normal operations will be achieved by calculating the emissions from each tank on a monthly basis in accordance with Special Condition No. 3. Periodic Monitoring of the emission limitations during MSS activities will be accomplished by calculating and documenting the MSS emissions in accordance with the recordkeeping requirements in the MSS special conditions.</p>
122.604	<p>Compliance Assurance Monitoring (CAM) applicability: There are no individual emission units which have the potential to emit 100 TPY or more of a pollutant uncontrolled and use a control device to control emissions; therefore, CAM is not applicable.</p>

Request for Comments

Received From	Program /Area Name	Reviewed By	Comments
Region:	14	Stephanie Zaruba	See below
City:	Corpus Christi	N/A	
County:	Nueces	N/A	
Toxicology:		N/A	
Compliance:		N/A	
Legal:		N/A	
Comment resolution and/or unresolved issues:	<p>The Regional Investigator recommended changing the wording of draft Special Condition No. 10C, (now 9C) to require that each internal combustion engine used to control MSS emissions be tested “within the previous 12 months from the date that the equipment is to be used for emission control” instead of “within the past 12 months.” This change was not made because it would make the condition in this permit more stringent than the requirement of the model MSS permit that is being used for other permits authorizing MSS activities. The Regional Investigator also commented that there was no annual allowable for NH₃ on the MAERT. This value had been inadvertently left off the draft MAERT and was added.</p>		

Process/Project Description

Normal Operation: The normal operation for a storage tank is to receive a liquid and hold it until it is withdrawn.

MSS Operations: MSS activities for storage tanks include periodic inspections, cleanings, and seasonal changes in product due to regulatory requirements. In general, vapors from storage tanks with floating roofs are routed to a control device until the VOC concentration in the tank has concentration of 10,000 ppmv or <10% of LEL or if the partial pressure of the residual liquid in the storage tank has been reduced to less than 0.02 psia or less. Portable control devices allowed include carbon adsorber systems (100 ppmv break through), thermal oxidizers (99% DRE), IC engines (99% DRE), and temporary flares (98% DRE).

Pollution Prevention, Sources, Controls and BACT - [30 TAC 116.111(a)(2)(C)]

Routine Source Category: Atmospheric Storage Tanks
<p>Source Description: Liquids associated with the refinery with a vapor pressure less than 11.5 psia are stored in atmospheric storage tanks at the CITGO Corpus Christi Refinery East Plant.</p>
<p>Tanks with Internal Floating roofs: 1, 2, 3, 4, 5, 13, 14, 20, 21, 22, 33, 34, 40, 41, 42, 43, 44, 45, 50, 55, 56, 57, 82, 83, 91, 92, 93, 201, 202, 211, 212, 221, 222, 223, 224, 301, 302, 401, 402, 403, 605, 606, 607, 608, 616, 617, 618, 804, 925, 926, 929, 930, 1009, 1016, 1018, 1019, 1022, 1023, 1024, 1029, 1030, 1031, 1032, 1040, 2001, 2002, 54-TK1, 54-TK3, 64-TK13 and 82-T6</p>
<p>Tanks with External Floating roofs: 115, 116, 117, 225, 226, 927, 928, 1027, 1041, 1042</p>
<p>Tanks with Fixed Roofs: 60, 61, 62, 63, 81, 114, 620, 621, 1001, 1002, 1003, 1015, 1017, 1020, 1025, 1026, 1028, 2003, 2005, 2006, 3101, 3102, 18-TK101, 29-TK103, 36-TK100, 38-TK106, 47-TK103, 65-TK107, 65-TK108, 65-TK109, 65-TK110, 66-TK100, 85-TK190, 85-TK191, 125-TK100, 175-TK100, and 204-TK101</p>

Construction Permit Source Analysis & Technical Review

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Routine Source Category: Atmospheric Storage Tanks
<p>BACT: BACT for storage of VOC with a vapor pressure of 0.5 psia or greater at 95 °F in a tank with a capacity of 25,000 gallons or greater is to store the liquid in a tank with a floating roof or route the vapors to equivalent control. BACT for VOC with a vapor pressure of less than 0.5 psia at 95 °F or a tank with a capacity of less than 25,000 gallons is to store the liquid in a tank with a fixed roof. The company has agreed to comply with the BACT requirements, therefore, BACT is applied.</p>

MSS Source Category: Storage Tanks with Floating Roofs
<p>Source Description: MSS activities associated with storage tanks with floating roofs include draining the tank, standing idle conditions, degassing the tank, cleaning the tank, inspecting the internals of the tank and floating roof seals, making repairs or replacements as needed, and finally re-filling the tank. In addition to planned inspection and maintenance of storage tanks, the roofs of storage tanks will be landed due to seasonal changes in gasoline RVP. Special Condition No. 5 limits seasonal RVP change of services to 8 per rolling 12-month period (2 per tank) total for Tank Nos. 14, 223, 1022, and 1023 in accordance with the permit representations.</p>
<p>BACT: BACT for emissions associated with MSS of a storage tank with a floating roof is to route the vapors from the tank to a control device if the VOC in the storage tank is 0.5 psia or greater at 95 °F. The company has agreed to comply with the BACT requirements, therefore, BACT is applied.</p>

MSS Source Category: Fixed Roof Storage Tanks
<p>Source Description: MSS activities associated with fixed roof tanks include draining the tank, degassing the tank, cleaning the tank, inspecting the internals of the tank, making repairs or replacements as needed, and finally re-filling the tank.</p>
<p>BACT: BACT for tanks with fixed-roofs is to route the vapors from the tank to a control device unless all standing liquid has been removed from the tank or the liquid in the tank has a VOC partial pressure less than 0.02 psia. The company has agreed to the BACT requirements, therefore, BACT is applied.</p>

Impacts Evaluation - 30 TAC 116.111(a)(2)(J)

Was modeling conducted?	Type of Modeling:	AERMOD (Version 07026)
Will GLC of any air contaminant cause violation of NAAQS?		No
Is this a sensitive location with respect to nuisance?		Yes
[§116.111(a)(2)(A)(ii)] Is the site within 3000 feet of any school?		Yes
Additional site/land use information:		
The East Plant is part of a highly industrialized area known as Refinery Row because of the multiple refineries and supporting industries located along the Corpus Christi Ship Channel. The East Plant is bordered by the Corpus Christi Ship Channel to the North, Flint Hills East Refinery and a residential area to the East, IH-37 to the South, and Magellan Terminals to the West.		

Summary of Modeling Results

The following discussion applies to both Permit No. 80693 and 80801 because the modeling submitted by the company was based on the MSS emissions to be authorized by the two permits.

The company submitted modeling results for ammonia, benzene, crude oil, diesel, refinery distillates, refinery lights, methyl amyl ketone, triethylene glycol, and silica in accordance with guidance provided by the Air Permits Division to the refineries. The modeling was audited by the Air Permits Division (APD) Air Dispersion Modeling Team (ADMT) and was approved. Modeled impacts from ammonia, crude oil, gasoline, glycol ether, hydrochloric acid, methanol, refinery distillates, and refinery light were predicted to exceed the respective ESL no more than 48 hours per year, 2 times the ESL no more than 24 hours per year, 4 times the ESL no more than 12 hours per year, and 10 times the ESL no more than 2 hours per year; therefore these compounds met the criteria of Step 9D of the MERA flowchart.

The CITGO Corpus Christi Refinery East Plant was located in the Corpus Christi Air Pollutant Watch Area for benzene at the time the permit application was submitted, but the area was delisted in 2010. The company is not proposing any

Construction Permit Source Analysis & Technical Review

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increase in benzene emissions at the refinery. Modeled short term and annual emissions showed that expected off-property impacts were predicted to be greater than their respective ESLs at the property line but less than their respective ESLs at the nearest non-industrial receptor. The TCEQ Toxicology Division reviewed the modeled benzene impacts and does not expect any adverse off-property impacts.

The company also submitted modeling for sulfur dioxide and hydrogen sulfide to show compliance with state property line standards for these two compounds in 30 TAC Chapter 112. The modeling showed that off-property impacts of SO₂ and H₂S due to MSS activities or normal emissions from the storage are less than the property line standards in 30 TAC Chapter 112 for each of these two compounds. The company later submitted NO₂ and SO₂ modeling for the NAAQS 1-hr NO₂ and SO₂ standards that went into effect while the project was in-house. The modeled concentrations did not exceed the NAAQS 1-hr standards.

Permit Concurrence and Related Authorization Actions

Is the applicant in agreement with special conditions?	Yes
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Company representative(s):	Ms. Deanna Schellin
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Contacted Via:	Telephone
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Date of contact:	04/02/2013
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Other permit(s) or permits by rule affected by this action:	Yes
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List permit and/or PBR number(s) and actions required or taken:

PBR Registration Nos. 76880, 77050, 77680, 78195, and 78851 will be voided if the pending permit is issued.

Permit Nos. 2695A, 2697A, 3119A, 3857A, 5418A, 6722A, 8653A, 9604A and PSD-TX-653, 20156, 46640, and 46641 will need to be altered to remove the storage tanks and piping fugitives.

Project Reviewer	Date	Team Leader/Section Manager/Backup	Date
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Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

To: Patricio Griego
Chemical Section

Date: April 16, 2009

Thru: *MM* Daniel Menendez, Team Leader
Air Dispersion Modeling Team (ADMT)

From: Robert Opiela, P.E., Technical Specialist *RO*
Technical Program Support Section (TPSS)

Subject: Second Modeling Audit - CITGO Refining and Chemicals Company, LP, CITGO
Corpus Christi Refinery – East Plant (RN102555166)

- 1.0 Project Identification Information.
Permit Application Number: 80693 and 80801
NSR Project Number: 126708
ADMT Project Number: 2905
NSRP Document Number: 373254
County: Nueces

Modeling Report: Submitted by RPS JDC, August 2008 with a subsequent submittal March 2009, on behalf of CITGO Refining and Chemicals Company, LP.

- 2.0 Report Summary. The air quality analysis (AQA) for the Call-in MSS application is acceptable for the state property line analysis for H₂S and SO₂, the minor NSR NAAQS analysis for PM₁₀, SO₂, NO₂, and CO, and health effects review. For the health effects review, the AQA represented emissions from planned MSS activities associated with the Call-in MSS application and all routine production activities for the same pollutants.

For the health effects review, the GLCmax was at or near the property line at various locations depending on the pollutant.

The modeling results are based on the following representations:

- All sources operating at their maximum hourly or maximum annual emission rates;
- Abrasive blasting and painting operations will only occur during day-time hours;
- Abrasive blasting and painting operations will be performed on one storage tank at a time;
- Maintenance painting operations within 100 meters of the property line of the main East Plant and Areas 90 and 91 will use only brushes and rollers;
- A maximum of one tank degassed or refilled at a time;
- A maximum of two tank refillings per year after a tank landing for tanks TK14, TK223, TK1022, and TK1023;
- A maximum of four vacuum trucks operating simultaneously;
- A maximum of one vacuum truck operating at an individual tank; and
- Tank maintenance not occurring at the same time as start-up, shutdown, or degassing.

Pollutant	Averaging Time	GLCmax ($\mu\text{g}/\text{m}^3$)	Standard ($\mu\text{g}/\text{m}^3$)
H ₂ S	1-hr	162	162
SO ₂	1-hr	553	1021

The modeling results predict no more than three hours when the H₂S standard would be exceeded based on continuous operation of the worst case planned MSS activities (shutdown of the Amine and Source Water Systems) with the highest predicted concentration being 218 $\mu\text{g}/\text{m}^3$. It would be unlikely for the worst case planned MSS sources to emit at the same time and at their maximum emission rate. Since the modeling results predict compliance during more than 99.9% of the hours per year, compliance with the H₂S standard is expected. The applicant also represented the predicted H₂S concentrations at all non-industrial receptors is less than 108 $\mu\text{g}/\text{m}^3$.

Pollutant	Averaging Time	GLCmax ($\mu\text{g}/\text{m}^3$)	Background ($\mu\text{g}/\text{m}^3$)	Total Conc. (Background + GLCmax) ($\mu\text{g}/\text{m}^3$)	Standard ($\mu\text{g}/\text{m}^3$)
NO ₂	Annual	30	35	65	100
CO	1-hr	2668	14000	16668	40000
	8-hr	1940	7000	8940	10000
PM ₁₀	24-hr	51	72	123	150
	Annual	9	27	36	50
SO ₂	3-hr	519	218	737	1300
	24-hr	232	42	274	365
	Annual	59	5	64	80

The screening background concentrations for CO and NO₂ from Nueces County were used in the modeling demonstration. These are an appropriate background values. The 24-hour and annual background concentrations for PM₁₀ were obtained from the EPA AIRS monitor 483550034 in Nueces County. The 24-hour high second high (H2H) value and annual average values for 2007 were reported. The 3-hour, 24-hour, and annual background concentrations for SO₂ were

obtained from the EPA AIRS monitor 483550032 in Nueces County. The 3-hour and 24-hour high second high (H2H) values and annual average values for 2008 were reported. These were appropriate background values as both monitors are very near the site and the sources modeled are existing, i.e. their impact has been captured by the monitors.

For the health effects review, the operating scenarios describe either site-wide emissions, which include planned MSS and production emissions, or emissions from a specific operation, such as the painting of a specific tank. Only the scenarios with the highest GLCmax are reported. The hours of exceedance for those scenarios associated with the highest GLCmax are reported.

Pollutant & CAS#	Scenario	Averaging Time	GLCmax (µg/m ³)	GLCht (µg/m ³)	ESL (µg/m ³)
Ammonia 7664-41-7	Site-wide	1-hr	241	21	170
		Annual	14	0.05	17
Benzene 71-43-2	Site-wide	1-hr	1937	181	170
		Annual	10	1	4.5
Methyl Amyl Ketone 110-43-0	TK618	1-hr	1462	Not provided	32
Crude Oil Vapors	Site-wide	1-hr	7868	823	3500
		Annual	172	6	350
Diesel	Site-wide	1-hr	4822	1707	1000
		Annual	6	0.3	100
Silica	E/ESL	1-hr	696	Not provided	10
Refinery Lights	Site-wide	1-hr	77235	7489	3500
		Annual	465	20	350
Refinery Distillates	Site-wide	1-hr	26942	3069	1000
		Annual	313	4	100
Triethylene Glycol 112-27-6	Site-wide	1-hr	1415	205	100
		Annual	9	0.5	10

Pollutant	Scenario	Averaging Time	2X ESL	4X ESL	10X ESL
Benzene	Site-wide	1-hr	356	61	16
Methyl Amyl Ketone	TK618	1-hr	869	532	94
Crude Oil Vapors	Site-wide	1-hr	2	0	0
Diesel	Site-wide	1-hr	36	3	0
Silica	Site-wide	1-hr	99	57	9
Refinery Lights	Site-wide	1-hr	1075	338	45
Refinery Distillates	Site-wide	1-hr	68	68	68
Triethylene Glycol	Site-wide	1-hr	72	13	4

The hours of exceedance are unadjusted and based on continuous operation.

- 3.0 Land Use. Medium roughness and elevated terrain were used in the modeling analysis. These selections are consistent with the topographic map, DEMs, aerial photography, and the AERSURFACE analysis provided in the AQA. The selection of medium roughness is reasonable.
- 4.0 Modeling Emissions Inventory. The applicant represented all planned MSS and production activities as either point, volume, or area sources. The source characterizations are reasonable and technically justified.

The SRU tailgas incinerator stack (source id 412A) was modeled at the maximum GEP stack height of 65 meters. The actual stack height is 76 meters. Modeling this source lower than its actual height would lead to higher than expected predicted concentrations.

For the Minor NSR demonstration for PM₁₀, generic modeling was performed for each source group of for abrasive blasting operations. Hour of day scalars representing daytime operation were used for abrasive blasting activities (7 am - 6 pm) and painting activities (7 am - 5 pm). This was an appropriate modeling technique.

The effective diameters for flares (source ids FL_446M, FL_442M, FL_414M, and FL_413M) were calculated according to TCEQ guidance.

Annualized emission rates were modeled for annual averaging times for benzene, crude oil vapors diesel, refinery distillates, refinery lights, triethylene glycol and PM₁₀.

Patricio Griego

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April 16, 2009

Second Modeling Audit - CITGO Refining and Chemicals Company, LP, CITGO Corpus Christi Refinery – East Plant

- 5.0 Building Wake Effects (Downwash). Input data to Building Profile Input Program Prime (Version 04274) are consistent with the aerial photography and modeling report.
- 6.0 Meteorological Data.
Surface Station and ID: Corpus Christi, TX (Station #: 12924)
Upper Air Station and ID: Brownsville, TX (Station #: 12919)
Meteorological Dataset: 1988
Profile Base Elevation: 56 feet
- 7.0 Receptor Grid. The grid modeled was sufficient in density and spatial coverage to capture representative maximum ground-level concentrations and all air toxics exceedances.
- 8.0 Model Used and Modeling Techniques. AERMOD (Version 07026) was used in a refined screening mode.

For the health effects review, emissions from planned MSS and production activities were represented by various source groups. Each source group represented the sources in different combinations. The modeling results reflect the highest predicted concentrations of all the combinations. This method to determine the worst-case predicted concentrations is reasonable and technically justified.



Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

To: Teresa Hurley, P.E.
Chemical Section

Date: August 17, 2010

Thru: *DM* Daniel Menendez, Team Leader
Air Dispersion Modeling Team (ADMT)

From: Megan Cox *MC*
ADMT

Subject: Third Modeling Audit - Citgo Refining and Chemicals Company LP (RN102555166)

- 1.0 Project Identification Information.
Permit Application Number: 80693
NSR Project Number: 126508
ADMT Project Number: 3338
NSRP Document Number: 400267
County: Nueces

ArcReader Published Map: \\Msgiswrk\APD\MODEL PROJECTS\3338\3338.pmf

Modeling Report: Submitted by RPS Group, August 2010, on behalf of Citgo Refining and Chemicals Company.

This is the third modeling audit for this NSR project number (see NSRP document number 392995). The previous modeling analysis is still valid; however, this audit supplements it with PM_{2.5} and 1-hr NO₂ evaluations.

- 2.0 Report Summary. The air quality analysis (AQA) for the Call-in MSS application for 80693 is acceptable. The results are summarized below.

Table 1. Modeling Results for Minor NSR NAAQS AQP			
Pollutant	Averaging Time	GLCmax (µg/m ³)	De Minimis (µg/m ³)
NO ₂	1-hr	55	7.5

The de minimis value listed in Table 1 for NO₂ is an interim de minimis level for the 1-hr NO₂ standard.

Table 2. Total Concentrations for Minor NSR NAAQS (Concentrations > De Minimis)					
Pollutant	Averaging Time	GLCmax (µg/m ³)	Background (µg/m ³)	Total Conc. [Background + GLCmax] (µg/m ³)	Standard (µg/m ³)
NO ₂	1-hr	55	102	157	188

The GLCmax in Tables 1 and 2 is based on EPNs 454 and 455 degassing simultaneously. See section 8.0 for details.

The applicant reported the maximum predicted high, first high (HH) value for the short-term NO₂ analysis in Table 2.

The background concentration for NO₂ was obtained from the EPA AIRS monitor 482011034 located at 1262 1/2 Mae Drive, Houston, Harris County. The 3-year average of the 98th percentile concentrations from 2007 - 2009 was used for the short-term value. There are no monitors within Nueces County, therefore, the applicant chose a monitor that is representative of the site. The use of this monitor is appropriate for Nueces County since the population (4,070,989) and 2005 NO₂ emissions (145,791 tons) for Harris County are greater than the population (323,046) and 2005 NO₂ emissions (42,465 tons) for Nueces County. Additionally, the monitor is located approximately 250 meters from a major roadway and close to many industrial sites.

The applicant proposes to use monitors in Nueces County to show compliance with PM_{2.5} 24-hr and annual averaging times. The background concentrations for PM_{2.5} were obtained from 3 EPA AIRS monitors: 483550034 located at 5707 Up River Road (3.4 km to the west), 483550032 located at 3810 Huisache Street (78 m to the west), and 482730314 located at 20420 Park Road (43 km to the south-southeast), Corpus Christi, Nueces County. The applicant reviewed data from 2004 - 2009. The highest 24-hr concentration from 2004 - 2009 was 33.5 µg/m³ in 2005. The highest annual mean average from 2004 - 2009 was 11 µg/m³ in 2006. The applicant proposes to use this monitor in lieu of modeling since the monitors are nearby the site, MSS emissions from abrasive blasting occurred between 2004 and 2009 at levels within 10% of the proposed emission rates, and the highest monitor values over the past nine years have been below the NAAQS (24-hr and annual). The ADMT attempted to verify the monitored values and found additional monitoring information that was not taken into account. Additional analysis may be needed to justify this approach.

- 3.0 Land Use. Medium roughness and elevated terrain were used in the modeling analysis. These selections are consistent with the AERSURFACE analysis, topographic map, DEMs, and aerial photography. The selection of medium roughness is reasonable.
- 4.0 Modeling Emissions Inventory. The modeled emission point source parameters and rates were consistent with the modeling report. The source characterizations used to represent the sources were appropriate.

The computation of the effective stack diameters for the flares is consistent with TCEQ modeling guidance.

A NO_x to NO₂ conversion factor of 0.75 was applied to the modeled NO_x emission rates which is consistent with TCEQ guidance for combustion sources.

Maximum allowable hourly emission rates are used for the short-term averaging time analysis.

Teresa Hurley, P.E.

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August 17, 2010

Modeling Audit - Citgo Refining and Chemicals Company LP

- 5.0 Building Wake Effects (Downwash). Input data to Building Profile Input Program Prime (Version 04274) is generally consistent with the aerial photography, plot plan, and modeling report.

The buildings were not consistent with the aerial photography, and were shifted approximately 41 meters to the northwest. However, the results should not be significantly affected since the point sources and receptor grid were shifted uniformly, and the source-to-building and source-to-receptor distance relationships were maintained.

- 6.0 Meteorological Data.

Surface Station and ID: Corpus Christi, TX (Station #: 12924)

Upper Air Station and ID: Brownsville, TX (Station #: 12919)

Meteorological Dataset: 1988

Profile Base Elevation: 17.07 meters

- 7.0 Receptor Grid. The grid modeled was sufficient in density and spatial coverage to capture representative maximum ground-level concentrations.
- 8.0 Model Used and Modeling Techniques. AERMOD (Version 09292) was used in a refined screening mode.

Each source was modeled in a separate source group to determine source culpability.

There were 12 scenarios modeled to represent the sources that may operate simultaneously. Source groups were used to calculate the predicted concentrations associated with each scenario. Only the scenario (TKCON_12) with the highest predicted concentration was reported in Tables 1 and 2.

Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

To: Patricio L. Griego
Air Permits Division
Office of Permitting & Registration

Date: September 8, 2009

From: Manuel Reyna *MR*
Toxicology Division
Chief Engineer's Office

Subject: Health effects review of emissions from Citgo Refining and Chemicals Co.,
Corpus Christi, Nueces County, TX (Permit No. 80693 and 80801, and TOX
Control No. 6749)

As requested, we conducted a health effects review of air emissions from the Citgo Refining and Chemicals East Plant Process Units/Equipment. We understand that this permit application is for previously unreported emissions associated with Maintenance, Start-up, and Shutdown (MSS) activities. The Citgo East Plant site is located within the Air Pollutant Watch List (APWL) area of concern for benzene. Furthermore, you indicated that a maximum annual benzene emission reduction of 0.9 tons per year (TPY), and an overall benzene emission reduction of 2.6 TPY over a 10 year period is anticipated to result from this permit action (i.e., added emission controls).

Refined computer modeling (i.e., AERMOD) included site-wide MSS plus normal operating emissions. Maximum off-property ground level chemical concentrations ($GLC_{s_{max}}$) are predicted to occur along the fence line, which is adjacent to an industrial area. Ground level concentrations at the maximally affected non-industrial receptor ($GLC_{s_{ni}}$) occur at a residence. Modeling results were compared to their corresponding short and long-term Effects Screening Levels (ESLs).

Benzene's predicted short-term $GLC_{s_{max}}$ of $374 \mu\text{g}/\text{m}^3$ exceeded its ESL of $170 \mu\text{g}/\text{m}^3$ by 2.2 times. The frequency of exceeding 2 times the ESL is 1 hour per year (hr/yr). In addition, benzene's long-term ESL is exceeded by 1.4 times at the $GLC_{s_{max}}$. However, benzene's short and long-term ESLs are not exceeded at the $GLC_{s_{ni}}$. Considering the magnitudes and small frequency of the ESL exceedances, that the ESL exceedances occur in an area where public exposure is unlikely, that the ESLs are not exceeded at the residence, and that actual emission reductions are anticipated, the predicted benzene concentrations are allowable.

Silica's short-term $GLC_{s_{max}}$ of $163 \mu\text{g}/\text{m}^3$ exceeded its ESL of $10 \mu\text{g}/\text{m}^3$ by 16 times. The frequency of exceeding 2, 4, and 10 times the ESL is 2, 1, and 1 hr/yr, respectively. Silica's short-term ESL is not exceeded at the $GLC_{s_{ni}}$, and its long-term ESL is not exceeded anywhere. Considering that the short-term ESL exceedance is infrequent, that the ESL is exceeded where public exposure is unlikely, that the short-term ESL is not exceeded at the residence, and since the long-term ESL is not exceeded, the predicted silica concentrations are allowable.

Methyl amyl ketone's (MAK) short-term GLC_{max} of $1,462 \mu\text{g}/\text{m}^3$ exceeded its odor-based ESL of $32 \mu\text{g}/\text{m}^3$ by 45 times. The frequency of exceeding 2, 4, and 10 times the ESL is 30, 19, and 4 hr/yr, respectively. However, MAK's odor-based ESL is not exceeded at the GLC_{ni} , and its short and long-term health-based ESLs are not exceeded anywhere. Considering that the odor-based ESL exceedance occurs where public exposure is unlikely, that the odor-based ESL is not exceeded at the residence, and that health-based ESLs are not exceeded, the predicted MAK concentrations are allowable.

The short-term GLC_{max} of $15,257 \mu\text{g}/\text{m}^3$ for refinery lights, exceeded its ESL of $3,500 \mu\text{g}/\text{m}^3$ by 4.3 times. The frequency of exceeding 2 or 4 times the ESL is only 1 hr/yr. The short-term GLC_{ni} of $4,599 \mu\text{g}/\text{m}^3$ exceeded its ESL by 1.3 times, with a frequency of ESL exceedance of 2 hr/yr. Although the refinery lights long-term ESL is barely exceeded (i.e., 1.1 times) at the GLC_{max} , it is not exceeded at the GLC_{ni} . Considering the magnitude and small frequency of the short-term ESL exceedances, the insignificant long-term ESL exceedance in an industrial area, and that the long-term ESL is not exceeded at the residence, the predicted concentrations for refinery lights are allowable.

The short-term GLC_{max} of $26,942 \mu\text{g}/\text{m}^3$ for refinery distillates exceeded its ESL of $1,000 \mu\text{g}/\text{m}^3$ by 26.9 times. The frequency of exceeding 2, 4, and 10 times the ESL is 2, 1, and 1 hr/yr, respectively. The refinery distillates long-term ESL is exceeded by 2.4 times at the GLC_{max} . However, the short and long-term ESLs for refinery distillates are not exceeded at the GLC_{ni} . Considering that the short-term ESL exceedance is infrequent, that the short and long-term ESL exceedances occur where public exposure is unlikely, and that short and long-term ESLs are not exceeded at the residence, the predicted concentrations for refinery distillates are allowable.

The short-term GLC_{max} of $1,415 \mu\text{g}/\text{m}^3$ for triethylene glycol exceeded its ESL of $100 \mu\text{g}/\text{m}^3$ by 14 times. The frequency of exceeding either 2, 4, or 10 times the ESL is 2 hr/yr. However, triethylene glycol's short ESL is not exceeded at the GLC_{ni} , and its long-term ESL is not exceeded anywhere. Considering the small frequency of the short-term ESL exceedance, that the ESL exceedance occurs where public exposure is unlikely, that the short-term ESL is not exceeded at the residence, and since the long-term ESL is not exceeded, the predicted triethylene glycol concentrations are allowable.

Diesel's short-term GLC_{max} of $4,822 \mu\text{g}/\text{m}^3$ exceeded its ESL of $1,000 \mu\text{g}/\text{m}^3$ by 4.8 times. The frequency of exceeding 2 and 4 times the ESL is 30 and 2 hr/yr, respectively. At the GLC_{ni} , the short-term ESL is exceeded by 1.7 times, with a frequency of ESL exceedance of 1 hr/yr. Diesel's long-term ESL is not exceeded. Considering the magnitude and frequency of the short-term ESL exceedances, and since the long-term ESL is not exceeded, the predicted diesel concentrations are allowable.

In conclusion, we do not expect adverse health or welfare effects to occur among the general public, as a result of exposure to the described emissions from this facility. Furthermore, considering the anticipated benzene emission reductions, and the resulting improvement in air quality for the surrounding area, we support this air permit application. If you have any questions, please call me at 239-1816.

Emission Sources - Maximum Allowable Emission Rates

Permit Number 80693

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
82-T6	Tank 82-T6 (9)	VOC	1.14	3.40
204-T101	Tank 204-TK101	VOC	0.07	0.01
36-T100	Tank 36-TK-100	VOC	0.07	0.01
66-T100	Tank 66-TK100	VOC	0.07	0.01
125-T100	Tank 125-TK100	VOC	0.07	0.01
175-T100	Tank 175-TK100	VOC	0.07	0.01
18-T101	Tank 18-TK101	VOC	0.07	0.01
29-T103	Tank 29-TK103	VOC	0.07	0.01
38-T106	Tank 38-TK106	VOC	0.07	0.01
65-T107	Tank 65-TK107	VOC	0.07	0.01
65-T108	Tank 65-TK108	VOC	0.07	0.01
65-T109	Tank 65-TK109 (9)	VOC	0.07	0.01
65-T110	Tank 65-TK110 (9)	VOC	0.07	0.01
85-T190	Tank 85-TK190 (9)	VOC	0.07	0.01
85-T191	Tank 85-TK191 (9)	VOC	0.07	0.01
450/766A	Tank 115 (9)	VOC	4.04	5.26
276	Tank 64-TK13	VOC	11.74	1.21
432	Tank 54-Tk1 (9)	VOC	0.29	0.64

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
433	Tank 54-Tk3 (9)	VOC	0.50	1.46
		H ₂ S	0.01	0.01
		NH ₃	0.01	0.01
449	Tank 114 (9)	VOC	1.83	0.41
454	Tank 116	VOC	1.88	2.30
455	Tank 117	VOC	1.88	2.30
468	Tank 605	VOC	4.51	3.40
469	Tank 606	VOC	4.51	3.40
470	Tank 607	VOC	4.51	3.40
471	Tank 608	VOC	4.51	3.40
475	Tank 616	VOC	0.01	0.16
476	Tank 617	VOC	0.01	0.16
477	Tank 618	VOC	0.01	0.16
629	Tank 927 (9)	VOC	0.62	0.48
630	Tank 928 (9)	VOC	0.62	0.49
638	Tank 925 (9)	VOC	1.94	3.55
639	Tank 926 (9)	VOC	1.92	3.51
640	Tank No. 929 (9)	VOC	1.29	0.44
641	Tank No. 930 (9)	VOC	0.98	0.44
642	Tank 1029 (9)	VOC	5.86	14.31
643	Tank 1030 (9)	VOC	5.42	13.05
644	Tank 1031 (9)	VOC	5.21	12.47
645	Tank 1032 (9)	VOC	4.43	11.99

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
657	Tank 620 (9)	VOC	18.42	0.18
658	Tank 621 (9)	VOC	18.42	0.18
662	Tank 1001 (9)	VOC	136.42	2.58
663	Tank 1002 (9)	VOC	0.02	0.04
664	Tank 1003 (9)	VOC	19.5	3.69
665A	Tank 1020 (9)	VOC	28.45	1.67
666	Tank 1015 (9)	VOC	28.45	1.67
667A	Tank 1016 (9)	VOC	3.70	8.58
670	Tank 1009 (9)	VOC	1.21	1.76
676	Tank 1017 (9)	VOC	4.79	0.04
677	Tank 1028 (9)	VOC	9.12	7.24
692	Tank 201 (9)	VOC	1.87	4.04
693	Tank 202 (9)	VOC	1.87	4.04
694	Tank 211 (9)	VOC	1.56	2.09
695	Tank 212 (9)	VOC	1.56	2.08
696	Tank 221 (9)	VOC	1.50	2.38
697	Tank 222 (9)	VOC	2.04	3.50
698	Tank 223 (9)	VOC	1.51	2.26
699	Tank 224 (9)	VOC	2.67	3.37
704	Tank 301 (9)	VOC	4.29	10.32
705	Tank 302 (9)	VOC	4.13	10.32
706	Tank 401 (9)	VOC	4.28	10.41
707	Tank 402 (9)	VOC	2.35	5.08

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
708	Tank 403 (9)	VOC	2.55	5.66
712	Tank 225 (9)	VOC	2.80	4.12
713	Tank 226 (9)	VOC	2.80	4.12
714	Tank 804 (9)	VOC	3.91	2.77
718	Tank 1040 (9)	VOC	0.77	0.43
719	Tank 1041 (9)	VOC	0.70	0.34
720	Tank 1042 (9)	VOC	1.08	1.51
722	Tank 1018 (9)	VOC	0.71	0.55
723	Tank 1019 (9)	VOC	0.71	0.55
724	Tank 1022 (9)	VOC	4.91	15.01
725	Tank No. 1023 (9)	VOC	5.9	19.73
726	Tank 1024 (9)	VOC	3.82	9.57
727	Tank 1025 (9)	VOC	31.93	8.12
728	Tank 1026 (9)	VOC	31.93	7.37
729	Tank No. 1027 (9)	VOC	1.06	1.71
732	Tank 2001 (9)	VOC	5.13	1.79
733	Tank 2002 (9)	VOC	2.89	6.41
734	Tank 2003 (9)	VOC	8.96	5.99
736	Tank 2005 (9)	VOC	32.54	16.26
737	Tank 2006 (9)	VOC	32.54	16.26
739	Tank 3101 (9)	VOC	10.65	0.66
740	Tank 3102 (9)	VOC	10.65	0.66
742	Tank No. 1 (9)	VOC	1.88	3.63

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
743	Tank 2 (9)	VOC	0.61	0.91
744	Tank No. 3 (9)	VOC	1.88	3.63
745	Tank No. 4 (9)	VOC	0.74	1.72
746	Tank No. 5 (9)	VOC	2.20	6.58
749	Tank No. 13 (9)	VOC	0.92	0.57
750	Tank No. 14 (9)	VOC	1.45	2.08
751	Tank No. 20 (9)	VOC	0.92	0.67
752	Tank 21 (9)	VOC	0.53	0.65
753	Tank 22 (9)	VOC	0.54	0.69
757	Tank 33 (9)	VOC	0.55	0.47
758	Tank 34 (9)	VOC	0.55	0.47
759	Tank No. 40 (9)	VOC	0.65	0.84
760	Tank No. 41 (9)	VOC	0.67	0.88
761	Tank No. 42 (9)	VOC	0.67	0.88
762	Tank 43 (9)	VOC	0.54	0.58
763	Tank 44 (9)	VOC	0.54	0.58
764	Tank 45 (9)	VOC	0.47	0.52
765	Tank No. 50 (9)	VOC	0.86	0.41
766	Tank 55 (9)	VOC	0.81	0.55
767	Tank 56 (9)	VOC	2.14	3.71
768	Tank 57 (9)	VOC	2.03	4.8
769	Tank 60 (9)	VOC	0.11	0.01
770	Tank 61 (9)	VOC	0.11	0.01

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
771	Tank 62 (9)	VOC	0.85	0.01
772	Tank 63 (9)	VOC	0.96	0.01
773	Tank 81 (9)	VOC	19.5	5.50
774	Tank 82 (9)	VOC	2.56	6.47
775	Tank 83 (9)	VOC	3.07	7.9
776	Tank 91 (9)	VOC	0.63	0.86
777	Tank 92 (9)	VOC	0.63	0.86
778	Tank 93 (9)	VOC	0.63	0.86
931	Tank 52-T501 (9)	VOC	0.00	0.00
4711	Tank 47-T103 (9)	VOC	13.90	0.17
Tanks	Tank Emissions, Routine	VOC	849.31	224.16
		H ₂ S	0.01	0.01
		NH ₃	0.01	0.01
MSS	Tank Emissions, MSS (8)	VOC	2035.62	16.46
		NO _x	2.07	0.39
		CO	4.13	0.77
		SO ₂	8.63	0.02
		H ₂ S	1.37	0.01
		NH ₃	0.17	0.01
F281	No. 2 Oil and Salt Drier Fugitives (5)	VOC	0.05	0.21
F821	Tank Farm and Pumphouse Fugitives (5) (6)	VOC	53.01	232.18
		Benzene	0.49	2.14

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
F821	HON Facilities (5) (7)	VOC	1.38	6.06
F821	MACT Facilities (5) (7)	VOC	3.33	14.57

- (1) Emission point identification - either specific equipment designation or emission point number from plot plan.
- (2) Specific point source name. For fugitive sources, use area name or fugitive source name.
- (3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
 NO_x - total oxides of nitrogen
 SO₂ - sulfur dioxide
 CO - carbon monoxide
 H₂S - hydrogen sulfide
 NH₃ - ammonia
- (4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.
- (5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
- (6) Benzene allowables are included in VOC allowable for Tank Farm and Pumphouse Fugitives.
- (7) VOC allowables for HON Facilities and MACT Facilities are not included in VOC allowables for Tank Farm and Pumphouse Fugitives.
- (8) Allowable emissions are the sum of the controlled and uncontrolled emissions associated with maintenance, startup, and shutdown (MSS) activities authorized by this permit. Control devices used to control emissions associated with planned MSS activities authorized by this permit are limited to those identified in Special Condition No. 9.
- (9) Tanks are part of cap EPN "Tanks" and are subject to the emission limits in that cap in addition to their individual emission limits.

Date: _____

Special Conditions

Permit Number 80693

Operating Conditions

1. This permit authorizes emissions only from those points listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates," and the facilities covered by this permit are authorized to emit subject to the emission rate limits on that table and other operating requirements specified in the special conditions.

Normal Operating Conditions

2. Tanks authorized by this permit and the liquids they are authorized to store are shown in the table below:

Floating Roof Tanks	
Tank Numbers	Approved Product List
1, 2, 3, 4, 5, 13, 20, 21, 22, 33, 34, 40, 41, 42, 43, 44, 45, 50, 55, 56, 57, 82, 83, 91, 92, 93, 115, 116, 117, 201, 202, 211, 212, 221, 222, 224, 225, 226, 301, 302, 401, 402, 403, 605, 606, 607, 608, 616, 617, 618, 804, 925, 926, 927, 928, 929, 930, 1009, 1016, 1018, 1019, 1024, 1027, 1029, 1030, 1031, 1032, 1040, 1041, 1042, 2001, 2002, 54-TK1, 54-TK3, 64-TK13 and 82-T6	Gasoline/gasoline blendstock feeds, intermediates and products; Chemicals: Cumene, benzene, toluene, xylene, cyclohexane; Heavy aromatics; Reformed naphthas; Recovered/mixed oils and sludge; CPI effluent; Sour water; Ballast water/oil; Crude oils; and Refinery heavy oil products, intermediates and feeds.
14, 223, 1022 and 1023	Gasoline/gasoline blendstock feeds, intermediates and products; Heavy aromatics; and Refinery heavy feed/intermediates/products
Fixed-Roof Tanks	
Tank Numbers	Approved Product List
60, 61, 62, 63, 81, 114, 620, 621, 1001, 1002, 1003, 1015, 1017, 1020, 1025, 1026, 1028, 2003, 2005, 2006, 3101, 3102, 18-TK101, 29-TK103, 36-TK100, 38-TK106, 47-TK103, 52-T501, 65-TK107, 65-TK108, 65-TK109, 65-TK110, 66-TK100, 85-TK190, 85-TK191, 125-TK100, 175-TK100, and 204-TK101	Refinery heavy oil products, intermediates and feeds; Recovered/mixed heavy oils; Sulfur; Caustic; and Glycols.

3. Storage tanks are subject to the following requirements. The control requirements specified in paragraphs A - D of this condition shall not apply (1) where the volatile organic compound (VOC) has an aggregate partial pressure of less than 0.50 pound per square inch, absolute (psia) at the maximum feed temperature or 95°F, whichever is greater, or (2) to storage tanks smaller than 25,000 gallons.
 - A. An internal floating deck or roof or equivalent control shall be installed in all tanks. The floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof: (1) a liquid-mounted seal, (2) two continuous seals mounted one above the other, or (3) a mechanical shoe seal.
 - B. An open-top tank containing a floating roof (external floating roof tank) which uses double seal or secondary seal technology shall be an approved control alternative to an internal floating roof tank provided the primary seal consists of either a mechanical shoe seal or a liquid-mounted seal and the secondary seal is rim mounted. A weathershield is not approvable as a secondary seal unless specifically reviewed and determined to be vapor-tight.
 - C. For any tank equipped with a floating roof, the permit holder shall perform the visual inspections and seal gap measurements as specified in Title 40 Code of Federal Regulations § 60.113b (40 CFR § 60.113b), Testing and Procedures (as amended at 54 FR 32973, Aug. 11, 1989), to verify fitting and seal integrity. Records shall be maintained of the dates seals were inspected and seal gap measurements made, results of inspections and measurements made (including raw data), and actions taken to correct any deficiencies noted.
 - D. The floating roof design shall incorporate sufficient flotation to conform to the requirements of American Petroleum Institute (API) Code 650 dated November 1, 1998 except that an internal floating cover need not be designed to meet rainfall support requirements and the materials of construction may be steel or other materials.
 - E. Uninsulated tank exterior surfaces exposed to the sun shall be white or aluminum. Logos, slogans, and similar displays (not to exceed 15 percent of the vertical tank shell area) are allowed.
 - F. Storage tanks must be equipped with permanent submerged fill pipes.
 - G. The permit holder shall maintain an emissions record which includes calculated emissions of VOC from all storage tanks during the previous calendar month and the past consecutive 12-month period. The record shall include tank identification number, control method used, tank capacity in gallons, name of the material stored, VOC molecular weight, VOC monthly average temperature in degrees Fahrenheit, VOC vapor pressure at the monthly average material temperature in psia, VOC throughput for the previous month and year-to-date.

Records of VOC monthly average temperature are not required to be kept for unheated tanks which receive liquids that are at or below ambient temperatures.

Emissions for tanks shall be calculated using: the Texas Commission on Environmental Quality (TCEQ) publication titled Technical Guidance Package for Chemical Sources - Storage Tanks.

4. Piping, Valves, Connectors, Pumps, Agitators, and Compressors – 28VHP

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

- A. The requirements of paragraphs F and G shall not apply (1) where the Volatile Organic Compound (VOC) has an aggregate partial pressure or vapor pressure of less than 0.044 pounds per square inch, absolute (psia) at 68°F or (2) operating pressure is at least 5 kilopascals (0.725 psi) below ambient pressure. Equipment excluded from this condition shall be identified in a list or by one of the methods described below to be made readily available upon request. The exempted components may be identified by one or more of the following methods:
 - (1) piping and instrumentation diagram (PID);
 - (2) a written or electronic database or electronic file;
 - (3) color coding;
 - (4) a form of weatherproof identification; or
 - (5) designation of exempted process unit boundaries.
- B. Construction of new and reworked piping, valves, pump systems, and compressor systems shall conform to applicable American National Standards Institute (ANSI), American Petroleum Institute (API), American Society of Mechanical Engineers (ASME), or equivalent codes.
- C. New and reworked underground process pipelines shall contain no buried valves such that fugitive emission monitoring is rendered impractical. New and reworked buried connectors shall be welded.
- D. To the extent that good engineering practice will permit, new and reworked valves and piping connections shall be so located to be reasonably accessible for leak-checking during plant operation. Difficult-to-monitor and unsafe-to-monitor valves, as defined by 30 TAC Chapter 115, shall be identified in a list to be made readily available upon request. The difficult-to-monitor and unsafe-to-monitor valves may be identified by one or more of the methods described in subparagraph A above. If an unsafe-to-monitor component is not considered safe to monitor within a calendar year, then it shall be monitored as soon as possible during safe-to-monitor times. A difficult-to-monitor component for which quarterly monitoring is specified may instead be monitored annually.

- E. New and reworked piping connections shall be welded or flanged. Screwed connections are permissible only on piping smaller than two-inch diameter. Gas or hydraulic testing of the new and reworked piping connections at no less than operating pressure shall be performed prior to returning the components to service or they shall be monitored for leaks using an approved gas analyzer within 15 days of the components being returned to service. Adjustments shall be made as necessary to obtain leak-free performance. Connectors shall be inspected by visual, audible, and/or olfactory means at least weekly by operating personnel walk-through.

Each open-ended valve or line shall be equipped with an appropriately sized cap, blind flange, plug, or a second valve to seal the line. Except during sampling, both valves shall be closed. If the isolation of equipment for hot work or the removal of a component for repair or replacement results in an open ended line or valve, it is exempt from the requirement to install a cap, blind flange, plug, or second valve for 72 hours. If the repair or replacement is not completed within 72 hours, the permit holder must complete either of the following actions within that time period;

- (1) a cap, blind flange, plug, or second valve must be installed on the line or valve; or
- (2) the open-ended valve or line shall be monitored once for leaks above background for a plant or unit turnaround lasting up to 45 days with an approved gas analyzer and the results recorded. For all other situations, the open-ended valve or line shall be monitored once within the 72 hour period following the creation of the open ended line and monthly thereafter with an approved gas analyzer and the results recorded. For turnarounds and all other situations, leaks are indicated by readings of 500 ppmv and must be repaired within 24 hours or a cap, blind flange, plug, or second valve must be installed on the line or valve.

- F. Accessible valves shall be monitored by leak checking for fugitive emissions at least quarterly using an approved gas analyzer. Sealless/leakless valves (including, but not limited to, welded bonnet bellows and diaphragm valves) and relief valves equipped with a rupture disc upstream or venting to a control device are not required to be monitored. If a relief valve is equipped with rupture disc, a pressure-sensing device shall be installed between the relief valve and rupture disc to monitor disc integrity.

A check of the reading of the pressure-sensing device to verify disc integrity shall be performed at least quarterly and recorded in the unit log or equivalent. Pressure-sensing devices that are continuously monitored with alarms are exempt from recordkeeping requirements specified in this paragraph. All leaking discs shall be replaced at the earliest opportunity but no later than the next process shutdown.

The gas analyzer shall conform to requirements listed in Method 21 of 40 CFR Part 60, Appendix A. The gas analyzer shall be calibrated with methane. In addition, the response factor of the instrument for a specific VOC of interest shall be determined and meet the requirements of Section 8 of Method 21. If a mixture of VOCs is being monitored, the response factor shall be calculated for the average composition of the process fluid. A calculated average is not required when all of the compounds in the mixture have a response factor less than 10 using methane. If a response factor less than 10 cannot be achieved using methane, then the instrument may be calibrated with one of the VOC to be measured or any other VOC so long as the instrument has a response factor of less than 10 for each of the VOC to be measured.

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

- G. Except as may be provided for in the special conditions of this permit, all pump, compressor, and agitator seals shall be monitored with an approved gas analyzer at least quarterly or be equipped with a shaft sealing system that prevents or detects emissions of VOC from the seal. Seal systems designed and operated to prevent emissions or seals equipped with an automatic seal failure detection and alarm system need not be monitored. These seal systems may include (but are not limited to) dual pump seals with barrier fluid at higher pressure than process pressure, seals degassing to vent control systems kept in good working order, or seals equipped with an automatic seal failure detection and alarm system. Submerged pumps or sealless pumps (including, but not limited to, diaphragm, canned, or magnetic-driven pumps) may be used to satisfy the requirements of this condition and need not be monitored.
- H. Damaged or leaking valves or connectors found to be emitting VOC in excess of 500 parts per million by volume (ppmv) or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. Damaged or leaking pump, compressor, and agitator seals found to be emitting VOC in excess of 2,000 ppmv or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. A first attempt to repair the leak must be made within 5 days and a record of the attempt shall be maintained.
- I. A leaking component shall be repaired as soon as practicable, but no later than 15 days after the leak is found. If the repair of a component would require a unit shutdown that would create more emissions than the repair would eliminate, the repair may be delayed until the next scheduled shutdown. All leaking components which cannot be repaired until a scheduled shutdown shall be identified for such repair by tagging within 15 days of the detection of the leak. A listing of all components that qualify for delay of repair shall be maintained on a delay of repair list. The cumulative daily emissions from all components on the delay of repair list shall be estimated by multiplying by 24 the mass emission rate

for each component calculated in accordance with the instructions in 30 TAC § 115.782(c)(1)(B)(i)(II). The calculations of the cumulative daily emissions from all components on the delay of repair list shall be updated within ten days of when the latest leaking component is added to the delay of repair list. When the cumulative daily emission rate of all components on the delay of repair list times the number of days until the next scheduled unit shutdown is equal to or exceeds the total emissions from a unit shutdown as calculated in accordance with 30 TAC § 115.782(c)(1)(B)(i)(I), the TCEQ Regional Manager and any local programs shall be notified and may require early unit shutdown or other appropriate action based on the number and severity of tagged leaks awaiting shutdown. This notification shall be made within 15 days of making this determination.

- J. Records of repairs shall include date of repairs, repair results, justification for delay of repairs, and corrective actions taken for all components. Records of instrument monitoring shall indicate dates and times, test methods, and instrument readings. The instrument monitoring record shall include the time that monitoring took place for no less than 95% of the instrument readings recorded. Records of physical inspections shall be noted in the operator's log or equivalent.
- K. Alternative monitoring frequency schedules of 30 TAC §§ 115.352 - 115.359 or National Emission Standards for Organic Hazardous Air Pollutants, 40 CFR Part 63, Subpart H, may be used in lieu of Items F through G of this condition.
- L. Compliance with the requirements of this condition does not assure compliance with requirements of 30 TAC Chapter 115, an applicable New Source Performance Standard (NSPS), or an applicable National Emission Standard for Hazardous Air Pollutants (NESHAPS) and does not constitute approval of alternative standards for these regulations.

Storage Tank Maintenance, Startup, and Shutdown (MSS)

- 5. This permit authorizes emissions from the Storage Tanks identified in Special Condition No. 2 during planned floating roof landings. Tank roofs may only be landed for changes of tank service or tank inspection/maintenance as identified in the permit application. Change of service landings are limited to 8 per rolling 12-month period (2 per tank) total for Tank Nos. 14, 223, 1022, and 1023. Tank roof landings include all operations when the tank floating roof is on its supporting legs. These emissions are subject to the maximum allowable emission rates indicated on the MAERT. The following requirements apply to tank roof landings.
 - A. The tank liquid level shall be continuously lowered after the tank floating roof initially lands on its supporting legs until the tank has been drained to the maximum extent practicable without entering the tank. Liquid level may be maintained steady for a period of up to two hours if necessary to allow for valve lineups and pump changes necessary to drain the tank. This requirement does

not apply where the vapor under a floating roof is routed to control or a controlled recovery system during this process.

- B. If the VOC partial pressure of the liquid previously stored in the tank is greater than 0.50 psi at 95°F, tank refilling or degassing of the vapor space under the landed floating roof must begin within 24 hours after the tank has been drained unless the vapor under the floating roof is routed to control or a controlled recovery system during this period. The tank shall not be opened except as necessary to set up for degassing and cleaning. Floating roof tanks with liquid capacities less than 100,000 gallons may be degassed without control if the VOC partial pressure of the standing liquid in the tank has been reduced to less than 0.02 psia prior to ventilating the tank. Controlled degassing of the vapor space under landed roofs shall be completed as follows:
- (1) Any gas or vapor removed from the vapor space under the floating roof must be routed to a control device or a controlled recovery system and controlled degassing must be maintained until the VOC concentration is less than 10,000 ppmv or 10 percent of the LEL. The locations and identifiers of vents other than permanent roof fittings and seals, control device or controlled recovery system, and controlled exhaust stream shall be recorded. There shall be no other gas/vapor flow out of the vapor space under the floating roof when degassing to the control device or controlled recovery system.
 - (2) The vapor space under the floating roof shall be vented using good engineering practice to ensure air contaminants are flushed out of the tank through the control device or controlled recovery system to the extent allowed by the storage tank design.
 - (3) A volume of purge gas equivalent to twice the volume of the vapor space under the floating roof must have passed through the control device or into a controlled recovery system, before the vent stream may be sampled to verify acceptable VOC concentration. The measurement of purge gas volume shall not include any make-up air introduced into the control device or recovery system. The VOC sampling and analysis shall be performed as specified in Special Condition No. 10.
 - (4) The sampling point shall be upstream of the inlet to the control device or controlled recovery system. The sample ports and the collection system must be designed and operated such that there is no air leakage into the sample probe or the collection system downstream of the process equipment or vessel being purged.
 - (5) Degassing must be performed every 24 hours unless there is no standing liquid in the tank or the VOC partial pressure of the remaining liquid in the tank is less than 0.15 psia.

- C. The tank shall not be opened or ventilated without control, except as allowed below until one of the criteria in part D of this condition is satisfied.

Minimize air circulation in the tank vapor space.

- (1) One manway may be opened to allow access to the tank to remove or de-volatilize the remaining liquid. Other manways or access points may be opened as necessary to remove or de-volatilize the remaining liquid. Wind barriers shall be installed at all open manways and access points to minimize air flow through the tank.
- (2) Access points shall be closed when not in use

- D. The tank may be opened without restriction and ventilated without control, after all standing liquid has been removed from the tank or the liquid remaining in the tank has a VOC partial pressure less than 0.02 psia. These criteria shall be demonstrated in any one of the following ways.

- (1) Low VOC partial pressure liquid that is soluble with the liquid previously stored may be added to the tank to lower the VOC partial pressure of the liquid mixture remaining in the tank to less than 0.02 psia. This liquid shall be added during tank degassing if practicable. The estimated volume of liquid remaining in the drained tank and the volume and type of liquid added shall be recorded. The liquid VOC partial pressure may be estimated based on this information and engineering calculations.
- (2) If water is added or sprayed into the tank to remove standing VOC, one of the following must be demonstrated:
 - (a) Take a representative sample of the liquid remaining in the tank and verify no visible sheen using the static sheen test from 40 CFR 435 Subpart A Appendix 1.
 - (b) Take a representative sample of the liquid remaining in the tank and verify hexane soluble VOC concentration is less than 1,000 ppmw using EPA method 1664 (may also use 8260B or 5030 with 8015 from SW-846).
 - (c) Stop ventilation and close the tank for at least 24 hours. When the tank manway is opened after this period, verify VOC concentration is less than 1,000 ppmv through the procedure in Special Condition No. 10.
- (3) No standing liquid verified through visual inspection.

The permit holder shall maintain records to document the method used to release the tank.

- E. Tanks shall be refilled as rapidly as practicable until the roof is off its legs with the following exceptions:
- (1) Only one tank with a landed floating roof can be filled at any time at a rate not to exceed 50,000 barrels per hour.
 - (2) The vapor space below the tank roof is directed to a control device when the tank is refilled until the roof is floating on the liquid. The control device used and the method and locations used to connect the control device shall be recorded. All vents from the tank being filled must exit through the control device.
- F. The occurrence of each roof landing and the associated emissions shall be recorded and the rolling 12-month tank roof landing emissions shall be updated on a monthly basis. These records shall include at least the following information:
- (1) the identification of the tank and emission point number, and any control devices or recovery systems used to reduce emissions;
 - (2) the reason for the tank roof landing;
 - (3) for the purpose of estimating emissions, the date, time, and other information specified for each of the following events:
 - (a) the roof was initially landed,
 - (b) all liquid was pumped from the tank to the extent practical,
 - (c) start and completion of controlled degassing, and total volumetric flow,
 - (d) all standing liquid was removed from the tank or any transfers of low VOC partial pressure liquid to or from the tank including volumes and vapor pressures to reduce tank liquid VOC partial pressure to <0.02 psi,
 - (e) if there is liquid in the tank, VOC partial pressure of liquid, start and completion of uncontrolled degassing, and total volumetric flow;
 - (f) refilling commenced, liquid filling the tank, and the volume necessary to float the roof; and
 - (g) tank roof off supporting legs, floating on liquid.

- (4) the estimated quantity of each air contaminant, or mixture of air contaminants, emitted between events c and g with the data and methods used to determine it. The emissions associated with roof landing activities shall be calculated using the methods described in Section 7.1.3.2 of AP-42 "Compilation of Air Pollution Emission Factors, Chapter 7 - Storage of Organic Liquids" dated November 2006 and the permit application.
6. Floating roof tanks less than 100,000 gallons and fixed-roof tanks may be forced air ventilated without control provided the VOC partial pressure of the standing liquid in the tank has been reduced to less than 0.02 psia prior to ventilating the tank. The VOC partial pressure of the standing liquid shall be verified and documented through one of the criteria identified in Special Condition No 5.D(2). If forced ventilation is to be maintained with emission control, the emission control system shall meet the requirements of Special Condition No. 5.B(1) through 5.B(4) and the VOC concentration shall be recorded at least once every hour. Records shall be maintained per Special Condition No. 5.F(3)(c) through 5.F(3)(e), and 5.F(4).
7. Additional occurrences of MSS activities authorized by this permit may be authorized under permit by rule only if conducted in compliance with this permit's procedures, emission controls, monitoring, and recordkeeping requirements applicable to the activity.
8. The use of vacuum trucks, air mover trucks, frac tanks, or temporary tanks and vessels used in support of MSS activities and painting/surface preparation activities are as authorized by Permit Number 80801.
9. Control devices required by this permit for emissions from planned MSS activities are limited to those types identified in this condition. Control devices shall be operated with no visible emissions except periods not to exceed a total of five minutes during any two consecutive hours. Each device used must meet all the requirements identified for that type of control device.

Controlled recovery systems identified in this permit shall be directed to an operating refinery process or to a collection system that is vented through a control device meeting the requirements of this permit condition.

A. Carbon Adsorption System (CAS).

- (1) The CAS shall consist of two carbon canisters in series with adequate carbon supply for the emission control operation.
- (2) The CAS shall be sampled downstream of the first can and the concentration recorded at least once every hour of CAS run time to determine breakthrough of the VOC. The sampling frequency may be extended using either of the following methods:

- (a) It may be extended to up to 30 percent of the minimum potential saturation time for a new can of carbon. The permit holder shall maintain records including the calculations performed to determine the minimum saturation time.
 - (b) The carbon sampling frequency may be extended to longer periods based on previous experience with carbon control of a MSS waste gas stream. The past experience must be with the same VOC, type of facility, and MSS activity. The basis for the sampling frequency shall be recorded. If the VOC concentration on the initial sample downstream of the first carbon canister following a new polishing canister being put in place is greater than 100 ppmv above background, it shall be assumed that breakthrough occurred while that canister functioned as the final polishing canister and a permit deviation shall be recorded.
- (3) The method of VOC sampling and analysis shall be by detector meeting the requirements of Special Condition No.10.A or 10.B.
- (4) Breakthrough is defined as the highest measured VOC concentration at or exceeding 100 ppmv VOC or 340 ppmv VOC as methane measured with a TVA-1000 above background. When the condition of breakthrough of VOC from the initial saturation canister occurs, the waste gas flow shall be switched to the second canister and a fresh canister shall be placed as the new final polishing canister within four hours. Sufficient new activated carbon canisters shall be maintained at the site to replace spent carbon canisters such that replacements can be done in the above specified time frame.
- (5) Records of CAS monitoring shall include the following:
- (a) Sample time and date.
 - (b) Monitoring results (ppmv).
 - (c) Canister replacement log.
- (6) Single canister systems are allowed if the time the carbon canister is in service is limited to no more than 30 percent of the minimum potential saturation time. The permit holder shall maintain records for these systems, including the calculations performed to determine the saturation time. The time limit on carbon canister service shall be recorded and the expiration date attached to the carbon can.

B. Thermal Oxidizer.

- (1) The thermal oxidizer firebox exit temperature shall be maintained at not less than 1,400°F and waste gas flows shall be limited to assure at least a 0.5 second residence time in the fire box while waste gas is being fed into the oxidizer.
- (2) The thermal oxidizer exhaust temperature shall be continuously monitored and recorded when waste gas is directed to the oxidizer. The temperature measurements shall be made at intervals of six minutes or less and recorded at that frequency.

The temperature measurement device shall be installed, calibrated, and maintained according to accepted practice and the manufacturer's specifications. The device shall have an accuracy of the greater of ± 0.75 percent of the temperature being measured expressed in degrees Celsius or $\pm 2.5^\circ\text{C}$.

C. Internal Combustion Engine.

- (1) The internal combustion engine shall have a VOC destruction efficiency of at least 99 percent.
- (2) The engine must have been stack tested with butane or propane to confirm the required destruction efficiency within the period specified in part (3) below. VOC shall be measured in accordance with the applicable United States Environmental Protection Agency (EPA) Reference Method during the stack test and the exhaust flow rate may be determined from measured fuel flow rate and measured oxygen concentration. A copy of the stack test report shall be maintained with the engine. There shall also be documentation of acceptable VOC emissions following each occurrence of engine maintenance that may reasonably be expected to increase emissions including oxygen sensor replacement and catalyst cleaning or replacement. Stain tube indicators specifically designed to measure VOC concentration shall be acceptable for this documentation, provided a hot air probe or equivalent device is used to prevent error due to high stack temperature, and three sets of concentration measurements are made and averaged. Portable VOC analyzers meeting the requirements of Special Condition No. 10.A are also acceptable for this documentation.
- (3) The engine shall be operated and monitored as specified below.
 - (a) If the engine is operated with an oxygen sensor-based air-to-fuel ratio (AFR) controller, documentation for each AFR controller that the manufacturer's or supplier's recommended maintenance has been performed, including replacement of the oxygen sensor as necessary for oxygen sensor-based controllers shall be

maintained with the engine. The oxygen sensor shall be replaced at least quarterly in the absence of a specific written recommendation. The engine must have been stack tested within the past 12 months in accordance with part (2) of this condition.

The test period may be extended to 24 months if the engine exhaust is sampled once an hour when waste gas is directed to the engine using a detector meeting the requirements of Special Condition No. 10. The sample ports and the collection system must be designed and operated such that there is no air leakage into the sample probe or the collection system downstream of the engine. The concentrations shall be recorded and the MSS activity shall be stopped as soon as possible if the VOC concentration exceeds 100 ppmv above background.

- (b) If an oxygen sensor-based AFR controller is not used, the engine exhaust to atmosphere shall be monitored continuously and the VOC concentration recorded at least once every 15 minutes when waste gas is directed to the engine. The sample ports and the collection system must be designed and operated such that there is no air leakage into the sample probe or the collection system downstream of the engine. The method of VOC sampling and analysis shall be by detector meeting the requirements of Special Condition No.10.A. An alarm shall be installed such that an operator is alerted when outlet VOC concentration exceeds 100 ppmv above background. The MSS activity shall be stopped as soon as possible if the VOC concentration exceeds 100 ppmv above background for more than one minute. The date and time of all alarms and the actions taken shall be recorded. The engine must have been stack tested within the past 24 months in accordance with part (2) of this condition.

D. Temporary flare system

- (1) The heating value and velocity requirements in 40 CFR § 60.18 shall be satisfied during operations authorized by this permit.
- (2) The flare shall be operated with a flame present at all times and/or have a constant pilot flame. The pilot flame shall be continuously monitored by a thermocouple or an infrared monitor. The time, date, and duration of any loss of pilot flame shall be recorded. Each monitoring device shall be accurate to, and shall be calibrated at a frequency in accordance with, the manufacturer's specifications.
- (3) The permit holder shall add sufficient assist gas to meet the minimum Btu and velocity requirements of 40 CFR § 60.18. The flow from the tank

being controlled shall be estimated and assumed to have no heating value. Assist-gas flow shall be recorded.

10. Air contaminant concentration shall be measured using an instrument/detector meeting one set of requirements specified below.

A. VOC concentration shall be measured using an instrument meeting all the requirements specified in EPA Method 21 (40 CFR Part 60, Appendix A) with the following exceptions:

- (1) The instrument shall be calibrated within 24 hours of use with a calibration gas such that the response factor (RF) of the VOC (or mixture of VOCs) to be monitored shall be less than 2.0. The calibration gas and the gas to be measured, and its approximate (RF) shall be recorded.
- (2) Sampling shall be performed as directed by this permit in lieu of section 8.3 of Method 21. During sampling, data recording shall not begin until after two times the instrument response time. The date and time shall be recorded, and VOC concentration shall be monitored for at least 5 minutes, recording VOC concentration each minute. As an alternative the VOC concentration may be monitored over a five-minute period with an instrument designed to continuously measure concentration and record the highest concentration read. The highest measured VOC concentration shall be recorded and shall not exceed the specified VOC concentration limit prior to uncontrolled venting.

B. Colorimetric gas detector tubes may be used to determine air contaminant concentrations if they are used in accordance with the following requirements.

- (1) The air contaminant concentration measured as defined in (3) is less than 80 percent of the range of the tube and is at least 20 percent of the maximum range of the tube.
- (2) The tube is used in accordance with the manufacturer's guidelines.
- (3) At least two samples taken at least five minutes apart must satisfy the following prior to uncontrolled venting:

measured contaminant concentration (ppmv) less than release concentration

Where the release concentration is:

10,000* mole fraction of the total air contaminants present that can be detected by the tube.

The mole fraction may be estimated based on process knowledge. The release concentration and basis for its determination shall be recorded.

Records shall be maintained of the tube type, range, measured concentrations, and time the samples were taken.

- C. Lower explosive limit measured with a lower explosive limit detector.
- (1) The detector shall be calibrated within 30 days of use with a certified pentane gas standard at 25% of the lower explosive limit (LEL) for pentane. Records of the calibration date/time and calibration result (pass/fail) shall be maintained.
 - (2) A functionality test shall be performed on each detector within 24 hours of use with a certified gas standard at 25% of the LEL for pentane. The LEL monitor shall read no lower than 90% of the calibration gas certified value. Records, including the date/time and test results, shall be maintained.
 - (3) A certified methane gas standard equivalent to 25% of the LEL for pentane may be used for calibration and functionality tests provided that the LEL response is within 95% of that for pentane.
11. All MSS emissions shall be summed monthly and the rolling 12-month emissions shall be updated on a monthly basis.
 12. Planned maintenance activities must be conducted in a manner consistent with good practice for minimizing emissions, including the use of air pollution control equipment, practices and processes. All reasonable and practical efforts to comply with Special Condition Nos. 5 through 11 must be used when conducting the planned maintenance activity, until the commission determines that the efforts are unreasonable or impractical, or that the activity is an unplanned maintenance activity.
 13. With the exception of the MAERT emission limits, Special Condition Nos. 5 through 12 become effective 180 days after this permit has been issued. During the initial 180-day period, monitoring and recordkeeping shall satisfy the requirements of Special Condition No.5.F. Emissions shall be estimated using good engineering practice and methods to provide reasonably accurate representations for emissions. The basis used for determining the quantity of air contaminants to be emitted shall be recorded.

Date: [DRAFT]

TCEQ INTRA-AGENCY TRANSMITTAL MEMO

DATE: September 24, 2013

TO: FINAL DOCUMENTS TEAM LEADER
OFFICE OF THE CHIEF CLERK, BUILDING F, MC-105

FROM: Becky Petty
ENVIRONMENTAL LAW DIVISION, BUILDING A, MC-173

Attached: Executive Director's Response to Comments

Application Information:

Program Area: AIR
Permit No. 80693
Name: CITGO Refining and Chemicals Company, LP
Docket/CID Item #

TEXAS
COMMISSION
ON ENVIRONMENTAL
QUALITY
2013 SEP 24 PM 2:43
CHIEF CLERKS OFFICE

OCC Action Required *(check applicable boxes)*

Date stamp and return copy to above-noted ELD Staff Attorney and:

FOR ALL PROGRAM AREAS: *(required only when changes needed to official agency mailing list)*

- Update** the mailing list in your file with the attached contact names and addresses
Include corrected or additional names and addresses for mailing list

FOR AIR (NSR only):

- Send RTC with response to comments letter which solicits contested case hearing requests and requests for reconsideration to the mailing list in your files
For Air NSR applications this would occur only when there are pending contested case hearing requests (except no-increase renewals)
- Set for commission agenda and send RTC with agenda setting letter
This would occur when there are pending contested case hearing requests on a no-increase renewal and technical review is complete.
- Hold until a commission agenda date is requested and then send RTC with the Agenda Setting Letter
For Air applications this would occur when there are pending hearing requests on a no-increase renewal; but technical review is NOT complete. If this box is checked, ED staff must call the OCC Agenda Team Leader to arrange a specific agenda date.
- Place RTC in File - no further action required by OCC
For Air NSR applications this would occur when the matter is uncontested but comments were received, APD will send a copy with MTO letter
- Other Instructions: _____

TCEQ AIR QUALITY PERMIT NUMBER 80693

**APPLICATION BY
CITGO REFINING AND
CHEMICALS COMPANY L.P.
CITGO CORPUS CHRISTI
REFINERY EAST PLANT
STORAGE TANKS
CORPUS CHRISTI, NUECES
COUNTY**

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**BEFORE THE
TEXAS COMMISSION ON
ENVIRONMENTAL QUALITY**

2013 SEP 24 PM 2:43
CHIEF CLERK'S OFFICE

TEXAS
COMMISSION
ON ENVIRONMENTAL
QUALITY

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 timely received comment letters from the following persons: Mr. Enrique Valdivia on behalf of the citizens for Environmental Justice, Refinery Reform Campaign, and South Texas Colonias Initiative. 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

CITGO Refining and Chemicals Company L.P. has applied to the TCEQ for a New Source Review Authorization under Texas Clean Air Act (TCAA) § 382.0518.

This permit will authorize routine and maintenance, startup, and shutdown (MSS) emissions from 117 existing storage tanks associated with the CITGO Corpus Christi Refinery East Plant. These tanks are currently authorized under 11 different permits (Permit Nos. 2695A, 2697A, 3119A, 3857A, 5418A, 6722A, 8653A, 9604A and PSD-TX-653, 20156, 46640, and 46641); PBR Registration Nos. 76880, 77050, 77680, 78195, and 78851; and several unregistered PBRs. The facility is located at 1801 Nueces Bay Blvd, Corpus Christi, Nueces County. Contaminants authorized under this permit include organic compounds (VOC), hydrogen sulfide (H₂S), ammonia (NH₃), nitrogen oxides (NO_x), carbon monoxide (CO), and sulfur dioxide (SO₂).

Procedural Background

Before work is begun on the construction of a new facility that may emit air contaminants, the person planning the construction must obtain a permit from the Commission. This permit application is for an initial issuance of Air Quality Permit Number 80693.

The permit application was received on December 22, 2006, and declared administratively complete on February 12, 2007. The Notice of Receipt and Intent to Obtain an Air Quality Permit (public notice) for this permit application was published in the *Corpus Christi Caller Times* on March 12, 2007. The initial notice was for a flexible permit application with a concurrent Federal Prevention of Significant Deterioration (PSD) application. Subsequently, the applicant decided to pursue the project as a conventional Subchapter B construction permit instead of a flexible permit. Also, during the technical review it was determined that a PSD review was not required. On July 30, 2009, an amended Notice of Receipt and Intent to Obtain an Air Quality Permit (public notice) was published in the *Corpus Christi Caller Times*. The Notice of Application and Preliminary Decision for an Air Quality Permit was published on May 9, 2013, in the *Corpus Christi Caller Times*. The comment period ended June 10, 2013.

COMMENTS AND RESPONSES

COMMENT 1: The commenters state that the population near the CITGO Refinery East Plant, also known as refinery row, is mostly people of color and low-income, and health studies indicate that Corpus Christi has higher rates of certain types of cancer and overall birth defects than the rest of the state.

The commenters cite the birth defects studies conducted by the Texas Department of State Health Services Epidemiology and Surveillance Branch (dated July 2006), which they state revealed that for the years 1996-2002, the Corpus Christi area had 84% higher rates of overall birth defects when compared to the rest of the registry, and severe birth defects were 17% higher in Corpus Christi, when compared to the rest of the state.

The commenters also reference a report written by Citizens for Environmental Justice titled "Corpus Christi, Texas: Criminal Injustice in an All American City," which they state revealed that race zoning restrictions were applied decades ago, forcing people of color and low-income to live by hazardous sites, refineries and dumpsites. They further state that although the racial zoning was repealed, the communities along refinery row are still predominantly low-income and communities of color. They state that the city, county, and state of Texas have not corrected this problem. The commenters also indicate that this issue has been brought to the attention of the U.S. Department of Justice.

The commenters also cite a statistical analysis conducted by Public Citizen titled "Industrial Upset Pollution: Who Pays the Price?", which, according to the commenters, indicates that children of color and low-income are being adversely impacted by pollution, affecting school attendance rates, children's health, education, and the economy.

RESPONSE 1: The TCEQ actively manages the State Environmental Equity Program. The program was established in 1993 to improve communication between government, local communities, and neighboring industries. Individuals may raise environmental equity or environmental justice concerns with TCEQ staff through a toll-free number, 1-800-687-4040, or at the following address and phone and fax numbers:

Environmental Equity (MC-108)
Texas Commission on Environmental Quality
P.O. Box 13087 Austin, TX 78711-3087
512-239-4000
512-239-4007 (fax)

When evaluating permits, the TCEQ takes the surrounding community into consideration. When modeling is performed for a permit, the existing background concentration for the area may be included. Also, when the TCEQ reviews off-property impacts for speciated contaminants, effects screening levels, which are set at a very protective level, are used. In areas with demonstrated problems with particular air contaminants, an additional toxicological review is conducted to ensure protectiveness.

Potential impacts to human health and welfare or the environment are determined by comparing air dispersion modeling predicted emission concentrations from the proposed facility to appropriate state and federal standards and effects screening levels. The specific health-based standards or guidance levels employed in evaluating the potential emissions include the National Ambient Air Quality Standards (NAAQS), TCEQ standards contained in 30 TAC, and TCEQ Effects Screening Levels (ESLs)¹. When compared to standards, the modeling impacts of all pollutant increases in this project were acceptable.

The NAAQS, as defined in Title 40 of the Code of Federal Regulations (CFR) § 50.2, were created by and are periodically reviewed by the EPA. The NAAQS include both primary and secondary standards. The primary standards are those that the Administrator of the EPA determines are necessary, with an adequate margin of safety, to protect the public health, including sensitive members of the population such as children, the elderly, and individuals with existing lung or cardiovascular conditions.² Secondary NAAQS are those that the Administrator determines are necessary to protect the public welfare and the environment, including animals, crops, vegetation, and buildings, from any known or anticipated adverse effects associated with the presence of a contaminant in the ambient air.³ The standards are set for the criteria pollutants: ozone, lead, carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), and respirable particulate matter (PM), which includes particulate matter equal to or less than 10 microns in diameter (PM₁₀) and particulate matter equal to or less than 2.5 microns in

¹ To view the ESL list or obtain more information on ESLs, visit the TCEQ website at <http://www.tceq.texas.gov/toxicology/esl/ESLMain.html>.

² EPA considered animal studies indicating allergic responses to particulate matter as well as studies in children indicating increased allergic responses to traffic-related gases and particles when they established the most recent NAAQS. Therefore, emissions below the applicable NAAQS would not be expected to exacerbate allergic conditions.

³ Section 302(h) of the Federal Clean Air Act (FCAA), 42 U.S.C. § 7602, defines effects on welfare to include effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility and climate, damage to and deterioration of property, hazards to transportation, and impacts to personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants.

diameter ($PM_{2.5}$). "Criteria pollutants" are those pollutants for which a NAAQS has been established.

This permit consolidates the authorization of 117 existing storage tanks from multiple permits and PBR registrations and authorizes planned MSS activities from these tanks. Because emissions from routine operations of the tanks are already authorized, the permit review focused on authorization of emissions from the planned maintenance, startup, and shutdown activities.

MSS emissions from this permit were evaluated together with MSS emissions from Permit No. 80801 because both permits authorized MSS emissions from the refinery. The applicant submitted modeling results for ammonia, benzene, crude oil, diesel, refinery distillates, refinery lights, methyl amyl ketone, triethylene glycol, and silica in accordance with guidance provided by the TCEQ Air Permits Division (APD) to the refineries. The modeling was audited by the APD Air Dispersion Modeling Team and was approved. Modeled impacts from ammonia, crude oil, gasoline, glycol ether, hydrochloric acid, methanol, refinery distillates, and refinery lights were predicted to exceed the respective ESL no more than 48 hours per year, 2 times the ESL no more than 24 hours per year, 4 times the ESL no more than 12 hours per year, and 10 times the ESL no more than 2 hours per year; therefore, these compounds met the criteria of Step 9D of the Modeling and Effects Review Application (MERA) flowchart. The MERA flowchart is a tool to determine the scope of modeling and effects review that is necessary to evaluate health and welfare impacts from a proposed project. Because impacts from the referenced air contaminants meet the criteria of Step 9D, no additional modeling is required. The proposed impacts will not have an adverse impact on public health and welfare.

The CITGO Corpus Christi Refinery East Plant was located in the Corpus Christi Air Pollutant Watch Area for benzene at the time the permit application was submitted, but the area was delisted in 2010. The company is not proposing any increase in benzene emissions at the refinery. Modeled short term and annual emissions showed that expected off-property impacts were predicted to be greater than their respective ESLs at the property line but less than their respective ESLs at the nearest non-industrial receptor. The TCEQ Toxicology Division reviewed the modeled benzene impacts and does not expect any adverse off-property impacts.

The company also submitted modeling for sulfur dioxide and hydrogen sulfide to show compliance with the state property line standards for these two compounds, listed in 30 TAC Chapter 112. The modeling showed that off-property impacts of SO_2 and H_2S due to MSS activities or normal emissions from the storage are less than the property line standards in 30 TAC Chapter 112 for each of these two compounds. The company later submitted NO_2 and SO_2 modeling for the NAAQS 1-hr NO_2 and SO_2 standards that went into effect while the project was undergoing review at the TCEQ. The modeled concentrations did not exceed the NAAQS 1-hr standards.

Because the emissions from these facilities should not cause an exceedance of the NAAQS, air emissions from this facility are not expected to adversely impact land, livestock, crops, or visibility, nor should emissions interfere with the use and enjoyment of surrounding land or water. The Texas Clean Air Act does not give the TCEQ authority to regulate air emissions

beyond the direct impacts (inhalation) that the air emissions have to human health or welfare. Therefore, the TCEQ does not set emission limits on the basis that emissions may have impacts (by themselves or in combination with other contaminants or pathways) after being deposited on land or water or incorporated into the food chain.

Furthermore, the permit application must meet allowable standards outlined in the Texas Clean Air Act and applicable state and federal rules and regulations, including 30 TAC § 101.4, which prohibits nuisance conditions. The rule states, "No person shall discharge from any source whatsoever one or more air contaminants or combinations thereof, in such concentration and of such duration as are or may be injurious to or to adversely affect human health or welfare, animal life, vegetation, or property, or as to interfere with the normal use and enjoyment of animal life, vegetation, or property."

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. If the plant is found to be out of compliance with the terms and conditions of the permit, it will be subject to 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. The TCEQ has procedures in place for accepting environmental complaints from the general public but now has a new tool for bringing potential environmental problems to light. Under the citizen-collected evidence program, individuals can provide information on possible violations of environmental law and the information 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 www.tceq.state.tx.us (under Publications, search for document no. 278).

COMMENT 2: The commenters state that CITGO Refinery East Plant has been criminally convicted by a federal jury of violating the Clean Air Act by knowingly operating two tanks (116 and 117) without proper pollution control devices, resulting in the release of tons of uncontrolled benzene, a carcinogen, straight into the environment, and lying about it. The commenters state that the fence-line community of Hillcrest, which includes Citizens for Environmental Justice members, has been directly impacted by these criminal acts and would be directly impacted by the issuance of this permit, which would allow emissions of the following contaminants: organic compounds, hydrogen sulfide, ammonia, nitrogen oxides, and carbon monoxide.

RESPONSE 2: In the permit evaluation process, the permit reviewer identified all sources of air contaminants at the proposed facility and ensured that the facility will be using the Best Available Control Technology (BACT). Pursuant to TCAA § 382.0518, BACT is based upon control measures that are designed to minimize the level of emissions from specific sources with consideration given to technical practicability and economic reasonableness. CITGO has represented in the permit application that BACT will be used at the proposed site. Tanks 116

and 117 are equipped with external floating roofs, mechanical shoe primary seals, and rim-mounted secondary seals. These controls satisfy BACT requirements. When the floating roofs must be landed for MSS activities, BACT requirements include degassing tank vapors to a control device until the residual VOC concentration is less than 10,000 parts per million by volume before the tank can be freely ventilated to the atmosphere, unless the VOC partial pressure of the liquid remaining in the tank has been reduced to less than 0.02 psia prior to ventilating the tank. Use of appropriate control measures will decrease the amount of air contaminants emitted into the atmosphere by this facility. General Condition 9 of the permit states that, "The permitted facilities shall not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations." General Condition 7 requires the permit holder to maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with the permit. Special Condition 3 specifies additional recordkeeping requirements for the tanks during normal operations, and Special Condition 5 specifies recordkeeping requirements during MSS activities.

Additionally, during the technical review of this permit application, a compliance history review of the company and the site was conducted based on the criteria in 30 TAC Chapter 60, Compliance History. These rules may be found at the following website: <http://www.tceq.state.tx.us/rules/index.html>. The compliance history for the company and site is reviewed for the five-year period prior to the date the permit application was received by the Executive Director. The compliance history is comprised of multimedia compliance-related information for the site including the following: enforcement orders, consent decrees, court judgments, criminal convictions, chronic excessive emissions events, investigations, notices of violations, audits and violations disclosed under the Audit Act, environmental management systems, voluntary on-site compliance assessments, voluntary pollution reduction programs, and early compliance.

For this permit, the company and site have been rated and classified pursuant to 30 TAC Chapter 60. A company and site may have one of the following classifications and ratings:

- High: rating < 0.10 (complies with environmental regulations extremely well);
- Satisfactory: $0.10 \leq \text{rating} \leq 55$ (generally complies with environmental regulations);
- Unsatisfactory: $55 < \text{rating}$ (fails to comply with a significant portion of the relevant environmental regulations).
- Unclassified: No associated rating (site is existing but there is no information on which to base a rating);
- Not Applicable: No associated rating (site or customer is new)

According to the TCEQ's records, this site has a rating of 23.01 and a classification of "Satisfactory." The company rating and classification, which is the average of the ratings for all sites the company owns, is 14.55, which is a rating of "Satisfactory." CITGO is not considered a repeat violator, and there are currently no criminal convictions listed in CITGO's compliance history. Despite the jury verdict referenced by the commenters, there is not an official conviction until a sentence has been imposed. As of this date, the judge has not yet sentenced CITGO in the referenced matter.

COMMENT 3: The commenter states that Section 8.14 of the permit application says that "determination of short-term emission caps will be accomplished through calculations using the maximum pumping rate specified in the permit." The commenter asks if the database from which the emission factors were derived is current and whether it includes data collected over recent years at facility in question. The commenter also asks which measured emissions at the facility in question demonstrate that the emission factors reasonably estimate VOC tank emissions during tank filling.

RESPONSE 3: The factors used to calculate the emissions estimates are current. These factors were used by the applicant along with site-specific representations of process conditions to calculate the emissions. The data used in the application involves using correct emission factors and maximum usage rates indicated by the company. Representations made by the applicant are conditions of the permit. The permit does not require direct monitoring of tank filling emissions. The tank emissions were estimated using EPA tank methodologies found in EPA's AP-42 (Compilation of Air Emission Factors). There are several factors used in the tank emission calculations. These factors are evaluated and approved by EPA.

COMMENT 4: The commenter states that the application says that BACT for storage tank maintenance startup and shutdown (MSS) is "free liquid will be removed by draining to a closed system and/or pumped to a closed container or transport. The tank will then be opened to the atmosphere. The tank will be cleaned prior to re-filling." The commenter asks why CITGO is not proposing to clean the tanks before opening to the atmosphere. The commenter states that the residue in the emptied tanks will volatilize and discharge to the air if the tanks are opened, adding more carcinogens on the community.

RESPONSE 4: It is not technically feasible nor is it safe for personnel to work on a tank without some kind of ventilation. As noted by the commenter, the permit requires the tank to be free of liquid, thus minimizing emissions when the tank is opened for maintenance. The applicant's proposed controls for handling tank MSS, as discussed in Response 2, meet the TCEQ's requirement for BACT.

COMMENT 5: The commenter questions the numerical inconsistency in the hourly vs. annual emission rates. Hourly VOC emissions multiplied by 8760 hours per year and divided by 2000 pounds per ton give annual emission rates much higher than indicated.

RESPONSE 5: Maximum hourly emission rates for tanks occur when the tank is being filled or emptied. They do not always operate in this mode. Also, emission rates are higher during times when temperatures and wind speeds are higher. Therefore, it is common for storage tanks to have maximum hourly emissions that are higher than the annual average emission rate. For example, based on the representations in the permit application for maximum fill or withdrawal rate and annual throughput for Tanks 116 and 117, these tanks would be expected to have maximum hourly emission rates for less than 451 hours per year.

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

Zak Covar, Executive Director

Caroline Sweeney, Deputy Director
Office of Legal Services

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REPRESENTING THE
EXECUTIVE DIRECTOR OF THE
TEXAS COMMISSION ON
ENVIRONMENTAL QUALITY

ATTACHMENT B

CITGO Permit No. 80693

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

*Protecting Texas by
Reducing and
Preventing Pollution*

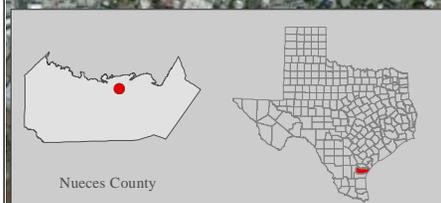
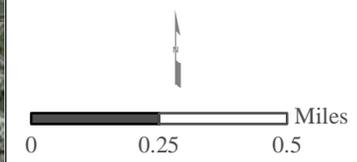
Texas Commission on Environmental Quality
GIS Team (Mail Code 197)
P.O. Box 13087
Austin, Texas 78711-3087

March 10, 2014

Projection: Texas Centric Mapping System
Albers (TCMS-A), meters
Scale 1:23,676



- Approximate Facility Location
- 1 mile radial distance from facility point



The facility is located in Nueces County. The circle (red) in the left inset map represents the approximate location of the facility. The inset map on the right represents the location of Nueces County (red) in the state of Texas;

Source: The location of the facility was provided by the TCEQ Office of Legal Services (OLS). OLS obtained the site location information from the applicant and the requestor information from the requestor. The background imagery of this map is from the current Environmental Systems Research Institute (ESRI) map service, as of the date of this map.

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

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community